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Supporting NEET youth in continuing their learning path through the assessment and development of preconditions for self-directed learning

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Institute of Education, Faculty of Social Sciences, University of Tartu, Estonia

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LIST OF ABBREVIATIONS

CFA – confirmatory factor analysis
EU – European Union
EFA – exploratory factor analysis
GDP – gross domestic product
NEET – not in education, employment, or training
SDL – self-directel learning
SRL – self regulated learning
OECD – Organisation for Economic Co-operation and Development
PRO-model – Personal Responsibility Orientation model

LIST OF ORIGINAL PUBLICATIONS

The dissertation is based on the following original publications. The publications are listed in chronological order of publication.

I. Kõiv, K., & Saks, K. (2023). The role of self-directed learning while supporting NEET-youth: theoretical model based on systematic literature review. I*nternational Journal of Adolescence and Youth, 28*(1), 2242446. https://doi.org/10.1080/02673843.2023.2242446

II. Kõiv, K., & Saks, K. (2024). Development of an instrument to measure NEET-youth self-directed learning skills. *International Journal of Adolescence and Youth*, *29*(1), 2306256. https://doi.org/10.1080/02673843.2024.2306256

III. Kõiv, K., Saks, K., Gencel, I. E., Güven, K.M., Azzopardi, A., Todoroska, V., Matic, V. & Petrovska, E. (2024). An intervention model for developing self-directed learning skills in NEET-youth: a literature review. *Frontiers in Education*, *9,* 1433484. https://doi.org/10.3389/feduc.2024.1433484

IV. Kõiv, K., Saks, K., Todoroska, V., Azzopardi, A., & Şen, E. (2025). Empowering NEET youth: Assessing the impact of self-directed learning skills intervention. *International Journal of Educational Research*, *129*, 102497. https://doi.org/10.1016/j.ijer.2024.102497

Author contributions:

Article I: Designing the study, formulating the research questions, conducting data collection and analysis, and writing the paper as the main author.

Article II: Designing the study, formulating the research questions, creating the SDL scale, conducting data collection and analysis, and writing the paper as the main author.

Article III: Designing the study, formulating the research questions, conducting data collection and analysis, and writing the paper as the main author.

Article IV: Designing the study, formulating the research questions, designing and coordinating the implementation of the intervention, designing the learning environment, conducting data collection and analysis, and writing the paper as the main author.

1. INTRODUCTION

1.1. Research context

1.1.1. Education as a lifelong development journey

The educative process constitutes a continuous and dynamic journey of personal and intellectual growth, wherein each stage is designed to enhance an individual's capacity for further development and to equip them more effectively for future challenges (Dewey & Hinchey, 2018). In most societies, there exists a normative expectation that individuals will pursue education beyond the compulsory level, progressing through successive stages of formal learning. Nations in which the population actively engages in lifelong learning tend to exhibit greater competitiveness, as the education and continual upskilling of the workforce – through both formal and non-formal means – serve as critical intangible assets that drive innovation and adaptability (Denkowska et al., 2020).

A lifelong learning trajectory includes transitions across education, work, and life contexts that bring about transformational changes in individuals, such as changes in knowledge, competencies, and identity (Poquet et al., 2021). Educational journeys are profoundly individualistic, shaped by both external structural and social constraints and by internalised perceptions of accessible opportunities (Gorard et al., 1998). Educational progression encompasses not only structured, institutionalised learning where knowledge, skills, values, and beliefs are systematically transmitted through schools, universities, and vocational programmes, but also lifelong learning in its diverse manifestations. Learning is not confined to specific settings or timeframes; rather, it can occur in any context, with formal, non-formal, and informal learning all contributing meaningfully to personal and professional development (Villalba-García, 2021). As Kolb (1984) posits, learning is a process through which knowledge is constructed via the transformation of experience. Learning pathways are inherently diverse, ranging from simple activities such as reading a book to the completion of comprehensive curricula or full-time educational programmes, all oriented toward achieving specific learning objectives (Gorard et al., 1998; Janssen et al., 2011). According to Membrive et al. (2022), personal learning trajectories operate on two interrelated dimensions: the dimension of participation and continuity across various contexts and activities, and the dimension of subjective learning experiences, which are intimately connected to identity, agency, and personal interests. The recognition, interpretation, and purposeful application of diverse learning environments for personal development presupposes that an individual possesses the requisite competencies.

Beyond the completion of compulsory education, the continuation of learning trajectories is largely influenced by an individual's readiness and capacity to be a lifelong learner (Billett, 2018), his or her personal motivation and an intrinsic interest in both the external world and self-development (Ryan & Deci, 2000), while also being closely tied to their interpretation and valuation of prior learning

experiences (Kolb, 1984). Rapid societal and technological transformations are reshaping the nature of learning environments, demanding swift adaptation and resilience. Educational change is important to ensure that young people have the opportunity to engage with new ideas, skills, technologies and cultures, and to avoid demotivation that may arise when education does not address the topics and content that young people themselves consider meaningful and inspiring (Jónasson, 2016). As Leander et al. (2010) argue, the spaces in which learning occurs are no longer static or bounded; rather, they are fluid, dynamic, and increasingly interconnected. These shifts necessitate a re-imagining of educational practices to align with the demands of a complex and evolving world. In this context, Ryan et al. (2013) highlight personal autonomy as a critical factor in enabling individuals to realise their potential, fulfil fundamental psychological needs, and experience sustained well-being. More specifically, there is a growing need to develop both formal and informal educational models that foster the acquisition of 21st-century competencies at scale (González-Pérez & Ramírez-Montoya, 2022), thereby supporting adaptation and enabling individuals to effectively self-direct their learning. Self-directed learning (SDL), in particular, is crucial for adult learners, enabling them to balance educational pursuits with work, family, and other responsibilities (Khiat, 2017). SDL is a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (Knowles, 1975, p 18). The self-directed learner is focused on personal growth, assuming ownership for their thoughts and actions, their personal values support decision-making, taking control, or accepting responsibility for their beliefs and actions (Stockdale & Brockett, 2011). The establishment of clearly defined goals plays a pivotal role in enhancing task performance; individuals who set specific objectives are more capable of directing their attention and effort towards relevant activities while minimising distractions (Morisano et al., 2010). These are competences that should be supported through the educational process. If learners lack SDL skills, educators can initially guide the process and gradually step back as the learners build competence and take more control themselves (Morris, 2019).

1.1.2. Transition challenges for NEET youth

Formal educational institutions play a pivotal role in cultivating self-directed lifelong learners by instilling a sense of responsibility for one's own learning and by encouraging the recognition of learning opportunities beyond the boundaries of formal education (Bolhuis, 2003). When examining the treatment of 21st century skills in education, through which goals such as job readiness, personal development, contribution to society, and interpersonal skills like empathy and responsibility are achieved, it has been found that teaching these skills in schools may be limited by the skills and willingness of the teachers (Kain et al., 2024). Varas et al. (2023) even revealed the existence of heterogeneous understandings

of 21st century skills with little common understanding. Poquet et al. (2021) have highlighted the lack of theoretical lenses and tools necessary to understand learning transitions and to support individual learners through them. Shortcomings in interventions and resources for developing young people's skills may affect their participation in learning.

Despite the efforts of institutions, close ones, and the individuals themselves, school dropouts and discontinuations of studies still occur. Those young people who discontinue their studies but do not participate in employment or training are referred to as NEET (not in education, employment, or training) youth (Furlong, 2006). Pohl and Walther (2007) conceptualise disadvantaged youth as those lacking the essential prerequisites and resources necessary for a standard transition into adulthood. Their framework emphasises the interplay between structural constraints and individual agency, where a young person's motivation is often curtailed by limited opportunities and insufficient support systems. Educational disadvantage is frequently rooted in several determinants, including family background, school environment, personal characteristics, and attitudes toward education (Mascherini, 2019). Moreover, young people's willingness to re-engage with education is shaped by their prior experiences and the difficulties encountered during their schooling (Rocca et al., 2022). When foundational skills acquired remain underdeveloped in school, the likelihood of further skill enhancement diminishes significantly, particularly when students disengage from the education system and fall into NEET status. Coping with challenges and supporting one's personal development, employability, and civic engagement requires the development of 21st century skills, such as critical thinking, self-management, adaptability, and responsibility (González-Pérez & Ramírez-Montoya, 2022). Since a low level of education is a key characteristic of NEET youth, and given that education is a prerequisite for successful employment, educational interventions must be directed not only at young people currently participating in learning but also at those who have interrupted their educational journeys.

1.1.3. Support and interventions to re-engage NEET youth in education

Despite various policy efforts, both labour market interventions and welfare mechanisms have proven insufficient in addressing educational inequalities. This is particularly detrimental for the most vulnerable youth, especially those NEET youth who have weak foundational skills (van Vugt et al., 2024). The NEET label, while useful for statistical categorisation, has been criticised for its reductive nature (Paabort et al., 2023). Yates and Payne (2007) argue that defining young people by what they *are not* fails to capture the complexity of their lived experiences and obscures the need for tailored intensive support that addresses their specific circumstances and barriers. NEET youth are categorised as non-participants in education and training, with low levels of formal education being their primary defining characteristic. However, there is a lack of research that provides a precise understanding of which specific skills young people themselves lack that

hinder their participation in learning. Considering that learning also takes place in ways beyond formal education, it is all the more essential to generate new knowledge to enable interventions aimed at re-engaging youth in education that are as accurately targeted as possible. Valiente et al. (2020) argue that the *educationalisation* of youth unemployment through lifelong learning policies often serves as a crisis management tool, allowing governments to address symptoms rather than root causes. Educational interventions have paid less attention to the development of young people's personal skills during the course of the intervention (Ellena et al., 2021). Therefore, it is essential to assess the skill levels of NEET youth in order to target the necessary services as accurately as possible, supporting their return to education. Understanding a young person's NEET status provides limited insight into their actual readiness to learn or their capacity for self-directed learning. Therefore, it is imperative to move beyond categorical labels and focus on the individual's potential and the factors that influence their educational trajectory. Boeren et al. (2023) emphasise that adult participation in education is shaped not only by individual willingness but also by macro-level structural factors. This underscores the necessity of creating inclusive educational environments that actively support disadvantaged learners.

Re-engaging NEET youth in education is not merely a matter of personal choice; it requires systemic support and targeted interventions that reignite interest in learning and rebuild confidence. The approach of the present study aligns with the social pedagogical perspective. According to Petrie (2014), social pedagogy is methodologically based on anthropological understandings, which view the human being as an active and creative subject capable of self-education, and whose primary aim is to make individuals aware of their opportunities to take control of their life paths and influence their living conditions. Tailored services that consider young people's coping strategies and personal contexts are essential for preventing educational disengagement and facilitating re-entry into learning pathways (Paabort et al., 2023). Marques et al. (2025) found that most interventions for NEET youth combine formal and informal learning activities and often lack a focus on non-cognitive skills and the agency of young people, which are critical for sustainable re-engagement. For NEET youth, there is a need for learning-supportive interventions that take place in non-formal environments to ensure the accessibility of these interventions. Initiatives that support skill development within the formal education system serve as strong preventive measures against dropout, but they no longer have an impact on those who have already disengaged from their educational path.

To effectively support the re-engagement of NEET youth in educational pathways, it is crucial to understand self-directed learning within the context of NEET status, including which skills require development and the methods through which this can be achieved. Accordingly, this doctoral dissertation focuses on the necessity of developing self-directed learning skills among NEET youth and explores appropriate intervention strategies to facilitate this development.

1.2. Aim of study and research questions

The aim of this study is to conceptualize self-directed learning in the context of NEET youth and to develop and validate a tailored assessment instrument and intervention to support their self-directed learning. Based on the aim, two sub-objectives and the corresponding research corresponding research questions were formulated:

Sub-objective 1: To develop and validate a measurement instrument for assessing the SDL skills of NEET youth.

Research questions:

- What are the conceptual dimensions that define SDL skills among NEET youth?
- How are SDL skills operationalized and measured in the context of NEET youth?

Sub-objective 2: To design and empirically test an intervention programme aimed at fostering the development of SDL skills among NEET youth.

Research questions:

- What are the core pedagogical and structural components of an intervention designed to foster SDL skills among NEET youth?
- What measurable changes occur in NEET youth's SDL skills following participation in the intervention?

The dissertation consists of two parts.

Part I (Study I and Study II) focuses on investigating the concept and developing a measurement tool of SDL for NEET youth. In Study I, the theoretical model of the concept and dimensions of SDL in the case of NEET youth was developed as a result of systematic literature analysis. In Study II, this model was tested empirically – a self-report instrument, SDL-NEET, was developed, and its reliability and validity were assessed.

Part II (Study III and Study IV) is a design-based research that investigates the efficiency of an intervention for developing SDL skills in NEET youth. In Study III, the model of the intervention was created based on the results of a systematic literature analysis. In Study IV, the efficiency of the SDL development intervention was tested with the NEET youth from four countries, and its efficiency was evaluated.

The research questions were addressed in the following original publications:

Study I explores the research question 1, and operationalizes the concept of SDL in the context of NEET youth, presenting a comprehensive overview of its dimensions, assessment methods, and tools (Article I).

Study II addresses the research question 2, and continues searching for measurement tools for SDL, creating the instrument to measure SDL for NEET youth (Article II).

Study III covers the research questions 3, and investigates the design principles for developing the intervention to support NEET youth SDL skills (Article III).

Study IV investigates the effect of the SDL intervention to support NEET youth SDL skills (Article IV).

The current dissertation gives an overview and results of the studies reported in Articles I–IV.

2. THEORETICAL BACKGROUND

2.1. Definition and context of NEET youth

2.1.1. NEET youth: concepts, trends, and societal implications

In the 1980s, young people in the United Kingdom who were not in employment, education or training became the subject of a new area of research, which later, in the 2000s, led to the worldwide adoption of the term NEET youth to address youth vulnerabilities in a more nuanced way than traditional unemployment metrics (Furlong, 2006). The NEET concept is highly dependent on the national context, and therefore comparisons between states and regions should be approached critically (Kleif, 2023; Pohl & Walther, 2007). The age definition of NEET youth can also differ; for example, in some European countries, NEET youth are defined as those aged 15–29, whereas in Northern Ireland and Australia, the age range is 16–24 (Rahmani & Groot, 2023). Depending on the country's definition, the term NEET youth is used mainly for young people aged 15–29 years (Eurostat, 2023; Mascherini, 2019; OECD, 2025). In Estonia, a young person aged 16–26 who is not working or studying and has support needs is defined as NEET (Social Welfare Act, 2025). However, the support measures provided through the Youth Guarantee support system are targeted at NEET youth aged 16–29 (Social Insurance Board, 2025).

The proportion of NEET youth varies greatly around the world; for example, in the Japan, 5.36% of youth had NEET status in 2023, while in Turkey, the figure was 26.6%, and in several other countries (OECD, 2025), e.g., Honduras, South Africa or Botswana even higher (World Bank, n.d.). Data from Eurostat (2025) indicates that in 2024, 11.0% of young people aged 15–29 across EU Member States were classified as NEET youth.

NEET status is also associated with unemployment, but when analysing youth unemployment rates, it is important to consider that the total number of NEET youth is typically higher than the number of unemployed youth, even in periods of high unemployment. This is because the NEET indicator encompasses all young people who are not in employment, education, or training, whereas the youth unemployment rate accounts only for economically active young people (Mascherini, 2019).

The NEET youth target group is highly diverse and includes those returning to education, employment, or training, short-term unemployed seeking work for less than a year, and long-term unemployed facing a high risk of social exclusion. It also comprises those inactive due to health issues or disability and requiring social support, those inactive due to family responsibilities, such as caring for dependents, discouraged workers who have stopped job searching due to a perceived lack of opportunities, and other inactive individuals, including a varied group ranging from marginalised youth to those pursuing alternative career paths (Eurofound, 2016). Only a few young people have chosen NEET status to travel the world and focus on conscious self-exploration before making a more

definitive choice about their life path. According to Eurofound (2021), young people who are NEET for "other" reasons make up 15.8% of the target group.

In general, NEET status is caused by various obstacles, and it has a concerning impact. As early as 2008, it was estimated that the unsuccessful integration of young people into society resulted in a loss of 1% of GDP, and it was forecast that this loss would grow (Eurofound, 2012). The importance of avoiding the risk of exclusion and poverty in any country and an economic environment that dissuades discouraged youth from becoming NEET is highlighted in the analysis of EU policy (Ruesga-Benito et al., 2018). Although from a societal perspective, economic growth through employment is the primary goal, on an individual level, preventing young people from falling into NEET status and supporting their exit from this status is also extremely important. On a personal level, NEET status is associated with poorer economic outcomes, highlighting the long-term consequences of a disengagement from education and employment (Bäckman & Nilsson, 2016; Gariépy et al., 2021). Prolonged NEET status increases the risk of financial instability and poverty, as NEET youth are often trapped in a cycle of exclusion that diminishes their future economic prospects (Ruesga-Benito et al., 2018). The high number of NEET youth not only leads to negative effects for society and the economy, but also wastes the potential, talent and skills of young people.

NEET status cannot simply be seen as a transient phase, such as a gap year or a period of voluntary disengagement. Instead, it represents both a step in an already unfavourable life trajectory and a trigger for ongoing social exclusion (Bäckman & Nilsson, 2016). Losing social connections and the resources necessary for coping increases the risk of social exclusion (Heglum & Nilsen, 2024), and their ability to ask for help, including finding resources that provide support (Filia et al., 2024). NEET youth often have limited financial resources, financial instability, and reduced agency and hope, and this also impacts their mental well-being (Simões et al., 2021). Mental health is also linked to a lack of purpose and structure (Ruesga-Benito et al., 2018), reduced structured activity, and its association with reduced group memberships (Berry et al., 2019).

Prolonged unemployment, during which young people cannot utilize or further develop the skills they gained in school, results in a significant loss of human capital potential (Caroleo et al., 2022). The consequences of NEET status can be long-lasting. Even after exiting NEET status, young people may continue to face a heightened risk of unemployment and inactivity well into adulthood (Ralston et al., 2022). Moreover, frustration from missed opportunities to apply and develop skills can lead to a loss of trust in society, fostering a sense of disillusionment and contributing to the attenuation of values like openness to change and self-transcendence (Hult et al., 2023).

Knowing the negative effects of NEET status, it is important to prevent young people from falling into NEET status in the first place and, for those already in NEET status, to implement interventions that prevent long-term NEET status and the risk of re-entering it. This target group is the focus of policies, with high expectations of young people entering employment or continuing their education. On the one hand, EU policy aims to strengthen the economy by supporting the

entry of NEET youth into the labour market, while on the other hand, it is equally important to promote individual well-being and mental health by increasing social activity and supporting skills development.

2.1.2. Determinants of NEET status among youth

Not only are NEET youth a heterogeneous group, but so are the factors that contribute to increasing the rate of NEET (Berigel et al., 2023). The reasons why young people drop out from school end up in NEET status can vary widely, and it can be a cumulative effect since early childhood (Gubbels et al., 2019; Kleif, 2023). NEET status is a point on a life course trajectory that, for some individuals, could represent the start of a process of cumulative disadvantage compared to non-NEET youth, while for others, it is likely a stage on a pathway where disadvantage has already begun to accrue (Ralston et al., 2018). Young people's disengagement from education is often the result of complex interactions between structural, institutional, and individual factors (Pohl & Walther, 2007; Ryan & Decy, 2020). A variety of factors can hinder young people from reaching key life goals, such as completing education, entering the workforce, and achieving independence. Macro-level influences – like education systems, labour markets, or the socio-political context – combined with individual challenges, shape the complex pathways that determine a successful transition into adulthood (Caroleo et al., 2022).

The prevalence and well-being of NEET youth depend on society's attitudes toward work and non-activity. In countries with both strong social protection and a social norm that young people must study and work, there are fewer NEET youth, but their well-being tends to be lower; in countries with higher unemployment, non-participation may be perceived as normal, resulting in less stigmatization and related stress (Jongbloed & Giret, 2021). Pohl and Walter (2007) emphasize that the implementation of the activation concept for socially disadvantaged youth can vary significantly depending on the national context: the *universalistic* transition regime in the Nordic countries is based on a comprehensive school system, where post-compulsory general and vocational education programs allow most graduates access to higher education. The *liberal* transition regime, as in the United Kingdom, prioritizes individual rights and responsibilities over collective provisions. The *employment-centered* transition regime, which predominates in countries such as Austria and Germany, channels young people into different occupational and social pathways. The *sub-protective* regime, typical of Southern European countries, assigns an important role to family and informal work due to the scarcity of standard employment arrangements, while the *post-communist* countries in Central and Eastern Europe have experienced rapid economic and labor market changes, increasing instability and risk in the life courses of young people.

This study includes youth from four countries – Malta, Estonia, Turkey, and North Macedonia – who come from societies with different social systems and norms. Malta and Estonia share a common influence from EU measures targeting NEET youth. In Malta, the NEET rate was 7.2%, and in Estonia 11%, both at or

below the European Union average 11.1% (Eurostat, 2025). Malta can be classified as a *sub-protective* country, as 90% of NEET youth in Malta still live with their parents within the same household; however, due to a highly targeted social protection system that accounts for the heterogeneity of the target group, the proportion of NEET youth in Malta is among the lowest in Europe (European Social Fund, 2023). According to Pohl and Walters (2007), Estonia can be classified as a *post-communist* country, where youth largely follow traditional school-to-work transition pathways and are dependent on social support and available opportunities. At the same time, Estonia is gradually moving toward a *universalistic* regime, as ongoing educational reforms increasingly resemble Nordic models. North Macedonia has a substantially higher NEET rate, at 18.5% (International Labour Organization, n.d.). Like Estonia, North Macedonia can be classified as a *post-communist* transition country. However, as a non-EU member state, additional social support mechanisms for NEET youth by the EU are not available. As a result, youth are largely constrained to uniform local employment and education opportunities. Turkey, similarly to North Macedonia, lies outside the EU NEET youth policy framework. Eurostat (2025) data indicate a very high NEET rate in Turkey (25.9%). Turkey can be classified as a *sub-protective* country, as family norms strongly influence the NEET youth situation. Lüküslü and Çelik (2022) have highlighted that young women in Turkey are three times more likely than young men to be out of education and employment, reflecting societal norms of early marriage, with even educated women increasingly encouraged to stay at home to care for children and the elderly. Drawing on the points discussed above, it is essential to consider the cultural and political factors that influence the understanding of NEET status and the planning of support measures.

Lower socio-economic status, parental education, and family structure influence access to education and career opportunities, thereby affecting long-term life prospects and increasing the likelihood of young people becoming NEET (Rahmani & Groot, 2023). Persistent NEET status factors include low parental socio-economic status, educational difficulties, and exposure to three or more negative life events, while early internalizing problems in youth were identified as risk factors for early and late NEET (Veldman et al., 2024). For some NEET youth, responsibilities such as parenting may prevent them from completing their education, leaving them with limited career options well into their thirties and beyond (Mitrou et al., 2021). Parents with low education levels, who themselves have faced challenges in integrating into the labour market, often become role models for their children (Caroleo et al., 2022). The young people grow up in environments where unemployment is common, minimising the perceived importance of education. This perpetuates a cycle of intergenerational poverty, as the lack of educational achievement among parents and peers influences the choices and opportunities available to the next generation.

A low level of education and lack of skills are significant risk factors for NEET youth (Mascherini, 2019). Furthermore, a study by Alvarado et al. (2020) highlighted the correlation between NEET status and poorer literacy and numeracy skills, lower self-evaluation and control, and lower educational aspirations,

emphasising that each additional year of schooling reduces the likelihood of being NEET. Statistical evidence underscores the direct relationship between educational attainment and NEET status. OECD (2020) statistics confirm that those who have not attained upper secondary education are more likely to become NEET youth; for example, on average across OECD countries, as many as 39% of 25–29-year-olds without upper secondary education are NEET, compared to 17% for those with upper secondary or post-secondary non-tertiary qualifications. At the European level, the NEET rate for young people aged 15–29 years in the EU in 2023 was 12.6% of those with a low level of education, compared with 11.3% of those with a medium level of education and 7.9% of those with a high level of education (Eurostat, 2025). The probability of being NEET decreases with higher levels of education but tends to increase with age, highlighting the long-term impact of early educational decisions (O`Higgins & Brockie, 2024). Mascherini (2019) found that young people with lower educational attainment are twice as likely to become NEET compared to those with secondary education and more than three times as likely compared to those with tertiary education. Unsuccessful or discouraging experiences in education can diminish individuals' willingness or motivation to engage in lifelong learning (Brockett & Hiemstra, 1991). These findings emphasise the necessity of fostering lifelong and flexible learning opportunities to mitigate the risks associated with inadequate education and skill acquisition.

Personal attributes such as perseverance and self-efficacy also play a role in educational and labour market success. The stress of transitioning from school to work, employer preferences, and early signs of mental illness, where pessimism and lack of skills can exacerbate the cycle of unemployment, are all linked to NEET status (Goldman-Mellor et al., 2016; Lindblad et al., 2024). Mendolia and Walker (2014) found that personal perseverance positively influences long-term life outcomes by significantly reducing the risk of dropping out of education or employment. In contrast, having behavioural problems, peer problems, lower self-esteem and self-efficacy, external locus of control, and no job aspirations significantly increased the likelihood of being NEET (Tayfur et al., 2021). Parola and Marcionetti (2022) found that NEET youth are most affected by anxiety, depression, withdrawal, aggression, and rule-breaking behaviours, with a more negative outlook on the future compared to students and employees. NEET have real difficulty in thinking about the future, in terms of lack of orientation towards objectives and difficulties in the use of planning strategies (Parola, & Donci, 2019). NEET youth feel hampered by their low skill levels and are discouraged about their future economic prospects (Goldman-Mellor et al., 2016). Although research on NEET youth resilience is limited, existing evidence suggests a lack of resilience, as they appear more vulnerable to mental health issues and struggle to cope with everyday adversity (Piementel, 2025). Young people may have encountered various difficulties along their path, and the ability to cope with them, along with sufficient resilience and adaptability, are crucial factors in finding solutions for the next step. These psychological factors highlight the need for holistic education policies that integrate both academic and personal development strategies.

2.1.3. Barriers to continuing education

Young people have highlighted a variety of factors, including personal and structural barriers, that have made it more difficult to find employment or continue their education and have influenced their motivation in different ways (Wells et al., 2024). These barriers manifest in numerous forms – ranging from individual issues, such as low motivation or health challenges, to broader systemic obstacles like limited educational opportunities and economic transitions.

Barriers to labour market integration for NEET youth range from low skills and qualifications to geographic, familial, health-related, social, and motivational challenges, all of which can limit an individual's availability, capability, or incentive to work (OECD, 2021). These challenges are further amplified by the changing nature of global economies. The way and direction in which the economy is currently evolving make it difficult to integrate young people with a low level of education into the labour market (Berigel et al., 2023). Many countries are transitioning from primary and manufacturing industries to technology- and knowledge-based work, presenting challenges for welfare systems, especially in supporting younger NEET with limited marketable skills and who lack the necessary competencies for emerging sectors (Mitrou et al., 2021).

As economies restructure, the emphasis on skill development becomes even more pronounced. Technological advancements, remote work, and the platform economy make it essential to continuously assess emerging labour market trends, as they significantly influence the preparation of young people for returning to work or education in the context of rapid societal changes (Redmond & McFadden, 2023). This structural transformation highlights the need for continuous education and training, as well as the importance of young people's readiness to participate in learning and retraining, in order to equip individuals with the skills necessary for lifelong employability.

However, the lack of foundational and adaptive skills can be a serious obstacle in shaping one's learning path. The level of skills can hinder the ability to manage relevant information, cope with tasks and situations, and participate in learning. In a rapidly changing world, especially in the context of the digital age, there is a growing need for skills such as self-directed learning, which enable adults to adapt, make autonomous decisions, and engage in continuous personal and professional development (Morris, 2019).

This becomes especially critical for those who have disengaged from formal education. A young person who has dropped out of studies may find it difficult to re-engage with education, and this can be due to low self-esteem, the inability to compensate for failures and adjust goals, and a lack of intrinsic motivation, or because they may have a wounded learner identity (Ramsdal & Wynn, 2022). These factors may, in turn, be influenced by a lack of familial support. Family background and parents' educational level have a strong impact on educational trajectories and employment prospects for NEET youth; parents with low or no education often lack the capacity to support their children's learning, thereby increasing the risk of falling into and remaining in NEET status (Vadivel et al.,

2023). Fabrizi and Rocca (2024) have found that a low socio-economic status significantly hinders young people's ability to exit the NEET condition, even when they have the same level of education as their higher socio-economic status peers. Low income and unemployment hinder the ability to finance studies or find training opportunities. The lack of support and guidance from family members or mentors can leave young people without the necessary support network to progress in their education (Gabriel, 2015). When a young person lacks a sense of connection and social support, they are unable to manage and regulate their life effectively, which leads to academic failure and a decline in self-esteem (Ramsdal & Wynn, 2022).

Over time, both poor educational attainment and low skill levels significantly increase the likelihood of experiencing long-term NEET status, as a lack of qualifications and competencies perpetuates a cycle of disengagement from education and work (Jogbloed, 2022). Interrupting one's education makes it more difficult to return to the learning journey later and to achieve a similar developmental path as other peers. Small individual differences at the start of a career increase over the course of their life, as the initial advantage accumulates through incremental benefits over time, ultimately creating a measurable difference between individuals (Ralston et al., 2018). Low-skilled young people are more likely to become early school leavers or NEET, and they face greater challenges in escaping this status. Long-term disengagement from education and employment leads to further skill obsolescence, making it harder for these individuals to maintain or acquire new skills. This creates a vicious cycle in which the lack of skills exacerbates their NEET status, while being NEET further hinders skill development (van Vugt, 2023).

A closer examination of the NEET youth population reveals that not all individuals necessarily require skills-focused interventions as a first-line approach. According to Eurofound (2016), short-term and long-term unemployed young people together constitute just over half of the NEET population (29.8% and 22%, respectively). Approximately 8% are classified as re-entrants, 15.4% are NEET due to family responsibilities, 6.8% due to illness or disability, and just under 6% are discouraged young people; for 12.5%, the specific reason for NEET status cannot be identified. Young people who are out of education and work due to disability, illness, or severe discouragement primarily require health- and social-sector support and interventions before a stronger focus can be placed on skills development. For these groups, ensuring basic well-being, stability, and access to appropriate services constitutes a necessary precondition for any education- or labour-market-oriented intervention.

At the same time, some young people who are voluntarily outside education and training may possess relatively strong self-management skills and continue to develop themselves through self-chosen learning pathways. By contrast, for young people in short-term and long-term unemployment, as well as re-entrants, the development of skills and attitudes is particularly critical. For these individuals, strengthening competencies that support decision-making, the exploration and selection of suitable learning pathways, the acquisition of meaningful experiences,

and the rebuilding of motivation are essential for creating new life opportunities and re-engaging with education or work. It can therefore be concluded that interventions focusing on skills and attitudes may be particularly relevant for approximately 50–60% of the NEET youth population.

In conclusion, if the skill levels of NEET youth are not improved, it may be difficult for them to continue their learning journey and progress in their careers. Without the development of the necessary skills to support their educational journey and future career prospects, these young people risk being trapped in a vicious cycle where their problems continue to deepen (van Vugt, 2023). It is crucial to increase young people's readiness to engage in education and to help them develop the skills and knowledge necessary for their future.

2.2. Self-directed learning

2.2.1. Philosophical foundations of self-directed learning

Self-directed learning has deep historical roots, dating back to classical antiquity, and more recently, SDL has become a major research area (Hiemstra, 1994). The three main goals of SDL can be categorised as to enhance the ability of learners to be self-directed in their learning, to foster transformational learning as central to SDL, and to promote emancipatory learning and social action as an integral part of SDL (Merriam & Baumgartner, 2020).

Morris (2019) has highlighted that the concept of self-directed learning is grounded in humanist philosophy, pragmatic philosophy, and constructivist epistemology, which together describe the learning process as an individual, purposeful, and development-oriented activity (Figure 1).

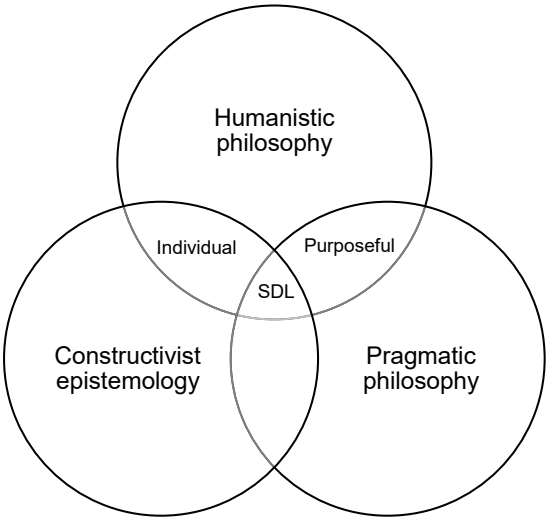

Figure 1. Foundation positions of SDL (Morris, 2019)

According to Aloni (2013), humanist education can be presented by means of the five characteristics: the holistic approach to the student that seeks to foster and develop their full range of aptitudes, intelligences and literacies; interpersonal relations based on genuine caring, kindness, reasonableness, fairness and reciprocity; social climate of security, trust, acceptance and multiculturalism; an intellectual climate that fosters and cultivates breadth of knowledge and cultural wealth along with autonomous, responsible, critical and creative thinking; and teaching methods that provide the student with meaningful and experiential learning – to render the 'tree of knowledge' into the 'tree of life'. Humanism refers to the idea that education should contribute to the fulfilment of individual potential and empowerment, and therefore to the betterment of human lives (Elfert, 2023). Therefore, the humanist perspective on education creates a focus on empowering learning and fostering a supportive learning environment, with the independent learner at its centre.

Lifelong learning is often conceived as a process of learning from direct life experiences that is controlled by the individual (Kolb, 1984). Constructivist dimensions of learning posit that meaning is intimately connected with experience: learning is an active process in which learners construct new concepts based upon prior knowledge, and the teacher's role is to provide stimulating and motivational experiences (Kumar, 2006; Merriam & Baumgartner, 2020). SDL is underpinned by constructivist epistemology in which learning is viewed as an individual, interpretive, and active process of meaning-making, where individual meanings are made dependent upon interacting with both historical and present experience (Morris, 2019). Constructivist epistemology highlights that our knowledge and understanding are not fixed but are in a continuous process of development. Learners' current understandings and attitudes are shaped by past experiences, while new experiences can simultaneously modify existing understandings and create new meanings.

Pragmatic philosophy views learning as a means of finding solutions to real-life problems. This includes enhancing readiness for working life, completing various tasks, taking into account the existing context, and focusing on practical, life-centred challenges (Morris, 2019). According to Dewey (1930), learning is a continuous process of adaptation and solving real-life problems, based on learning through action and with a clear purpose in mind.

In summary, self-directed learning encompasses a multidimensional framework that synthesizes three pedagogical orientations: a humanist approach that focuses on the learner's autonomy, individual needs, and intrinsic motivation; a constructivist epistemology that conceptualises knowledge as being shaped by prior experiences and transformed by new meaningful experiences; and a pragmatic perspective that highlights the connection to solving practical problems, setting goals, and following through with them in real-life contexts.

2.2.2. Definition and construct of self-directed learning

SDL has been discussed by various authors as a context in which learning takes place, as a process, and also in terms of the learner's skills and characteristics. Candy (1991) conceptualises the manifestations of SDL through four distinct yet interrelated dimensions: self-direction as a personal attribute (autonomy); the willingness and capacity to conduct one's own education (self-management); a mode of organising instruction in formal settings (learner control); and the individual, non-institutional pursuit of learning opportunities in natural societal settings (autodidaxy). From the perspective of individual skills in SDL, according to Garrison (1997), the core of SDL lies in the learner's capacity and motivation to make decisions, assume responsibility, and control the cognitive processes in constructing meaningful and worthwhile learning outcomes. Loeng (2020) also highlights the ability and willingness to reflect, critical judgment, and the necessary knowledge of alternatives. In addition to self-management and self-monitoring, Costa and Kallick (2004) also emphasise self-modification as part of a cyclical personal development process. Changes in a person and their skills occur through the process.

Brockett and Hiemstra (1991) emphasise the components of the SDL process as needs assessment, evaluation, learning resources, facilitator roles and skills, and independent study. Knowles clearly defined SDL as a process: "SDL is a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes." (Knowles, 1975, p 18)

The process itself, however, takes place in an environment that is based on principles that support and promote SDL. Candy (1991) emphasises that an organisation's understanding of SDL is crucial for enabling meaningful change, highlighting the importance of supporting learner autonomy by encouraging the emergence and exercise of personal responsibility through various means, such as the appropriate use of, for example, controlled instructional methods and treating learners with respect and dignity. When creating the context, attention should be paid to Knowles' (1975) assumptions about SDL: the learner is viewed as an increasingly autonomous agent; personal experience constitutes a valuable resource for learning; readiness to learn arises from real-life tasks and challenges; and motivation is primarily driven by internal incentives and curiosity.

In addition to the principles of the process and environment, the development of SDL skills also involves specific activities that are implemented to enhance SDL skills. Motivation, metacognition, and self-regulation are three primary dimensions in SDL to take into account in planned activities (Loeng, 2020). According to Candy (1991), strategies that support the development of SDL skills help uncover learners' existing knowledge and experiences, while also giving them increasing agency over the content, sequencing, pacing, location, or method of learning. Focusing on activities to support SDL skills, Gibbons (2002) has highlighted that any SDL activity, course or programme should feature these

essential elements: learners prepare and negotiate their own learning agreements about their skills development; learners choose their own activities, take more responsibility for themselves; challenge themselves to go out far and in deep; determine not only what they will do but the kind of performer they will become; learn to express self-control; set goals for themselves; arrange for feedback on their work, and evaluate their own progress. SDL programmes should include activities where learners conduct their own self-directed learning project, set the goals for the project, and find the resources with the stimulation of individual reflection (Bouchard, 1998).

When implementing SDL, it is important to provide learners with support and resources, such as technology, literature, mentorship, and coaching (Boyer et al., 2013). In the implementation of interventions, there are always, in addition to the learners, those parties who prepare and facilitate the process. From the perspective of mentoring and guidance, Knowles (1975) emphasised that for the SDL context, the concept of teacher must be changed to facilitator of learning, functioning primarily as a procedural guide and only secondarily as a resource for content information. The understanding and skills of facilitators in supporting the SDL process are crucial for the success of interventions. Therefore, developing educators' knowledge and skills in SDL topics is also highly important.

Brockett and Hiemstra (1991) suggest that optimal conditions occur when there is a balance between the learner's level of self-direction and the extent to which opportunities for SDL are available in a given situation. When organising interventions, it is important to pay attention to the accessibility and availability of learning opportunities for special target groups.

2.3. SDL as a pathway for NEET youth

The steps forward for NEET youth are hindered by a negative vision of the future (Parola & Donci, 2019), which in turn affects their ability to define concrete life goals and initiate actions toward achieving them (Ellena et al., 2025). Typically, these young individuals are not actively engaged in societal life. Research has identified several psychological and motivational challenges among NEET youth, including low self-esteem, limited self-efficacy, diminished educational aspirations, lack of future orientation, and difficulties in setting and pursuing goals (Alvarado et al., 2020; Parola & Donci, 2019; Tayfur et al., 2021).

Underlying these challenges are often complex personal and environmental factors that hinder continued participation in education or the labour market. According to Nahkur (2024), a young person's well-being is shaped by the interplay and accumulation of individual, direct, and indirect environmental vulnerability and resilience factors. The risk to well-being becomes particularly acute when vulnerability exceeds resilience.

For youth who have disengaged from formal education and employment, these factors point to a deficit in SDL skills, that are essential not only for academic success but also for labour market integration and personal development. SDL

encompasses personal attributes (Brockett & Hiemstra, 1991), resource-based processes (Knowles, 1975), and self-modification capacities (Costa & Kallick, 2004). In the context of NEET youth, it is crucial to examine how SDL can be cultivated: which resources are needed, which competencies should be developed, and which transformative processes should be initiated.

The relevance of SDL for NEET youth is underscored by its association with autonomy in managing one's life and career. A self-directed learner assumes responsibility for their learning, strives for educational advancement, embraces lifelong learning, and remains open to acquiring knowledge beyond formal settings. Such individuals are equipped to navigate unfamiliar situations, engage with diverse perspectives, and adapt to change (Bolhuis, 2003). SDL involves identifying learning needs, setting goals, planning activities, utilising resources, and evaluating outcomes (Knowles, 1975). These competencies are vital for navigating the complexities of contemporary life and transitioning out of NEET status. Both SDL and SRL are important in the learning process; however, in the case of NEET youth, it is necessary to proceed from their specific situation that they are not currently participating in education. Jossberger et al. (2010) have pointed out that SDL is situated at the macro level, meaning that it concerns the learning trajectory as a whole; a self-directed learner is able to decide what needs to be learned next and how their learning is best accomplished. In contrast, SRL operates at the micro level, focusing on the regulation of learning processes within specific tasks or learning situations. Saks and Leijen (2014) have highlighted that self-regulation is understood as the learner's independence in learning processes and is mainly examined within the school context, whereas SDL refers to the planning of the learning trajectory and may also extend beyond the school context. Considering that NEET youth are not engaged in a learning process nor situated within a school environment, SRL can come into focus for these young people only once they have entered a learning process. In order to reach that point, the preconditions that support them as self-directed learners must change and be strengthened, enabling them to plan and take ownership of their learning trajectory.

While some NEET youth may engage in informal or self-initiated learning, their disconnection from formal education and employment often reflects a lack of structured plans, essential skills, and the tools necessary for self-managed development. The challenges that led to their NEET status may also impede their ability to exit it sustainably. Consequently, SDL cannot be assumed to emerge spontaneously among NEET youth; it requires intentional support and external motivation. Ryan and Deci (2000) emphasise that motivation involves being moved to act, with internalisation and integration serving as key processes through which externally driven behaviours become self-determined. For many, external stimuli are necessary to initiate meaningful change. Knowles (1975) notes that SDL can be initiated independently or with support, and in the case of NEET youth, it must be understood as a facilitated process. The same has been highlighted by Kõiv and Saks (2023) in their definition, emphasising that the development of SDL skills in NEET youth is a supported process, with changes

occurring during the process that are particularly important and necessary for this target group: "Self-directed learning for NEET youth is a supported process during which a person's attitude toward learning improves, and the subject develops initiative, independence, and abilities in shaping their educational path with a positive outlook on the future." Following Ryan and Deci's (2000) framework, this process involves embedding values and norms into the individual's daily life. Cohen and Ainley (2000) argue that without institutional structures to bridge informal and formal learning cultures, many individuals may never progress.

To enable the self-modification described by Costa and Kallick (2004), it is essential to provide opportunities that nurture SDL skills. This includes helping young people recognise their strengths, assess their needs, take responsibility, demonstrate initiative, and envision future possibilities. Given that NEET youth are not embedded in formal educational or employment structures, traditional institutional interventions may not reach them. Therefore, it is imperative to explore and implement support strategies within non-formal environments that can effectively foster SDL and resilience.

2.4. The imperative for interventions in supporting NEET youth

The Youth Guarantee programme in the European Union has established activities that support the entry of young people into the labour market as a focus in all Member States (European Union, 2020). The European Union has set a clear objective: by 2030, the proportion of young people aged 15–29 who are NEET youth should be less than 9% (Eurostat, 2025). Kleif (2021) warns that focusing purely on numerical reductions leads to superficial changes rather than meaningful, long-term solutions. Also, Assmann and Brochinski (2021) argue, a purely labour market-focused approach is insufficient. Several interventions aimed at directing young people into work or training have failed to demonstrate long-term effects (Stea et al., 2024). Jongbloed and Giret (2021) have highlighted that state policies do not necessarily mitigate the negative impact of unemployment and inactivity; in some cases, they may even deepen well-being disparities between NEET and non-NEET youth. Moreover, some studies suggest that the negative effects of skill development programmes stem from their mandatory nature, as young people often perceive them as coercive rather than supportive (Hult et al., 2023). With the aim of supporting NEET youth in returning to education and empowering them to continue their learning pathways, a social pedagogical approach plays a central role. From the very beginning, the social pedagogical perspective has sought to find educational solutions to social problems (Hämäläinen, 2012). Social pedagogy focuses on shaping the relationship between the individual and society through education, paying attention to the social preconditions for individual development and to opportunities that support people's

growth into active citizenship, i.e., the ability to act socially and assume social responsibility while rationally pursuing personal interests (Hämäläinen, 2015).

A social pedagogical approach provides non-formal education based on non-hierarchical relationships, valuing creative activities, teamwork, and shared experiences (Moss & Petrie, 2019). Various authors have highlighted aspects that should be considered in interventions targeting NEET youth. Effective NEET intervention requires close collaboration, clear communication, and the sharing of information among stakeholders (Thorgesen, 2024). Paabort et al. (2023) emphasise the necessity of creating cross-sectoral pathways that provide individualised services to support the transition back into education or the workforce. In addition to developing young people's skills (Ellena et al., 2021) and promoting inclusion and the use of community resources (Simões et al., 2021), it is also important to ensure that programmes empower young people to act upon structural barriers that hinder their participation (Määttä et al., 2024). Hult et al. (2023) found that interventions that promote mental health – boosting self-confidence and helping individuals cope with setbacks – can be highly effective in improving employment status. Jonsson and Goicolea (2020) highlight the importance of a non-judgmental, collaborative atmosphere, where professionals provide both practical and emotional support to build confidence, skills and relationships. For those who are persistently NEET, support from parents, teachers, and social workers is essential to help them re-engage in the education system (Veldman et al., 2024). It is essential to create structured activities and foster social connections, as their absence significantly contributes to depression among these young people (Berry et al., 2019). Van Vugt (2023) also advocates for alternative methods of skill development for NEET youth, such as individualised programmes and neighbourhood-based coaching, to facilitate their integration into the labour market. Based on the findings discussed, it can be posited that effective interventions aimed at reducing NEET status must target structural factors while simultaneously providing tailored support for skills development and social integration. Furthermore, fostering collaboration among various stakeholders is crucial for the long-term sustainability of these initiatives. Comprehensive strategies that integrate these elements not only enhance the likelihood of re-engaging young individuals with educational opportunities but also facilitate their successful integration into the labour market.

The most promising approach for NEET youth with low skills is personalised programmes that address not only skills development but also broader social integration, using neighbourhood coaches to support both personal and professional growth (van Vugt, 2023). The individual-level measures and curricula in youth activation programmes often align with human capital theories, emphasising young people's responsibility for employability and labour market flexibility while providing daily professional support (Fuertes et al., 2021; Paju et al., 2020). Haikkola's (2018) critique of institutions focuses on the fact that they function under certain forms of governance, which do not sufficiently support young people's personal goals and motivation, emphasising the need to encourage young people to focus on their own desires and objectives. Flexible training

opportunities are preferred, as mandatory training tied to benefits may exacerbate negative effects on skills development due to a lack of intrinsic motivation and relevance to useful skills (Hult et al., 2023). Similarly, Beck (2015) highlights that the value of activities lies in their usefulness and how they contribute to the young person's self-initiated developmental journey, as well as how the collaboration between the young person and the service provider supports the young person in discovering their interests and realising their ambition. Interventions designed to support young people in developing skills and re-engaging with education are crucial for fostering long-term economic and social stability.

Despite the political attention given to NEET youth, there has been a notable lack of studies evaluating the design and impact of interventions, which is concerning given the long-term risks associated with NEET status (Stea et al., 2024). Most studies and policy initiatives have primarily focused on identifying risk factors associated with NEET status (Paabort et al., 2023). Notably, there is a limited application and evaluation of interventions grounded in contemporary behaviour change theory and practice, highlighting a significant research gap (Mawn et al., 2017). Person-centred policies that involve young people and leverage community resources to fulfil their expectations are necessary to counteract the shortcomings of broad policy initiatives, such as the Youth Guarantee (Simões et al., 2021). Therefore, it is important to focus not only on national policies and economic incentives but also on more targeted interventions, fostering agency and resilience among NEET youth. Considering the low educational attainment of NEET youth (Mascehrini, 2019) as a significant risk factor both for falling into and remaining in NEET status – it is essential to focus on interventions that support participation in education and are oriented towards personal development. Taking the above into account, it is appropriate to provide NEET youth with interventions aimed at developing their SDL skills, with the goal of supporting attitudes oriented towards learning and personal growth, fostering a positive vision for the future, resilience, initiative, and a sense of responsibility, as well as a general understanding of themselves and their own needs. Assessing SDL skills is therefore essential for identifying whether, and in which specific areas, the young person requires the most support

3. RESEARCH METHODOLOGY

This section presents an overview of the research methodology of the dissertation. This study employed a mixed-method approach. Tashakkori and Teddie (2010) have highlighted that for the researcher, the choice of a mixed-method approach can be based on the central focus of the research objectives, and the selection of methods follows from which method can best answer the research question posed. The research included a systematic literature review, quantitative data collection and analysis, and a qualitative approach through semi-structured interviews. This chapter first presents the overall research design, followed by the methodology applied in the different parts of the study.

3.1. Research design

The study represents the intervention study, employing a research design adapted from the intervention design and development model proposed by Thomas and Rothman (2013). This model was designed for developing new interventions or adapting existing ones to changing conditions, such as population demographics and new social problems, and can be seen as a problem-solving process for finding effective tools to address human and social challenges. The model comprises four phases: information gathering and synthesis, design, early development and pilot testing, evaluation, and advanced development (Figure 2).

I Problem Analysis and Project Planning					
⇩	II Information Gathering and Synthesis				
Identify and find key problems	⇩	III Design			
Initiate the state-of-the-art review	Identify and select relevant information and resources	⇩	IV Early Development and Pilot testing		
Prepare project plan	Establish retrieval procedures	Identify intervention requirements	⇩	V Evaluation and advanced development	
Set a development goal	Gather, process, collect and analyze data	Determine design participants	Develop plan for trial use in pilot test	⇩	VI Dissemination
	Synthesize data and formulate conclusions	Formulate an initial intervention model	Determine the developmental research procedure	Plan evaluation in light of the degree of interventional development	⇩
			Determine developmental and monitoring instruments	Select evaluation methods	Assess needs and points of access of potential consumers
			Plan field test and select a site	Conduct pilot evaluation	Formulate dissemination plan
			Implement field tests and revise interventions as necessary	Revise intervention as necessary	Develop and conduct large-scale dissemination

Figure 2. Intervention design and development plan (adapted by Thomas and Rothman, 2013)

The first phase of the design, the problem analysis and project planning, was the preparation of this research, and the dissemination, as the sixth phase, is the upcoming phase of implementing the results of this research into everyday practice.

The current dissertation is focused on the design model phases II–V and comprises two parts (Table 1). Part I (Studies I and II) focuses on developing the theoretical model of SDL for NEET youth, with the goal of operationalizing the concept of SDL for NEET youth, formulating the definition of SDL from the perspective of NEET youth, and developing an SDL measurement instrument tailored for this demographic. Based on the systematic literature analysis, Study I began with analyzing different theoretical frameworks on SDL, definitions, dimensions, factors, and assessment methods of SDL. Based on the synthesis of the results of the systematic literature review, an SDL definition and theoretical model were formulated considering the specific characteristics of NEET youth. In Study II, an SDL assessment instrument was devised using the model developed in Study I and incorporating five highly reliable (0.82–0.91) and widely used assessment instruments of SDL (Guglielmino, 1977; Fisher et al., 2001; Chang, 2006; Lounsbury, 2009; Stockdale & Brockett, 2011).

Table 1. Overview of the studies from the methodological point of view

Part of the dissertation	Phase of the design*	Study	Focus of the study	Sample	Data collection	Data analysis
Part I: SDL concept and measurement tool for NEET youth	II	Study I	The definition and theoretical model of SDL for NEET youth	28 articles	Systematic literature review, PRISMA	thematic synthesis
	II	Study II	Validating the SDL measurement instrument for NEET youth	316 people aged 18–29 (NEET youth 66, studying or working youth 250)	Self-report questionnaire SDL-NEET	CFA EFA
Part II: The intervention for developing SDL skills in NEET youth	III	Study III	The SDL intervention model for NEET youth	25 articles	Systematic literature review, PRISMA	thematic synthesis
	IV–V	Study IV	The efficiency of the SDL-NEET intervention model	30 NEET-youth in experiment group and 26 NEET youth in control group; 4 mentors	SDL-NEET questionnaire, focus group, and individual interviews	The Mann-Whitney *U* Test, Wilcoxon Signed Rank Test, thematic analysis

* by Thomas and Rothman (2013)

The construct validity of the instrument was assessed through studies that included confirmatory and exploratory factor analyses and comparisons between NEET youth and both studying and employed youth. The goodness of fit of the model created in Study I was evaluated based on the collected data. Subsequently, the model required further development, leading to the emergence of a new factor structure that aligns with the SDL-NEET definition (Kõiv & Saks, 2023). This factor structure serves as the foundation for the validated SDL-NEET measurement instrument. The reliable and valid scale was necessary for measuring NEET youth SDL skills in the following studies.

Part II, which also consists of two studies (Study III and Study IV), describes the developing process of an intervention model that aimed to support NEET youth SDL skills, its implementation process, and the results of the implementation. Study III identified and evaluated interventions that support the development of SDL skills based on the systematic literature review. Based on the findings, the SDL intervention model was created for the current research. Study IV focused on implementing the intervention and finding out the effect of the intervention on NEET youth.

3.2. Methodology of Part I: Development of the assessment instrument

Part I of the study aimed to develop and validate a measurement instrument designed to assess the SDL skills of NEET youth. To address the research questions concerning the conceptual dimensions of SDL skills among NEET youth, a systematic literature review was conducted. Based on this review, a theoretical model was developed, and its validity was tested using a questionnaire derived from the model

3.2.1. Methodology of the literature review

To create a tool for measuring SDL skills, it is first necessary to understand the construct of SDL, existing measurement practices, and their application to NEET youth. First, to identify the conceptual dimensions that define SDL skills among NEET youth, a systematic literature review was conducted. The sample of the Study I consisted of 28 articles. The search targeted the studies that define the construct and dimensions of SDL and report on their measurement. The selection process for the systematic literature analysis was based on the PRISMA (Preferred Reported Items for Systematic Reviews and Meta Analyses) framework (Moher et al., 2009) (Figure 3).

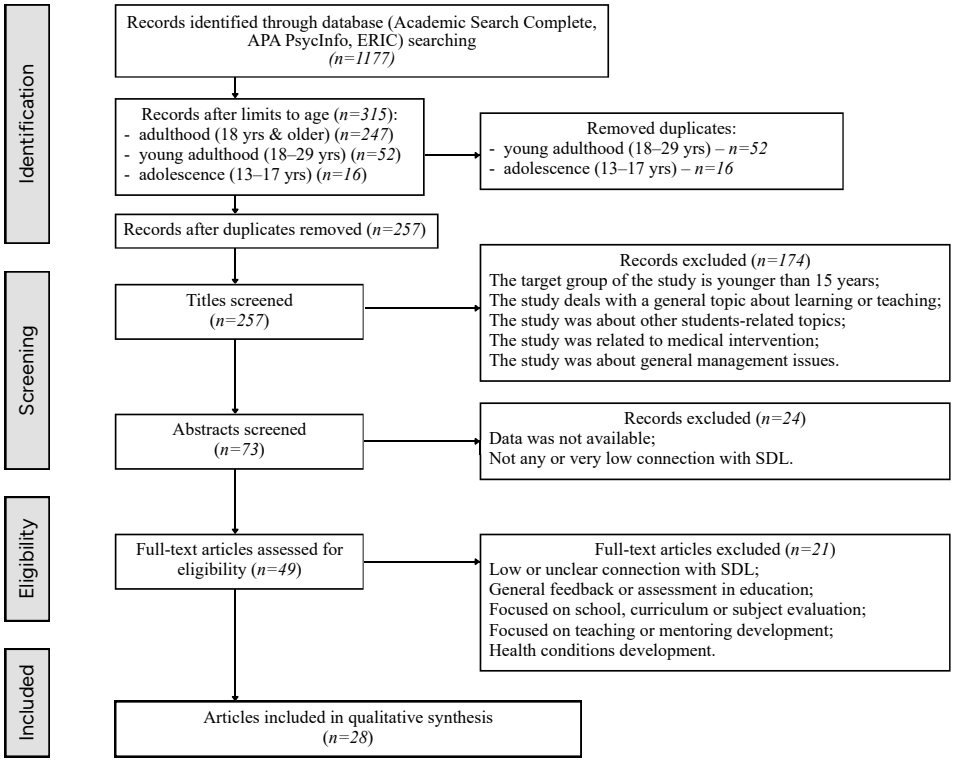

Figure 3. Process of selecting studies for Study I (Kõiv & Saks, 2023)

The collected data included: (a) descriptive information about each study (such as title, authors, publication year, journal, main domain, and sample); (b) data necessary for answering the research questions, including theory, definitions used, measurement tools, and the dimensions and characteristics of SDL. All 28 articles addressed the SDL skills, highlighting the theoretical basis, and 25 of them included measurement tools. A systematic literature analysis was conducted to identify key characteristics of SDL, from which frequently recurring traits were analyzed and synthesized into conceptual dimensions. To adapt the concept of SDL to the context of NEET youth, the key characteristics of NEET young people identified in the scientific literature were taken as the basis. This framework guided the development of a validated assessment tool and practical recommendations for measuring SDL among NEET youth

3.2.2. Methodology of the assessment model

The methodology process of Study II is outlined in the following figure (Figure 4).

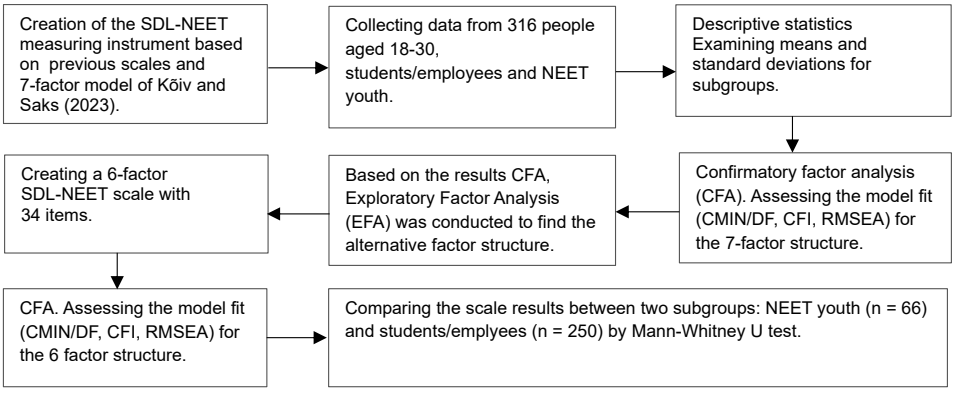

Figure 4. Study II research design (Kõiv & Saks, 2024)

The research was carried out in four stages: (1) generating scale items based on the seven dimensions of the theoretical SDL model, drawing on previous scales; (2) evaluating the clarity and comprehensibility of the items through cognitive interviews; (3) collecting data from youth aged 18–29, and (4) analyzing the data in line with the research questions. The measurement tool was adapted from existing instruments, with factors and items tailored to reflect the specific characteristics of NEET youth.

For the development of the instrument, five existing SDL questionnaires with greater reliability (0.82–0.91) were analysed, including their factors (N=30) and the items contained within these factors (N=321) (Table 2).

Table 2. The main measurement tools used to measure SDL of young people (Kõiv & Saks, 2024)

Year	Author(s)	Scale (No of items)	Sample	Validity	Reliability
1977	Guglielmino, L.M.	SDLS (58 items)	307 students	Delphi method	0.87
2001	Fisher, M.J., King, J., & Tague, G	SDLRS (40 items)	130 students	CFA	0.87
2006	Chang, C.-C.	SDLA (37 items)	38 under-graduates	N/A	0.92
2009	Lounsbury, J.W., Levy, J.J., Park, S-H., Gibson, L.W., & Smith, R.	uni-dimensional instrument (10 items)	2,125 students	CCFA	0.82
2011	Stockdale, S.-L., & Brockett, R.-G.	PRO-SDLS (25 items)	190 under-graduates	CFA	0.91

The identified factors were adapted to align with the SDL concept developed through the literature review, specifically tailored to the context of NEET youth. Items with similar meanings were merged, and items deemed irrelevant to the NEET youth context (e.g., interaction with teachers, learning environment) were removed, resulting in a final pool of 56 items. These items were then grouped according to the distribution of the seven factors identified in Study I as relevant for NEET youth: self-concept, beliefs, orientation, motivation, process-related skills, learning skills, and personal characteristics.

Data for validating the assessment instrument were collected electronically via the LimeSurvey platform from young people aged 18–29. Participants were recruited through educational institutions and professionals working with NEET youth. The sample included both NEET individuals and young people who were currently studying or employed. The questionnaire was distributed to 421 young people, of whom 316 completed it in full. Table 3 presents the demographic profile of the sample.

Table 3. Demographic data of the participants (Kõiv & Saks, 2024)

Variable	Sample total (n=*316) %, SD*	Students/employed youth (n=*250), %, SD*	NEET-youth (n=*66*), *%, SD*
Gender			
Male	128 (40.5%)	105 (42.0%)	23 (34.9%)
Female	185 (58.5%)	144 (57.6%)	41 (62.1%)
No answer	3 (1.0%)	1 (0.4%)	2 (3.0%)
Age			
Age	19.92 (SD=2.79)	19.31 (SD=2.29)	22.23 (SD=3.42)
Living place			
Urban	199 (63%)	158 (63.2%)	41 (62.1%)
Rural	117 (37%)	92 (36.8%)	25 (37.9%)

The sample was divided into two sub-groups: NEET youth (n = 66) and students/employed youth (n = 250).

Data management and statistical analyses were conducted using SPSS version 28.0.1.1 and SPSS AMOS version 26. An exploratory factor analysis (EFA) using the principal components method was performed to determine the factor structure of the SDL-NEET scale. Model fit indices obtained from the confirmatory factor analysis (CFA) were considered acceptable at the following thresholds: CMIN/DF < 3.0, CFI ≥ 0.95, NFI > 0.90, TLI > 0.90, and RMSEA ≤ 0.06 (Hu & Bentler, 1999; Kline, 2005). Given the unequal group sizes and the relatively small NEET sample (n = 66), the non-parametric Mann-Whitney U test was applied for comparing group differences.

3.3. Methodology of Part II: The intervention for developing SDL skills in NEET youth

This chapter outlines the methodology employed to address the research questions concerning the design and impact of an intervention aimed at fostering SDL skills among NEET youth. The answers were derived through the pilot implementation of a model developed on the basis of a systematic literature review.

3.3.1. Methodology for developing the intervention model

To implement the intervention, it is essential to examine existing practices that support SDL among NEET youth and based on the findings, determine which methods to apply and how. Systematic research syntheses provide an essential evidence base for designing professional actions or interventions (Thomas & Rothman, 2013). A systematic literature review was therefore conducted to identify interventions that support the development of SDL skills.

To identify effective methods and approaches for fostering SDL among NEET youth, a comprehensive search for relevant articles was conducted using the EBSCO platform. The initial search included the Scopus, Academic Search Complete, APA PsycInfo, and ERIC databases. Given the aim of identifying interventions that promote SDL in young people, advanced search functions and carefully selected keywords were used to compile an initial pool of relevant studies. The search procedure was documented and is presented according to the PRISMA framework below (Figure 5)

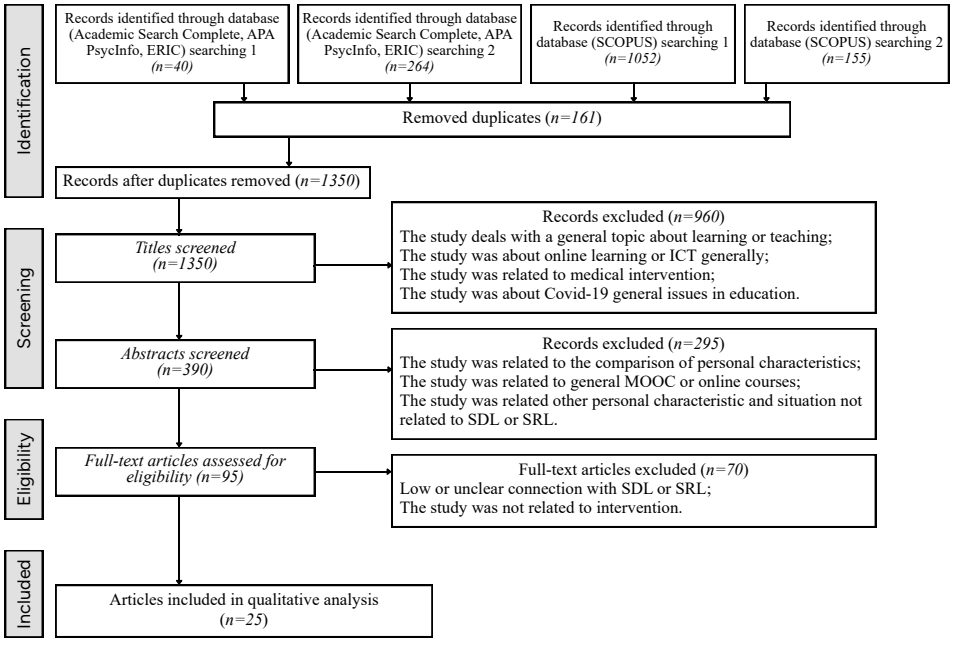

Figure 5. The process of selecting studies for analysis in Study III (Kõiv et al., 2024)

As a result, 25 articles that presented intervention or support activities for SRL and SDL were included in the final pool for subsequent analysis.

All collected data were systematically organized and compiled using Microsoft Excel. The extracted information included: (a) descriptive details of each study (e.g., title, authors, year of publication, and journal); (b) data relevant to addressing the research questions, including sample characteristics, methodological approach, context, and employed methods and tools; and (c) measured variables, instruments used, and reported outcomes.

For each study, the intervention's primary approach, contextual setting, tools, and methods were identified, and key characteristics were extracted. The findings were then synthesized to inform the development of a suitable SDL intervention model for NEET youth. A total of 20 intervention tools were mapped, categorised according to their primary approaches, applied methods, and specific tools. Additionally, the analysis considered how outcomes were measured and which SDL-related skills or factors showed positive changes as a result of the interventions.

3.3.2. Methodology for piloting the intervention

Study IV employed a mixed-methods research design to achieve a comprehensive understanding of the intervention. By integrating both qualitative and quantitative methodologies, the research enabled data collection and analysis from multiple perspectives, thereby enhancing the depth and validity of the findings (Figure 6).

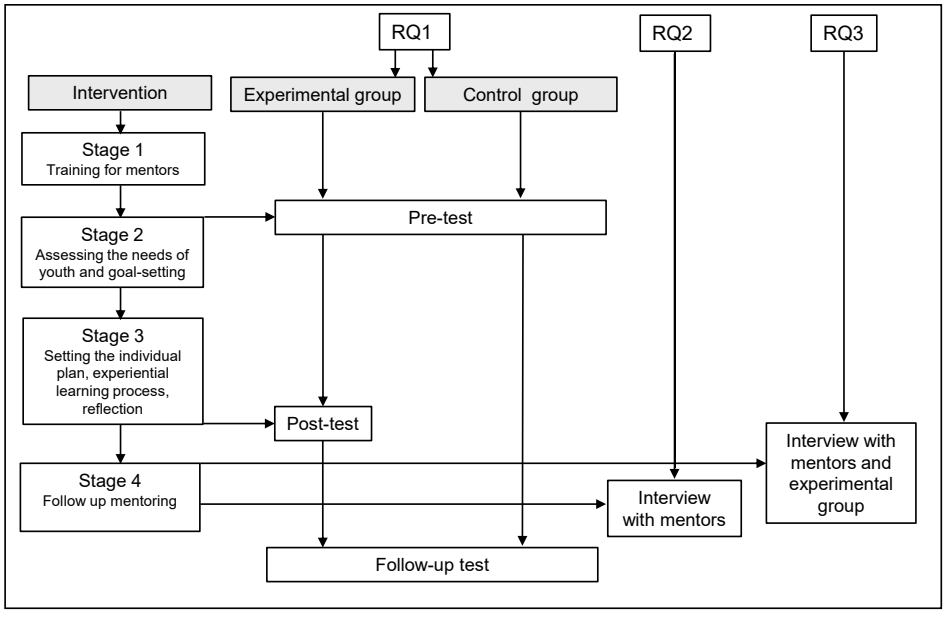

Figure 6. Methodological framework for the intervention pilot study (Kõiv et al., 2025)

Following the overview of the intervention piloting process, the composition of the study sample is presented. Participants were selected based on the following inclusion criteria: being between 18 and 29 years of age, not engaged in employment or education, and expressing a willingness to participate in the study. Individuals in the experimental group were recruited through an open call to take part in the intervention programme. In parallel, a control group comprising NEET youth who did not participate in the intervention was also formed to enable comparative analysis. The final sample included 56 NEET youth, with 30 participants in the experimental group and 26 in the control group. Participants were drawn from four countries: Estonia, Malta, North Macedonia, and Turkey (Table 4). One mentor was involved from each country – 2 male and 2 female mentors. Participants were recruited through public invitations disseminated by organizations working with unemployed or at-risk youth, as well as via direct approaches to individuals known to belong to this category. Inclusion criteria required participants to be aged 18–29 and to hold NEET status at the time of application. No additional sensitive information (e.g., financial situation, disabilities) was collected. The control group was primarily composed of NEET youth who, for various reasons, did not wish or were unable to participate in the intervention but were willing to complete the questionnaire. No additional activities or interventions were conducted with the control group.

Table 4. Background of the experimental and control group (Kõiv et al., 2025)

	Experimental group		**Control group**	
	N	Age *(Mean/SD)*	*N*	Age *(Mean/SD*)
Estonia	9 (30.00%)	21.78 (3.23)	9 (34.60%)	22.00 (2.44)
Malta	5 (16.70%)	23.00 (2.00)	n/a	n/a
North Macedonia	7 (23.30%)	21.00 (2.44)	7 (26.90%)	22.43 (3.86)
Turkey	9 (30.00%)	23.00 (2.44)	10 (38.50%)	22.90 (2.726
TOTAL	30 (100%)	22.16 (2.60)	26 (100%)	22.46 (2.88)

The study's data collection was organized across three intervention stages (Stage 2 to Stage 4), employing a quasi-experimental, non-randomized design with pre-, post-, and follow-up assessments to evaluate the effects of the intervention. SDL skills development was measured using the 6-factor, 34-item scale devised by the author as the SDL measurement scale for NEET youth (Kõiv & Saks, 2024). All participants answered the questionnaire in their native language. The SDL-NEET questionnaire was translated into all target languages following a rigorous translation procedure. Prior to translation, researchers from each participating country jointly reviewed and discussed all items to ensure a shared and conceptually equivalent understanding of each statement, thereby supporting semantic and contextual consistency across language versions. Assessments occurred at baseline (pre-test), immediately post-intervention (post-test), and one month later (follow-up) for the experimental group, while the control group completed pre-

and follow-up tests. In addition to quantitative data, qualitative insights were gathered through semi-structured interviews with participating mentors and young people to capture their experiences of the intervention.

The individual interviews were conducted with mentors who participated in the SDL training and also implemented the intervention. Semi-structured individual interviews with young people and focus group interviews with mentors were conducted during Stage 4 to understand their experience in the intervention as a whole. An inductive approach was applied in the analysis of the interviews, whereby the emerging codes were organized into categories. The interviews with young people and mentors were analyzed separately in order to account for group-specific characteristics.

To assess changes in the participants' SDL skills, the factors across the pre-test, post-test, and follow-up phases, the Wilcoxon Signed Rank Test, a non-parametric method, was applied. Differences between the experimental and control groups at the pre-test and follow-up stages were examined using the Mann-Whitney U Test. A p-value threshold of less than 0.05 was used to determine statistical significance. All quantitative analyses were performed using SPSS software (version 29.0). Qualitative interview data were examined through inductive content analysis, facilitated by the web-based tool QCAMap.

3.4. Ethical considerations

Ethical principles were embedded throughout every stage of this thesis, reflecting a commitment to uphold the rights and well-being of participants beyond a mere procedural requirement. Although formal approval from ethics committees was not sought for this particular research, comprehensive ethical standards guided the entire research process to ensure responsible and respectful treatment of all involved.

The study exclusively involved adult participants aged between 18 and 29 years, a demographic assessed through expert consultation as not belonging to a highly vulnerable population. This deliberate selection was made to safeguard participant welfare and maintain the ethical integrity of the research. Consequently, the associated risks were considered minimal, and the study incorporated thorough safety protocols and support mechanisms to protect participants throughout. For this purpose, participants were informed about the process, and youth workers and mentors were engaged to establish contact with the young people. Furthermore, the research activities were designed to foster positive personal growth aligned with the individual goals of participants, rather than focusing on addressing vulnerable or adverse life circumstances. This approach further minimized potential harm while encouraging empowerment and self-directed development.

All participants received clear and detailed information regarding the study's objectives, procedures, and any foreseeable risks before providing informed consent. They retained the unequivocal right to withdraw at any point without penalty.

Confidentiality and anonymity were rigorously maintained throughout data handling to protect participant identities.

Additionally, each participant in the intervention piloting phase was provided with individualized mentorship, serving as a safeguard to monitor and support their psychological and social well-being. Regular interactions between researchers and participants allowed for ongoing risk assessment and timely intervention if necessary.

In sum, ethical reflection and action were not confined to a single phase but were integral and continuous elements of the research design and implementation. This holistic approach ensured both the scientific rigor and moral responsibility of the study, prioritizing participant welfare at all times.

4. FINDINGS

4.1. PART I: SDL for NEET youth concept and factors

4.1.1. Concept and definition of SDL in NEET youth context

The literature review on theoretical approaches to SDL revealed that most definitions are universal and not adapted to specific target groups, including early school leavers. SDL is conceptualised both as a learning process and a personal attribute, aligning with Brockett and Hiemstra's (1991) PRO-model (Personal Responsibility Orientation), which highlights the interaction between internal characteristics and external conditions. Thus, SDL is best understood as an interconnected construct encompassing both personal and processual dimensions.

To identify the key dimensions present in definitions of SDL and their relevance for NEET youth, a content analysis of the literature was conducted. Thirteen commonly recurring characteristics of SDL and the self-directed learner were extracted and grouped into five dimensions: process preconditions, personal preconditions, elements of the process, developing skills, and tools. These dimensions reflect both personal and procedural aspects of SDL and are consistent with established theoretical models, such as those by Knowles (1975) and Brockett and Hiemstra (1991). While these characteristics are generally presented as universal, their application to NEET youth requires adaptation. For this group, the development of personal responsibility, motivation, skills, and social capital is especially critical. Therefore, a goal dimension is proposed as an additional component, representing personal change as a central outcome of the SDL process (Figure 7).

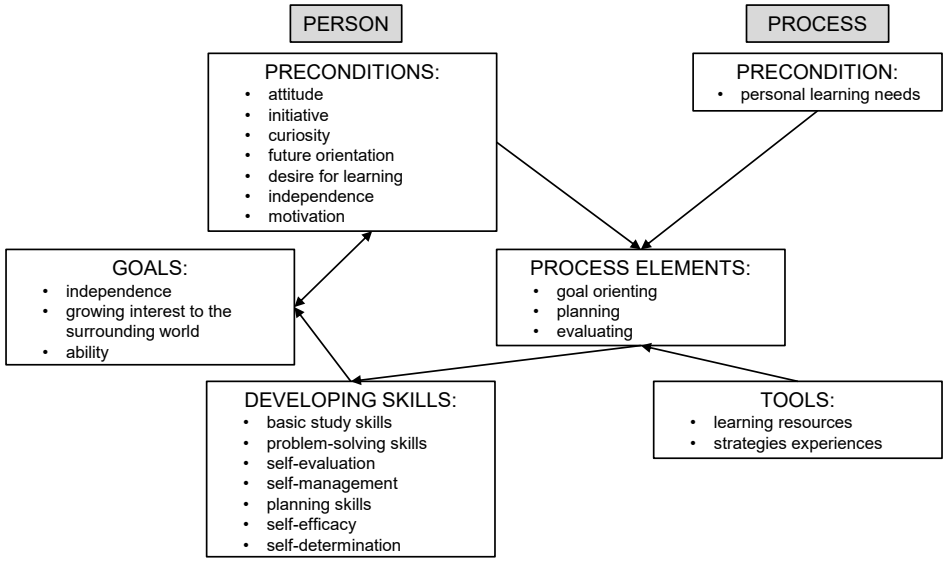

Figure 7. The model of SDL dimensions and characteristics for NEET youth (Kõiv & Saks, 2023)

The six resulting dimensions can be categorised into person-related (personal preconditions, developing skills, and goals) and process-related (process preconditions, elements of the process, and tools) groups.

Through analysis of 57 characteristics associated with SDL, key elements were identified that align with the needs of NEET youth – particularly within the dimensions of personal preconditions (e.g., curiosity, future orientation, motivation, initiative) and developing skills (e.g., planning, problem-solving, self-efficacy). These findings indicate that supporting NEET youth in SDL must focus on shaping attitudes, strengthening foundational learning competencies, and fostering a positive view of the future. Based on this analysis, a targeted definition of SDL for NEET youth is proposed:

> *Self-directed learning for NEET youth is a supported process during which a person's attitude toward learning improves, and the subject develops initiative, independence, and abilities in shaping their educational path with a positive outlook on the future.*

This definition provides a foundation for designing appropriate interventions and tools for assessing and developing SDL skills among NEET youth. In sum, to effectively support NEET youth, it is essential to contextualise the general SDL framework by identifying which characteristics within each dimension are most relevant to their specific challenges and developmental needs.

4.1.2. Assessing the dimensions of SDL

A review of 28 studies revealed that while numerous tools exist to assess SDL skills – primarily in the form of self-report questionnaires – none are specifically designed for NEET youth. The analysis identified five overarching dimensions typically used in SDL assessment: attitudes, skills, personal characteristics, process elements, and learning tools. However, in the case of NEET youth, elements related to structured learning processes and tools are often not applicable, as these individuals may not participate in formal learning contexts at all. Therefore, the focus for both assessment and support should shift toward internal, personal dimensions that reflect the unique needs and realities of NEET youth. Based on the literature analysi (Kõiv & Saks, 2023), a seven-factor theoretical model emerged: self-concept, beliefs, orientation, motivation, process-related skills, learning skills, and personal characteristics.

To operationalize the theoretical model, items from five existing validated SDL measurement instruments (Guglielmino, 1977; Fisher et al., 2001; Chang, 2006; Lounsbury, 2009; Stockdale & Brockett, 2011) were reviewed and selectively applied. Items that did not align with the NEET-youth context were excluded. As a result, a 7-factor, 56-item model was constructed, grounded in the theoretical framework and tailored to the specific needs and characteristics of NEET youth. The initial model demonstrated poor fit according to the goodness-of-fit indices

($\chi^2 = 3591.58$, df = 1463, CMIN/DF = 2.455, CFI = 0.722, NFI = 0.610, TLI = 0.708, RMSEA = 0.068). Following the removal of twelve items with factor loadings below 0.4, the model's fit indices still remained below acceptable thresholds, indicating the need for further refinement. After freeing highly correlated items, the model fit indices improved but remained suboptimal. As the hypothetical model was based on tools developed for students and working youth, it became evident that NEET youth require a more tailored factor structure.

Due to the poor fit of the initial 7-factor model, an exploratory factor analysis (EFA) was conducted using principal component analysis with oblique rotation to identify a more suitable structure for NEET youth. Three models (5-, 6-, and 7-factor) were tested, with the 7-factor structure showing the best cumulative variance (51.86%) and clearer factor composition. However, a subsequent confirmatory factor led to the removal of one factor due to low item loadings, resulting in a final 6-factor, 34-item SDL-NEET model. The six factors – openness to experiences, resilience, attitudes, future orientation, metacognition, and responsibility – demonstrated acceptable internal consistency ($\alpha = 0.62–0.87$). The final CFA indicated an acceptable model fit ($\chi^2 = 833.673$, df = 498, CMIN/DF = 1.674, CFI = 0.924, RMSEA = 0.046). The comparison with the original theoretical model revealed a reallocation of items and the emergence of new factors, reflecting the specific psychosocial characteristics of NEET youth, such as coping with stress and uncertainty about the future.

To explore differences in SDL skills between NEET youth and their peers who are studying or employed, the SDL-NEET scale scores were compared across groups. Using the Mann-Whitney U test ($n_1 = 66$ NEET, $n_2 = 250$ students/employees), results showed that NEET youth scored consistently lower across all SDL factors (Table 5).

Table 5. Differences between NEET youth' and students'/employees' SDL factors (Kõiv & Saks, 2024)

	NEET youth (n=66)	Students/employees (n=250)	z	t	df	p
	M (SD)	M (SD)				
Metacognition	3.56 (0.87)	3.75 (0.74)	–1.378	1.74	314	0.168
Resilience	2.78 (0.88)	2.93 (0.85)	–1.397	1.33	98.92	0.162
Attitude	3.04 (0.91)	3.16 (0.86)	–0.939	0.97	97.67	0.348
Future orientation	3.19 (0.99)	3.49 (0.85)	–2.237	2.26	91.89	**0.025**
Responsibility	3.76 (0.94)	4.16 (0.58)	–2.976	3.28	78.46	**0.003**
Openness to experiences	3.29 (0.93)	3.70 (0.73)	–3.243	3.13	87.24	**0.001**

Note: Statistically significant results given in bold.

Statistically significant differences were found in three key areas: future orientation ($z = -2.237$, $p = 0.025$), responsibility ($z = -2.976$, $p = 0.003$), and openness to experiences ($z = -3.976$, $p = 0.001$). These findings confirm the scale's discriminative validity and highlight specific SDL domains – particularly responsibility, openness, and future orientation – as critical areas for targeted support in interventions with NEET youth.

4.2. PART II: SDL intervention for NEET youth

This chapter provides an overview of interventions that have been implemented to develop SDL skills among NEET youth. It begins by introducing various theoretical approaches and practical methods used to support the development of SDL skills. The focus then shifts to a specific intervention model designed for NEET youth, with the aim of enhancing their capacity to manage their own learning independently. The chapter also discusses the piloting of the intervention in four countries and presents the results from comparisons between the intervention and control groups.

4.2.1. SDL intervention model for NEET youth

The overview of methods supporting the development of SDL skills revealed that out of 25 studies, only five focused exclusively on SDL or self-regulated learning (SRL) interventions. Most studies combined SDL support with broader approaches such as training, coaching, and integrated activities. The majority of interventions were conducted within formal education settings, primarily targeting active students, with very few situated in out-of-school contexts and none specifically aimed at dropouts. No evidence was found of SDL interventions specifically designed for NEET youth, which aligns with the research aim to develop an SDL intervention model tailored to this group.

Prior analyses of interventions for NEET youth (Mawn et al., 2017) indicate that most effective programmes are multi-component, combining formal education or skills-based classroom training with on-the-job experiences such as internships and job placements. Building on this, an SDL intervention for NEET youth should also adopt a multi-faceted approach. Given the limited attention to NEET youth in the SDL context, it is reasonable to assume that facilitators and trainers may lack specialized knowledge to support this group effectively. Therefore, interventions should include dedicated training for facilitators, as exemplified by van Tonder et al. (2022). Many studies reviewed employed training sessions or workshops to introduce SDL concepts to young learners, such as the use of video materials at the outset of a course demonstrated by Jansen et al. (2020). Correspondingly, an introductory SDL course for NEET youth is essential, as their prolonged absence from formal education may have left their learning skills underdeveloped or outdated.

Consistent implementation of coaching, mentoring, and reflective practice tools was a common feature across effective interventions. Since NEET youth often lack regular contact with educational institutions, thoughtfully designed mentoring before and after intensive programme phases is critical. Low self-esteem and prior negative learning experiences are key risk factors for becoming NEET (Rahmani & Groot, 2023), underscoring the need for mentors who support goal setting and motivation.

The study indicated that problem-based learning (Cremers et al., 2014) and inquiry-based learning activities (Schweder & Raufelder, 2022) effectively enhance SDL skills. Experiential learning through inquiry-based methods can thus be a powerful tool for NEET youth skill development. Given that NEET youth may experience social isolation and lack social capital (Rahmani & Groot, 2023), interventions should facilitate new social connections and idea exchange, encouraging participants to step outside their comfort zones. Intervention durations in the literature ranged from one semester to a full academic year. For NEET youth, where the intervention is focused on skill development rather than part of a formal educational programme, a duration of approximately one semester (4–6 months) is recommended. The use of a dedicated evaluation tool, such as the SDL-NEET scale should be integrated within the intervention to measure SDL skill development reliably. Based on the literature review, a comprehensive model for SDL skill development among NEET youth was proposed (Figure 8).

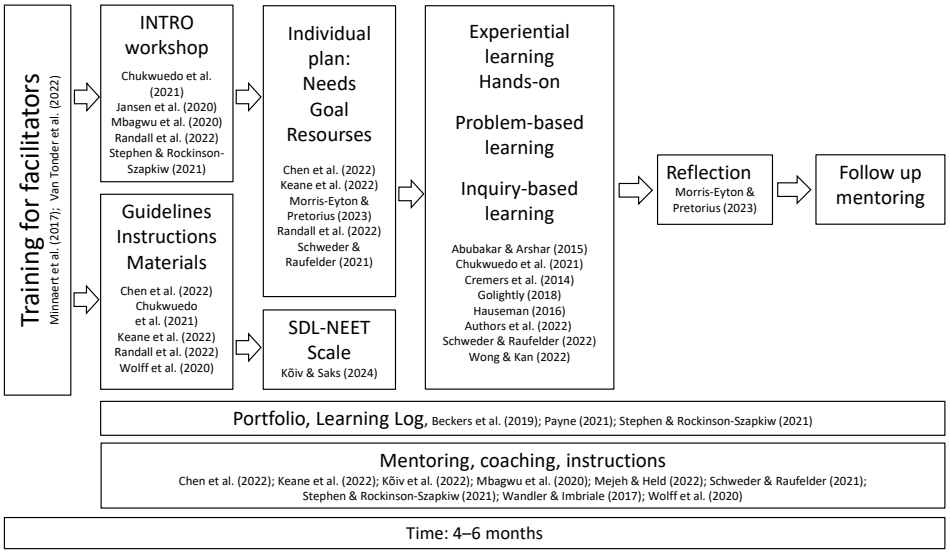

Figure 8. SDL intervention model for NEET youth (Kõiv et al., 2024)

This model includes facilitator training, an introductory SDL course for learners, and experiential, hands-on activities – encompassing problem- and interest-based learning. Supportive components such as coaching and mentoring, coupled with tools for goal setting and reflective practices, should be consistently incorporated.

4.2.2. Piloting the intervention model

The SDL-NEET intervention programme is grounded in the SDL intervention model for NEET youth. The programme's various activities and thematic sessions are organised into four distinct phases. Key elements from the model – such as individual planning, needs assessment, goal setting, experiential learning, and reflection – were combined into a unified activity structure (Figure 9).

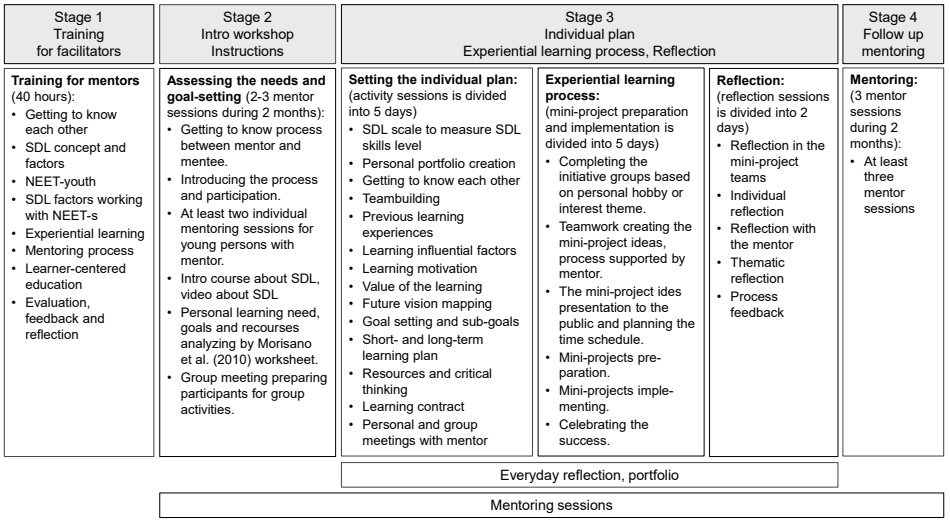

Figure 9. SDL-NEET intervention programme (Kõiv et al., 2025)

The programme is described in more detail in Appendix 1. The intervention's effect on SDL skills was assessed using pre-, post-, and follow-up tests with the SDL-NEET scale, which demonstrated high internal consistency (Cronbach's $\alpha = 0.952$). The results were analysed taking into account the average scores of each participant. The results of the Mann-Whitney U test revealed that the SDL skills of the experimental and the control group did not differ significantly before the intervention in any factor (Table 6).

Table 6. SDL skills results comparing the experimental and control groups (Kõiv et al., 2025)

Variables	Time	Means (SD)			
		Experimental group (n = 30)	Control group (n = 26)	Z	p
Total	T1**	3.83(0.63)	3.75(0.76)	–0.394	0.693
	T3**	4.12(0.56)	3.64(0.69)	–2.827	0.005*
Metacognition	T1	4.07(0.59)	4.03(0.98)	–0.446	0.655
	T3	4.34(0.54)	3.80(0.96)	–2.426	0.015*
Resilience	T1	3.15(0.89)	3.11(0.93)	–0.149	0.882
	T3	3.66(0.86)	3.22(0.97)	–1.865	0.062
Attitude to learning	T1	3.79(0.86)	3.48(0.91)	–1.309	0.191
	T3	3.97(0,71)	3.50(0.81)	–2.066	0.039*
Future orientation	T1	3.83(0.90)	3.69(0.96)	–0.626	0.532
	T3	4.21(0.84)	3.65(0.95)	–2.302	0.021*
Responsibility	T1	4.02(0.82)	4.20(0.86)	–1.121	0.262
	T3	4.26(0.75)	3.96(0.77)	–1.855	0.064
Openness to new experiences	T1	3.87(0.78)	3.78(0.94)	–0.445	0.656
	T3	4.21(0.68)	3.58(0.83)	–3.299	<0.001*

**results <0.05 are statistically significant*
*** T1 – pre-test; T3 – follow-up test*

By the end of the study, statistically significant improvements in the experimental group compared to the control group were observed in total results ($Z = 2.827$; $p = 0.005$), and in most of the factors: metacognition ($Z = 2.426$; $p = 0.015$), attitude to learning ($Z = 2.066$; $p = 0.039$), future orientation ($Z = 2.302$; $p = 0.021$), and openness to new experiences ($Z = –3.299$; $p < 0.001$) (Table 6). In contrast, the improvements in resilience and responsibility were not statistically significant. A closer examination of individual SDL factors results in experimental group showed that the statistically significant improvement was identified already in the comparison of pre-test (T1) and post-test (T2) results ($Z = –2.536$; $p = 0.011$) (Table 7). Notably, resilience ($Z = –2.034$; $p = 0.042$) and openness to new experiences ($Z = –2.632$; $p = 0.008$) demonstrated statistically significant gains, with both continuing to improve further during the follow-up mentoring phase. Factor-level analysis revealed that the average scores for all SDL dimensions increased in the experimental group; however, the change in attitude toward learning was not statistically significant.

Table 7. Changes in SDL skills among the experimental group (Kõiv et al., 2025)

Variables	Means (SD)			Differences					
	T1***	T2***	T3***	T1=>T2		T2=>T3		T1=>T3	
				Z	*p*	Z	*p*	Z	*p*
TOTAL	3.83(0.63)	4.02(0.55)	4.12(0.56)	–2.536	0.011*	–1.331	0.183	–3.281	0.001*
MET**	4.07(0.59)	4.27(0.54)	4.34(0.54)	–1.893	0.058	–0.345	0.730	–2.641	0.008*
RES**	3.15(0.89)	3.43(0.97)	3.66(0.86)	–2.034	0.042*	–1.385	0.166	–2.605	0.009*
ATT**	3.79(0.86)	3.86(0.67)	3.97(0.71)	–0.096	0.923	–1.062	0.288	–1.554	0.120
FUT**	3.83(0.90)	4.07(0.89)	4.21(0.84)	–1.771	0.077	–1.278	0.201	–2.396	0.017*
RSP**	4.02(0.82)	4.20(0.75)	4.26(0.75)	–1.882	0.060	–0.043	0.965	–2.024	0.043*
OPN**	3.87(0.78)	4.16(0.73)	4.21(0.68)	–2.632	0.008*	–0.716	0.474	–2.206	0.027*

*results <0.05 are statistically significant
***MET – metacognition; RES – resilience; ATT – attitude to learning; FUT – future orientation; RSP – responsibility; OPN – openness to new experiences*
****T1 – pre-test; T2 – post-test; T3 – follow-up test*

The results demonstrate the effectiveness of interventions that focus on the development of SDL skills in NEET youth. The effect found was exclusively significant for the SDL skills of the experimental group.

Interviews with mentors showed that the training helped them better understand the concept of SDL, increased their confidence, and improved their professional skills. They became more aware of their own SDL development and the challenges involved in supporting NEET youth. Mentors suggested adding more practical activities, peer learning, and resources to future training.

The analysis of the interviews about intervention revealed four main categories in the responses of both young people and mentors, each comprising a number of subcategories. In comparison, while the young people emphasized their personal development, experienced activities, and future-oriented suggestions (Figure 10), the mentors' analysis of the intervention experience highlighted process-related aspects, such as personal influencing factors, supportive elements, and success factors (Figure 11).

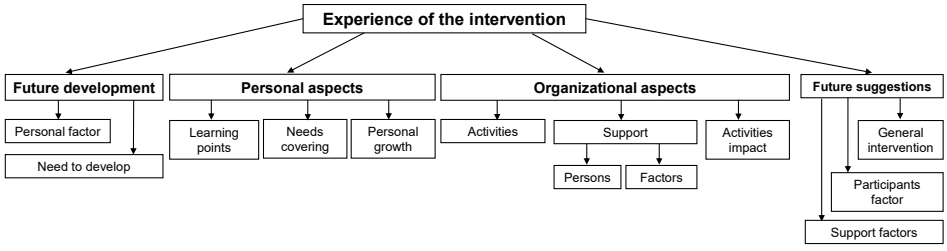

Figure 10. The categories and subcategories from the interviews with youth

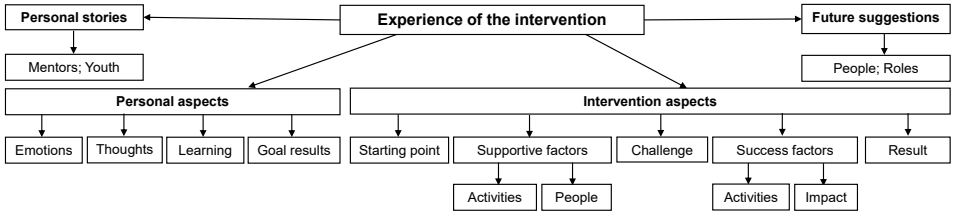

Figure 11. The categories and subcategories from the interviews with mentors

Youth participants described the programme as engaging and supportive. They experienced personal growth, developed new skills, social capital, and gained confidence. Mentors noted that participants' attitudes improved over time, especially as the activities differed from formal education. Individual mentoring was seen as a key success factor, though both mentors and youth pointed to the need for more time and personal attention. It was recommended to reduce the number of youth per mentor and to involve additional support staff.

5. DISCUSSION

The aim of this doctoral dissertation was to conceptualize SDL in the context of NEET youth and to develop and validate a tailored assessment instrument and intervention to support their SDL. The results of the four studies emphasised the importance of examining the concept of SDL in the context of NEET youth, as SDL has so far been predominantly considered within the context of education and employment, leaving out target groups outside these domains. SDL is highly relevant also for other target groups, since, for example, the proportion of NEET youth in society is alarmingly high, and there is an expectation that young people will return to education or employment. Focusing on SDL skills among NEET youth provides a valuable perspective on young people's potential to re-engage in education. Education enables people to act as agents of change, opening pathways to new opportunities and fostering a fuller, more meaningful life both individually and within their communities (Freire, 2005). Considering that a key characteristic of NEET youth is a low level of education (Mascherini, 2019), continuing education and skills development is essential, as it provides a significant opportunity to access suitable career paths and achieve overall life stability.

In order to achieve the research aim and following the intervention study design, each stage of the study provided input for the subsequent stage of the research process. The investigation of the SDL concept in the context of NEET youth highlighted the importance of support throughout the entire process and helped to specify the structure of SDL factors, which is particularly important for NEET youth. The distinctiveness of examining SDL within the NEET context lies in the necessity of accounting for the specific characteristics of this group. In particular, the study emphasised preconditions as well as personal skills and characteristics that need to develop or change in order to participate in the learning and development process. As NEET youth are neither engaged in employment nor education, SDL must be conceptualised from a different perspective: it cannot be evaluated in terms of ongoing learning activity, but rather in terms of their readiness and capacity to (re-)engage in the learning process.

The studies also highlighted the need to assess SDL skills purposefully and to identify appropriate interventions for their development. To be re-engaged in the learning process, NEET youth need skills that enable them to identify the right pathway for themselves and to adapt to new circumstances. The need for SDL measurement tools and interventions for this target group arises from the limited number of education-oriented policies and interventions for NEET youth (Paabort et al., 2023). The conceptual model developed based on theoretical approaches provided the foundation for the development of the measurement instrument. As a result of analysing the data collected using the instrument, a six-factor model was constructed to identify which domains of SDL skills require the most support among young people. The analysis showed that support should primarily be directed towards developing preconditions. The obtained results served as input for the development of the intervention model and formed the

basis for implementing the intervention. The different stages of the study played an important role in achieving the research objectives and answering the research questions.

The following section discusses the main findings, taking into account the results of studies on SDL in the context of NEET youth.

5.1. Understanding the concept of SDL in the context of NEET youth and its measurement tools

The present study addressed the gap in SDL research by focusing on NEET youth, as previous research on SDL has largely overlooked individuals who are not engaged in education or employment, and the personal factors characteristic of their profiles have received limited attention. Active participation of NEET youth in a structured learning process cannot be assumed, which raises the question of how existing theoretical models and measurement tools can be meaningfully adapted for this target group. The study therefore examined how SDL can be conceptualised and operationalized in the context of NEET youth. The creation of the concept supported the development of a measurement instrument for assessing the SDL skills of NEET youth.

By analysing the context and characteristics of NEET youth and drawing on existing theoretical approaches to SDL, a concept was developed specifically tailored to the needs of NEET youth. The analysis revealed that previous theoretical approaches primarily conceptualise SDL as a process in which the learner already possesses the necessary skills and is able to independently carry out the various stages of the learning process. In the case of NEET youth, however, the primary issue is not participation in the learning process or coping within it, but rather the readiness to engage in the learning process in the first place.

In the theoretical concept developed in this study, two central dimensions clearly emerge: preconditions for the learning process and personal competences. Therefore, earlier process-based approaches, including Knowles (1975) and Brockett & Hiemstra (1991), do not fully align with the context of NEET youth. Jõgi (2013) has also pointed out that Knowles' model has been considered overly technical and prescriptive. At the same time, the aspect of guidance embedded in these theories can be adopted, as young people operating outside formal structures may require direction and supported leadership. For NEET youth, the development of SDL skills can take place in a supportive environment through carefully designed activities aimed at strengthening the factors that are most relevant to them. The focus can be placed on reinforcing the factors identified in the definition developed in this study, such as attitude, a positive outlook for the future, initiative, and independence. In conclusion, the focus in conceptualising SDL for NEET youth shifts from describing the process itself to supporting the necessary preconditions for SDL. This enables young people to enter the learning process in the first place and to function successfully within it.

The development of the concept provided a basis for a more specific examination of the support factors required by NEET youth. The reasons leading a young person to disengage from education, which in turn shape the areas where support is most needed, can be highly diverse (Rahmani et al., 2024). In the context of SDL, particular attention should be given to factors arising from the youth's own skills and characteristics. Among personal factors, self-concept, learning attitudes, learning orientation, and process-related skills are particularly important for fostering readiness for further learning, functioning as a lifelong learner, and preventing the recurrence of NEET status (Mendolia & Walker, 2014; Tayfur et al., 2021). Therefore, it was important to examine how to operationalize and measure SDL skills in the context of NEET youth,

The theoretical approach developed in this study, which places the preconditions necessary for SDL at its core, is further advanced through the process of developing the measurement instrument. The SDL-NEET instrument developed in this study provides a novel framework for assessing SDL skills in NEET youth. Based on the initially constructed model, the data collected using the assessment instrument resulted in a new model in which the majority of factors are related to preconditions. These include openness to new experiences, future orientation, attitude towards learning, and readiness to take responsibility. Metacognition can be conceptualized as a skill, while resilience can be understood as coping and sustaining oneself within the process. These results are consistent with Garrison's (1997) view that, from the perspective of individual skills in SDL, the core of SDL lies in the learner's capacity and motivation to make decisions, assume responsibility, and control cognitive processes in constructing meaningful learning outcomes. Compared to the theoretical model initially developed during this study, the adapted version is better suited to the specific characteristics of NEET youth. The factors of the new model are more precise and highlight the nature of each factor more narrowly; for example, the previous *process-related skills* factor has been refined and replaced by the *responsibility* factor. The refined factors also provide clearer entry points for intervention.

Compared with young people who are studying, NEET youth show the lowest results in openness to new experiences, future vision, and capacity for responsibility. These represent important preconditions for entering the learning process. According to Brockett and Hiemstra (1991), prior failures and demotivating experiences in education can reduce an individual's readiness or motivation for lifelong learning. For further learning to occur, it is important to remain open to new learning experiences, as change also requires encountering new situations and contexts. Therefore, in the SDL model, openness to new experiences and future-orientedness are critically important factors to enable youth to begin planning for the future. The need to pay attention to these factors is supported by Parola and Donci (2019), who similarly highlight that NEET youth experience serious difficulties in future planning due to a lack of goal orientation and challenges in applying planning strategies.

The setting and achieving of goals require taking responsibility for the corresponding steps, making the responsibility factor highly relevant in the model. By

assuming responsibility, learners position themselves as owners of their learning process, thereby promoting agency in decision-making and accountability for outcomes.

Attitude toward learning is also an important precondition for participation in learning; however, the results of the present study do not show significant differences between NEET youth and learning youth in learning-related attitudes. This does not mean that, from a holistic conceptual perspective, this factor should not receive attention comparable to the other factors. According to Knowles (1975), when adults understand the purpose of learning and see its relevance to their life or work, they are more ready to engage in learning. This readiness is based on positive learning attitudes, as they believe in the usefulness of learning.

To remain engaged in learning, it is necessary to cope with challenging situations. Ramsdal and Wynn (2022) have emphasised that re-engagement in education is complicated for youth due to an inability to compensate for previous failures and adjust goals, which is often accompanied by a wounded learner identity. Consequently, the resilience factor within the SDL concept effectively summarises NEET youth's vulnerability, difficulties in adaptation, and capacity to cope with new situations.

Among the SDL factors, metacognition can be viewed as a skill component that is necessary throughout the entire learning process. Metacognition is a critical element in making life choices, as low self-awareness limits the ability to make conscious and needs-based decisions. Metacognition enables individuals to monitor their thinking processes and to identify and explain both failures and successes (Long, 2000). According to Mentz and Bailey (2020), metacognition can be understood as knowledge or beliefs about oneself, tasks, actions, or strategies that influence intellectual performance. In the context of SDL among NEET youth, this means that metacognitive skills help young people consciously implement changes in their lives, plan and carry out learning processes based on their own needs, and enhance their readiness and ability to take responsibility for their learning.

Given that youth are often unable to independently and consciously initiate changes across all these factors, attention must also be paid to activities and interventions that support such change. Van Vugt (2023) notes that without the development of the necessary skills to support a NEET youth educational pathway and future career prospects, youth risk becoming trapped in a vicious cycle in which their problems further intensify. The comparison with students who are engaged in education reveals that the primary differences between NEET youth and learning youth are openness to new experiences, future orientation, and capacity for responsibility. Consequently, intervention design should prioritise activities that enhance readiness to participate in the learning process. The model developed in this study provides a basis for designing interventions, as it indicates which factors require focused attention. It fills a previous gap in research on NEET youth by offering new insights into their skills, and methods for assessing them.

5.2. Key components and outcomes of an intervention to develop SDL skills among NEET youth

In situations where the low SDL skills of NEET youth have been evidenced within the framework of this study, and specific factors requiring attention have been identified, the question of how to support the development of these skills arises. Therefore, the second part of this dissertation was guided by a sub-objective, which aimed to design and empirically test an intervention programme for fostering SDL skills among NEET youth. The study also sought to answer the following research questions: what are the core pedagogical and structural components of an intervention designed to foster SDL skills among NEET youth, and what measurable changes occur in NEET youth's SDL skills following participation in the intervention? The second part of this dissertation provided a more specific perspective on supporting NEET youth, emphasising interventions that enhance their preconditions and capacities for SDL, supporting young people to independently continue their learning trajectory and adapt to changes in society and the labour market.

Cohen and Ainley (2000) note that without institutional structures supporting progression from informal to formal learning, many individuals will never take these steps. The lack of family or mentor support highlights the critical need for guidance (Gabriel, 2015), as young people without a strong support network struggle to manage their lives effectively, which can result in academic failure and lower self-esteem (Ramsdal & Wynn, 2022). During this research, it was found that interventions focused on developing SDL skills among NEET youth do not as yet exist, despite the critical importance of guiding them back onto an educational pathway. This study highlights that while the development of SDL skills has largely been examined in the context of formal education, such opportunities are not accessible to NEET youth. This raised the critical question of how to support such skills in young people who have left school to facilitate their reintegration into education. As no SDL interventions tailored to NEET youth were identified, this study developed a multi-component SDL intervention model.

The developed and piloted SDL skills intervention model is fully consistent with Morris' (2019) philosophical approach to SDL. The programme applies a holistic approach to the young person in line with Aloni's (2013) concept of humanism, emphasising a caring and fair social and intellectual climate, as well as meaningful and experiential learning methods that foster autonomous, creative, and responsible thinking. The intervention model includes both individual support for the young person and activities that foster social connections, aligning with the views of Berry et al. (2019) that it is essential to create structured activities and nurture social relationships for young people, as their absence significantly contributes to depression among young people. As the qualitative data of the study also confirmed the intervention's impact on other dimensions, including engagement and broader personal development, it can be suggested that although the intervention primarily produced positive changes in SDL precondition factors, its influence may extend more broadly to participation readiness among

NEET youth. In this sense, the intervention may support not only educational re-engagement but also wider social participation, which in the future may be reflected not only in learning pathways but also in social relationships and civic life more generally.

The constructivist perspective on SDL highlights learning as an active, experience-based process of meaning-making, where past experiences shape current understanding, and new experiences continuously transform it (Kumar, 2006; Merriam & Baumgartner, 2020). SDL, which emphasises learner autonomy, and the facilitator's role creates motivating and meaningful learning opportunities (Morris, 2023). The intervention activities that help young people make sense of their experiences, and reframe past ones, support the development of new attitudes as well as a better understanding of themselves. During the intervention, young people might also have undergone a process of identity reconstruction, where interaction with other participants provided not only learning experiences but also opportunities that contributed to reshaping their sense of agency and self-perception. The various workshops and discussions within the intervention, including reflection, offer an excellent opportunity for this. Such activities involving new experiences and sense-making also allow young people to enhance their self-awareness and transform what Ramsdal and Wynn (2022) describe as a "wounded learner" identity. New learning experiences help to reconstruct one's understanding of learning. Self-analysis empowers their understanding of the factors leading to NEET status and helps identify what can be adjusted to bring about positive life changes.

In addition to empowering the individual, fostering caring and supportive relationships, and constructing new understandings through various experiences, the intervention also includes activities in which young people solve different problems and tasks independently and collaboratively. The application of a pragmatic philosophy is evident in practical activities that enhance readiness for working life, involve completing various tasks while considering the existing context, and focus on practical, life-centred challenges (Morris, 2019). On one hand, these activities allow young people to apply their existing interests and skills and also explore gaps in the skills which need further attention; on the other hand, they include tasks such as group work and mentoring, during which specific subsequent steps are set and implemented – activities through which skills aimed at short-term goals are developed. Considering that the intervention itself is structured around the stages of the SDL process developed by Knowles (1975), the created model fully aligns with how a holistic approach to developing SDL skills should function. In this study, Knowles' model is treated as a process framework, while the focus of the activities is to positively influence the preconditions for SDL among NEET youth. For NEET youth, the non-formal context of these activities is undoubtedly important, given their lack of affiliation with formal organisations.

The relevance of the intervention is also confirmed by its evaluation process, where comparisons with non-participants as a control group show an increase in SDL skills in those who took part in the intervention. In this study, the importance

of preconditions in SDL has been highlighted. The results of the intervention showed that changes were primarily observed in three factors related to preconditions: openness to new experiences, future orientation, and attitudes toward learning. Attention should be paid to two factors in which SDL, as a whole, did not produce significant change – resilience and sense of responsibility. Resilience likely needs longer-term, tailored interventions that consider individual and family factors, with continuous follow-up and coaching (Cleary et al., 2018; Zolkolski & Bullock, 2012). Taking responsibility may require more practice-based activities than were implemented during this intervention.

Considering that SDL support for NEET youth does not primarily involve the direct development of skills but rather the creation of preconditions within young people that enable entry into the learning process, SDL intervention in the context of NEET youth can be viewed primarily as a transition-supporting process. Therefore, SDL intervention should not be regarded as an isolated and standalone intervention but rather as part of a broader system of support measures. Drawing on Costa and Kallick's (2004) cyclical development process, human development occurs through repeated cycles of learning and experience, where each cycle creates opportunities for reflection, adaptation, and growth. This perspective supports the understanding that change does not occur linearly but rather through a gradual developmental process, where each experience increases young people's readiness to participate more actively in subsequent stages of development. Overall, the study highlights that SDL development in NEET youth benefits from experiential and mentoring-based sensitive approaches, with attention to attitudes, initiative, and personal goal setting. Raising the awareness of both youth and mentors about SDL before the start of the intervention is of significant importance.

6. CONCLUSION

6.1. Implications

This dissertation addresses a relatively understudied topic: the SDL skills of NEET youth and opportunities for developing these skills. Although the literature has examined NEET youth and SDL separately, systematic analysis of person-level factors among NEET youth has been limited. This study contributes a novel perspective on this field by combining a theoretical approach to SDL within the context of NEET youth with the results of an intervention study. Although different theoretical approaches to SDL emphasise process management skills and elements, interaction between participants, context, and personal characteristics, the present study prioritised the preconditions of SDL in the context of NEET youth. This finding also highlights why, in the case of NEET youth, SDL should primarily be considered as preceding self-regulated learning. For NEET youth, it is important to first address the preconditions for entering the learning process, the aim of the learning path and then move towards self-regulation within the learning process.

The contribution of this dissertation can be distinguished at three levels: theoretical, methodological, and practical. Theoretical implications of the study lie in the development and refinement of the SDL concept within the context of NEET youth, a target group that has been largely underrepresented in previous SDL research. Methodological implications include the development and validation of an assessment instrument for measuring SDL skills. Practical implications are demonstrated through the piloting of an intervention model, which helped confirm the feasibility and applicability of the intervention as a supportive approach for NEET youth.

The research findings indicate that NEET youth demonstrate weaker SDL skills compared to their peers who are engaged in education or employment. Disparities are particularly evidenced in lower levels of future orientation, reduced openness to new experiences, and weaker responsibility. These results underscore the need for targeted and tailored support measures. The implications for academic research of this dissertation lie in its expansion of the theoretical understanding of SDL by situating it within the context of NEET youth – a group that has been largely overlooked in SDL research. By examining an **SDL theoretical model from the perspective of NEET youth**, the study enables a more nuanced **definition of SDL for NEET youth** that considers young people outside formal education systems. Furthermore, the development and validation of an SDL measurement tool for NEET youth addresses a critical methodological gap by providing a reliable tool for assessing SDL skills specifically among NEET youth.

The creation of the **SDL-NEET scale** carries important methodological and practical implications, as it provides practitioners and researchers with a reliable instrument for assessing SDL skills among NEET youth. Existing SDL frameworks and assessment instruments typically assume regular participation in

formal learning activities and interactions with a teacher. Such assumptions are often inappropriate for NEET youth, and therefore require methodological adaptation. Based on this necessity, the SDL-NEET scale was developed, which in a study proved to be a valid and reliable instrument for measuring SDL skills among NEET youth. The scale shows promise for preventive work and for assessing broader risk groups. Furthermore, a practical contribution of this dissertation is the development of a **six-month intervention programme**, demonstrating that SDL skills can be effectively cultivated among NEET youth through suitable environments and structured activities.

The intervention model, with its clearly defined and repeatable activities, introduces new approaches to the practice of working with youth. A six-month intervention constituted a further practical contribution to the dissertation. The study demonstrated that, provided an appropriate environment and structured activities, SDL skills can be successfully developed among NEET youth. This result supports conceptualising SDL not merely as attendance in formal education but as a developmental process that shapes attitudes and practical skills for managing learning and life outside traditional learning contexts. The practical value of this work lies primarily in the understanding revealed through the results that it is crucial to focus on developing preconditions among NEET youth before expecting young people to transition into employment or education. The findings from the different studies clearly demonstrated the need to strengthen specific prerequisite factors.

This is important knowledge that practitioners should take into account when designing interventions and developing support measures. For NEET youth, it is not sufficient to support only the transition into school or work. To ensure the sustainability of this process, it is necessary to develop strong factors related to preconditions, such as openness to new experiences, future vision, attitudes towards learning, and sense of responsibility. It is also important to support skills related to self-directed learning, including metacognition as an essential component of SDL, as well as resilience, which helps ensure young people's long-term coping and persistence in the developmental process. The practical value of the present study also lies in the fact that the intervention was implemented in an international context, which supports the application of the intervention model in different cultural environments and facilitates the inclusion of young people from diverse cultural backgrounds.

The dissertation offers a concrete intervention model with specific practices and support activities that can be applied both to prevent entry into NEET status (e.g., in youth work or school settings) and to support NEET youth in returning to education or the labour market. The study emphasises that offers of jobs or placements must be accompanied by interventions to develop the young person's own skills and attitudes; without such attention, outcomes risk being short-lived and a relapse into non-engagement is likely. Sustained participation in lifelong learning requires readiness for change, and SDL is an important enabling competence that promotes resilience in changing circumstances.

6.2. Limitations and future research

Limitations of the study include the reliance of the SDL framework primarily on literature concerned with learners who are engaged in education or employment rather than on NEET youth. Empirical data on the skills and attitudes of NEET young people remain limited. It should also be noted that NEET youth constitute a highly heterogeneous group. Given that NEET youth represent a hard-to-reach population, the final measurement sample remained smaller than expected. Future research could benefit from prolonged data collection periods to enhance outreach and facilitate contact with participants who are prepared and able to respond. In the study investigating the effects of the intervention on NEET youths' SDL skills, the sample may have disproportionately included individuals with higher initial readiness to participate or fewer structural constraints (e.g., absence of family care responsibilities). As such constraints are often intertwined with NEET status itself, the observed effects may not fully capture the intervention's potential impact among more structurally disadvantaged subgroups. Consequently, future implementations of the intervention model must account for contextual differences to ensure accessibility and, where necessary, strengthen mentoring to meet individual needs.

A systematic literature search did not identify any previously documented SDL interventions specifically targeted at NEET youth; therefore, this research focused on the general nature of SDL rather than on specific, previously tested practices. On the one hand, this allowed the development of a novel approach to general SDL practices; on the other hand, it precluded the incorporation of established interventions into the model for those factors most in need of support – particularly future orientation, openness to new opportunities, and responsibility. Another limitation of the pilot study is that no additional activities were conducted with the control group to serve as a placebo comparison. Implementing such activities would have required considerable additional time and resources, which were not available. The present study focused on changes in young people's personal preconditions for SDL rather than directly examining whether the intervention outcomes influenced their subsequent life choices or transition out of NEET status. The impact on exiting NEET status requires investigation through longitudinal follow-up research. As NEET status and young people's life circumstances are inherently dynamic, the absence of contextual reassessment at follow-up limits the interpretability of the findings. Future studies should therefore systematically collect status-related data at both measurement points across all groups to better situate observed changes in SDL within participants' evolving educational, employment, and family contexts.

Based on the present findings, further development could include refining and testing the SDL-NEET scale in larger and culturally diverse samples, and investigating more precisely how responsibility and resilience can be cultivated. A preventive perspective should be adopted by applying the model to young people at risk of becoming NEET. In addition, training mentors and practitioners in SDL

and in the delivery of intervention activities would support a more informed and effective implementation.

Finally, this dissertation emphasises that SDL should not be equated solely with participation in formal education. As Knowles (1951) originally conceptualised SDL within the context of adult education, he emphasised adults' intrinsic motivation to develop themselves due to a perceived gap between who they are and who they want to become. This perspective suggests that SDL should extend beyond formal education. In addition to individuals who participate in education or employment, the findings of this dissertation support the inclusion of those outside these systems in the discussion on SDL. This broader approach allows for the consideration of SDL skills in the context of NEET youth and expands the relevance of SDL theory to more diverse life situations. SDL is a process that shapes attitudes and practical competences for planning learning and life beyond traditional learning environments. As Morris (2019) argues, SDL constitutes a fundamental competence that empowers individuals to prepare for adult life and to adapt to fluid and complex social contexts.

SUMMARY IN ESTONIAN

NEET staatuses noorte õpiteekonna jätkamise toetamine enesejuhitud õppimise eelduste hindamise ja arendamise kaudu

Ühiskonnas on murettekitavalt palju neid noori, kes on õppest välja langenud ega osale tööturul. Neid noori nimetatakse rahvusvaheliselt NEET (Not in employment, education and training) staatuses noorteks. Euroopa Liidus on 15–29 aastaste noorte seas sellesse sihtrühma kuuluvaid noori 11% (Eurostat, 2025). Põhjusel, et riikideüleselt on seatud eesmärgiks NEET staatuses noorte arvu vähendamine 2030. aastaks 9%-ni (European Commission, 2021), on sellele sihtrühmale suunatud tähelepanu muutunud viimastel aastatel üha olulisemaks suunaks paljude riikide haridus-, sotsiaal- ja majanduspoliitikas. Tõhusate sekkumismeetodite leidmine ja rakendamine NEET staatuses noorte heaks on pidev ühiskondlik väljakutse.

Noorte tagasipöördumiseks töö- ja haridusellu on oluline noore enda oskus juhtida muutusi oma elus. Enesejuhitud õppimine käsitleb inimese õpiteekonda tervikuna – enesejuhitud õppija suudab otsustada, mida on vaja järgmisena õppida ning kuidas oma õppimist kõige tõhusamalt teostada (Jossberger jt., 2010). Käesolev doktoritöö käsitleb enesejuhitud õppimise oskust just NEET staatuses noorte puhul nii enesejuhitud õppimise oskuste hindamise kui ka arendamise vaatenurgast. Süstemaatilisele kirjanduse analüüsile tuginevalt on loodud teoreetiline käsitlus ja sõnastatud definitsioon enesejuhitud õppimise kirjeldamiseks NEET staatuses noorte kontekstis ning loodud sekkumismudel enesejuhitud õppimise oskuste arendamiseks. Loodi praktilist väärtust omav hindamisinstrument enesejuhitud õppimisoskuse mõõtmiseks ning piloteeriti loodud sekkumismudelit.

Knowlesi (1975) määratluse kohaselt on enesejuhitud õppimine protsess, kus inimene võtab initsiatiivi, kas teiste abiga või ilma, oma õppimisvajaduste diagnoosimisel, õppimiseesmärkide sõnastamisel, õppimiseks vajaminevate ressursside kindlakstegemisel, sobivate õpistrateegiate valimisel ja rakendamisel ning õpitulemuste hindamisel. Enesejuhitud õppimine on haridusvaldkonnas kasvava tähtsusega teemafookus põhjusel, et maailm muutub üha kiiremini ning inimestelt oodatakse ühelt poolt nii head kohanemist muutustega kui ka pidevat enesearengut, et tulla toime elu väljakutsetega. Ajal, mil tööturg ja õppimisvõimalused pakuvad üha suuremat paindlikkust, lähtutakse eeldusest, et inimestel peaks olema rohkem autonoomiat ning paremad enesejuhitud õppimise oskused (Kovalenko & Mortelmans, 2016). Iseenda arengu teadlik juhtimine enesejuhitud õppimise oskuste toel on selles kontekstis oluline asjaolu. Üks enesejuhitud õppimise käsitlusele alusepanijatest Malcolm Knowles on toonud juba enam kui 70 aastat tagasi välja, et täiskasvanuikka jõudes peavad inimesed omama arusaama endast, mõistma oma vajadusi, motivatsiooni, huvisid, suutlikkust ja eesmärke, aktsepteerima muutusi ja olema suutelised vajadusel muutuma (Knowles, 1951). Eeldused täiskasvanuna teadlikuks toimimiseks luuakse juba koolieas.

Eeldatakse, et elukestva õppe oskustele tuleks keskenduda kohustusliku koolihariduse ajal (Cornford, 2002), varustades inimest oskuste ja pädevustega, mis on vajalikud oma õpiteekonna jätkamiseks ka pärast formaalse haridustee lõppu (Candy, 1991). NEET staatuses noorte märkimisväärne osakaal viitab sellele, et seatud ootused ei realiseeru alati praktikas.

NEET staatuses noorte sihtrühma iseloomustab enamasti madal haridustase (Eurostat, 2025), ebapiisavad oskused, motivatsiooni puudumine ning negatiivne tulevikuvaade (Goldman-Mellor et al., 2016). Noortel, kellel on madal üldoskuste tase, on suurem risk õpiteekonda katkestada, kuna nende varasem kogemus on edusammudesse uskumist vähendanud ja toonud kaasa tulevikunägemuse puudumise (van Vugt et al., 2024). Brockett & Hiemstra (1991) sõnul mõjutavad negatiivsed õpikogemused või ebaõnnestumised hariduses inimeste valmisolekut osaleda elukestvas õppes. Edmondson jt (2012) on rõhutanud, et inimesed, kellel on kõrgemad enesejuhitud õppimise oskused, on oma eluga rohkem rahul ning omavad selgemaid eesmärke oma tuleviku püüdlustes. Seega tuleb NEET staatuses noorte ühe sekkumislahendusena pöörata tähelepanu noorte enesejuhitud õppimise oskustele ja nende toele.

Eelnevat arvesse võttes on käesoleva doktoritöö eesmärk mõtestada enesejuhitud õppimise kontseptsiooni NEET staatuses noorte kontekstis ning luua kohandatud hindamisvahend ja sekkumine, mis toetavad NEET statuses noori enesejuhitud õppimise arendamisel. Eesmärgist tulenevalt on loodud kaks alaeesmärki ja sõnastatud vastavalt uurimisküsimused:
Alaeesmärk 1: Välja töötada ja valideerida mõõtevahend enesejuhitud õppimise oskuste mõõtmiseks.

Uurimisküsimused:

- Millised on kontseptuaalsed dimensioonid, mis määratlevad NEET staatuses noorte enesejuhitud õppimise oskusi?
- Kuidas operatsionaliseeritakse ja mõõdetakse enesejuhitud õppimise oskusi NEET-noorte kontekstis?

Alaeesmärk 2: Kavandada ja empiiriliselt testida sekkumisprogrammi, mis on suunatud NEET staatuses noorte enesejuhitud õppimise oskuste arendamisele.
Uurimisküsimused:

- Millised on enesejuhitud õppimise oskuste arendamiseks loodud sekkumise põhilised pedagoogilised ja struktuursed komponendid?
- Milliseid muutused toimuvad NEET staatuses noorte enesejuhitud õppimise oskustes rakendatud sekkumise toel?

Uurimisküsimustele vastamiseks viidi läbi neli uuringut. Kaks esimest uuringut olid seotud käesoleva doktoritöö I osaga, mille eesmärk oli luua hindamisinstrument NEET statuses noorte enesejuhitud õppimise oskuste mõõtmiseks. Esimene uuring oli süstemaatiline kirjandusanalüüs (uurimisküsimus 1; Artikkel I), mis hõlmas sobilikkuse kriteeriumite põhjal välja valitud 28 teadusartikli

kvalitatiivset analüüsi. Artikleid analüüsiti induktiivse sisuanalüüsi teel. Teine uuring otsis vastust teisele uurimisküsimusele (Artikkel II) loodud instrumendi valiidsuse kohta. Uuringus olid osalejateks 316 noort vanuses 18–29 eluaastat nende hulgas 66 NEET staatuses noort ja 250 õppivat/töötavat noort. Andmeid koguti loodud hindamisinstrumendiga. Analüüsi käigus hinnati loodud mudelite headust ning küsimustiku sobilikkust erinevate valimirühmade enesejuhitud õpioskuse hindamiseks.

Doktoritöö teise osa eesmärk oli esimese osa tulemustele toetudes luua sekkumine NEET staatuses noorte enesejuhitud õppimise oskuste arendamise toetamiseks. Kolmas uuring (uurimisküsimus 3; Artikkel III) hõlmas sobilikkuse kriteeriumite põhjal valitud 25 teadusartikli analüüsi. Artikleid analüüsiti deduktiivset lähenemist rakendades, kus aluseks olid juba eelnevates uuringutes välja selgitatud faktorid. Neljandas uuringus (uurimisküsimus 4; Artikkel IV) olid valimiks NEET statuses noored vanuses 18–29 eluaastat. Tulenevalt teadmisest, et NEET staatuses noored on raskesti kättesaadav sihtrühm, kasutati rahvusvahelist valimit ning 30 sekkumises osalenud noort ja 26 kontrollgrupi noort olid pärit Eestist, Maltalt, Türgist ja Põhja-Makedooniast. Samuti osales uuringus 4 noortega töötavat mentorit, kes aitasid sekkumistegevusi ellu viia. Andmeid koguti SDL-NEET küsimustiku ja individuaal- ning fookusgrupi intervjuude kaudu. Muutusi enesejuhitud õppimise oskustes analüüsiti tuginedes eeltesti, tegevuste järgse- ja järeltesti tulemustele, kasutades mitteparameetrilist Wilcoxon Signed Rank testi. Katse- ja kontrollrühma eel- ja järeltestidest kogutud andmete võrdlemiseks viidi läbi Mann-Whitney U-test. Intervjuuandmeid analüüsiti induktiivse sisuanalüüsi meetodil, kasutades veebipõhist interaktiivset tarkvara QCAMap. Uuringute läbiviimisel lähtuti teadustöö eetilistest põhimõtetest. Uuringusse kaasati noored vabatahtlikkuse alusel ning osalejate psühholoogilisi ja sotsiaalseid riske ja heaolu jälgiti pidevalt. Uuringu tegevused olid disanitud positiivse enesearegu suunal järgides iga noore individuaalseid eemärke ning tegevustes ei olnud noori haavata võivaid tegevusi. Osalejad olid teadlikud uuringu eesmärgist ja tegevustest ning kogutud andmeid ei olnud võimalik kokku viia konkreetsete isikutega.

Esimesele uurimisküsimusele vastuse saamiseks analüüsiti 28 erineva teadusartikli põhjal enesejuhitud õppimise kontseptsioone, dimensioone ja hindamismeetodeid. Tulemused sünteesiti NEET staatuses noorte tunnustega ning tulemusena loodi enesejuhitud õppimise teoreetiline mudel lähtudes sihtrühma eripärast. Uuringu tulemused näitavad, et enesejuhitud õppimine on mitmetasandiline konstrukt, mis seondub nii õppija individuaalste omaduste kui ka õppeprotsessiga. Individuaalse tasandiga on seotud isiklikud eeltingimused, oskuste arendamine ja eesmärgid ning protsessiga on seotud protsessi eeltingimused, protsessi elemendid ja vahendid. Loodud teoreetilises mudelis on isikust lähtuvad järgmised faktorid: isiku omadused, isiku oskused, sh protsessiga seotud oskused ja õpikäitumine ning hoiakud, sh enesekontseptsioon, uskumused, motivatsioon ja õppimisele orienteeritus. NEET staatuses noorte puhul tuleb enesejuhitud õppimise protsessi näha eelkõige kui toetatud protsessi, mille käigus noorte valmisolek enda õpiteed juhtida muutub. Saadud tulemuste põhjal

sõnastasin definitsiooni: *"Enesejuhitud õppimine NEET staatuses noore puhul on toetatud protsess, kus isiku hoiak õppimisele paraneb ning ta arendab initsiatiivikust, iseseisvust ning võimeid oma õpirada positiivsest tulevikuvaatest lähetudes kujundada"*.

Teine uuring käsitles kitsamalt kahte uurimisküsimust: Milline faktorstruktuur sobib kõige paremini noorte enesereguleeritud õppimisoskuste mõõtmiseks? Millised on NEET staatuses noorte enesejuhitud õppimisoskused võrreldes õppivate või töötavate noortega? Uuringuprotsessi esimeses etapis loodi mõõtevahend, mis põhines varasemalt kasutatud instrumentidel, nende faktoritel ja väidetel, mida kohandati NEET staatuses noorte eripära arvestades. Peamine eripära seisneb selles, et NEET staatuses noorte puhul ei saa rakendada juba olemasolevate küsimustike väiteid, mis on seotud õppekeskkonnaga või suhtlemisel õpetajaga. Valminud 7-faktorilise ja 56-väitelise küsimustiku abil koguti spetsialistide toel andmeid 18–30-aastaste NEET staatuses noorte (n = 66) ning õppivate või töötavate noorte (n = 250) käest. Esmase 7-faktorilise ja 56-väitelise mudeli sobivusnäitajad viitasid nõrgale sobivusele (χ^2 = 3591.58, df = 1463, CMIN/DF = 2.455 (<3), CFI = 0.722 (>0.95), NFI = 0.610 (>0.90), TLI = 0.708 (>0.90), RMSEA = 0.068 (<0.08)). Kuna kinnitav faktoranalüüs (CFA) näitas 7-faktorilise mudeli nõrka sobivust, viidi läbi uuriv faktoranalüüs (EFA), et leida alternatiivne faktorstruktuur. Uue struktuuri testimiseks viidi läbi viie-, kuue- ja seitsmefaktorilise struktuuri analüüs. Uue kuue-faktorilise ja 34-väitelise SDL-NEET mudeli sobivusnäitajad osutusid piisavaks (χ^2 = 833.673, df = 498, CMIN/DF = 1.674, CFI = 0.924, NFI = 0.832, TLI = 0.914, RMSEA = 0.046), et kasutada seda mudelit edasises uurimisprotsessis**.** Saadud faktorid nimetati ümber vastavalt nende sisule: *avatus uute kogemustele, resilientsus ehk säilenõtkus, hoiakud õppimisele, tulevikule orienteeritus, metakognitsioon, vastutusvõime***.**

Seejärel aitas Mann-Whitney U test uurimistulemusi valideerida, selgitades, kas kahe valimirühma vahel täheldatud erinevus on statistiliselt oluline. Tulemused näitasid statistiliselt olulist erinevust kahe grupi kogutulemuste vahel [t(86.44) = 2.76, p = 0.007] ning kolmes faktoris: tulevikule orienteeritus [t(91.89) = 2.26, p = 0.025], vastutusvõime [t(78.46) = 3.28, p = 0.003] ja avatus uutele kogemustele [t(87.24) = 3.13, p = 0.001]. Saadud tulemused kinnitasid sekkumisvajadust NEET staatuses noorte enesejuhitud õppimise toetamisel ning eelkõige suurendatud tähelepanuga tulevikule orienteerituses, vastutusvõimes ja avatuses uutele kogemustele.

Kolmanda uuringu eesmärk oli selgitada välja sekkumistegevused, mis toetavad enesejuhitud õppimise oskuste arengut ning mida saab kasutada NEET staatuses noorte oskuste arendamiseks. Süstemaatilise kirjanduse analüüsi käigus analüüsiti 25 teadusartiklis raporteeritud lähenemisviise, meetodeid ja tööriistu, mida on kasutatud enesejuhitud õppimise oskuste arendamiseks ja hinnati, millisetele faktoritele on sekkumised mõju avaldanud. Uuringu tulemustele tuginedes koostati sekkumismudel, mis koosnes nii spetsialistide ettevalmistusest, materjalide koostamisest, individuaalsest mentorlusest noorega kui ka huvi- või projektipõhistest õpitegevustest. NEET staatuses noorte puhul on oluline arvestada sellega, et kuna noored ei ole seotud ametlike asututustega, sh kool või töökoht,

siis on noorte toetamisel ja sekkumise rakendamisel suur roll mitteformaalõppe keskkondadel, sh noorsootööl.

Neljas uuring seadis eesmärgiks läbi sekkumismudeli piloteerimise selgitada välja vastused järgmistele uurimisküsimusteel: Millised muutused toimuvad NEET staatuses noorte enesejuhitud õppimise oskustes võrreldes sekkumises mitteosaleva kontrollgrupiga? Kuidas toetab mentoritele suunatud ettevalmistav koolitus tööd noortega? Kuidas kogevad nii noored kui mentorid sekkumist tervikuna? Ettevalmistav koolitus ning sekkumise huvi- ja projektipõhised tegevused viidi ellu ühiselt rahvusvahelise projekti käigus, individuaalne mentorlus kohapealsete tegevustega igas riigis eraldi. Sekkumine kestis kuus kuud. Oskuste muutusi enne sekkumist, vahetult pärast sekkumist ja järeltestide tulemuste põhjal analüüsiti mitteparameetrilise Wilcoxoni testiga. Eksperimentaal- ja kontrollgrupi andmete võrdlemiseks kasutati Mann-Whitney U testi. Intervjuuandmeid analüüsiti induktiivse sisuanalüüsi abil, kasutades veebipõhist interaktiivset tarkvara QCAMap.

Kolme SDL-NEET testi tulemuste võrdlus katsegrupil ning kahe testi võrdlus kontrollgrupil näitas tervikuna statistiliselt olulisi erinevusi. Mann-Whitney U testi tulemused näitasid, et katse- ja kontrollgrupi enesejuhitud õpioskused ei erinenud oluliselt enne sekkumist ($Z = –0,3$; $p = 0,693$). Samuti ei olnud erinevusi ühegi teguri puhul. Sekkumise piloteerimises osalenud noorte enesejuhitud õppimise oskuste muutuste analüüs näitas, et kõigi faktorite keskmised tulemused olid juba sekkumise 3. etapi ehk noorte ühistegevuste, sh huvi- ja projektõppe tegevuste, järel muutunud. Statistiliselt olulist tõusu täheldati faktorites säilenõtkus ($Z = –2,034$; $p = 0,042$) ja avatus uutele kogemustele ($Z = –2,632$; $p = 0,008$), mis jätkasid paranemist ka järelmentorluse jooksul (sekkumise 4. etapp). Wilcoxoni Signed Rank test näitas, et katsegrupi oskustele oli sekkumisel oluline mõju võrreldes kontrollgrupiga ($Z = 2,827$; $p = 0,005$). Faktorite tasemel muutusi analüüsides selgus, et kõigi faktorite keskmised tulemused katsegrupis tõusid, kusjuures statistiliselt olulised erinevused kontrollgrupiga esinesid järgmistes faktorites: metakognitsioon ($Z = 2,426$; $p = 0,015$), hoiakud õppimise suhtes ($Z = 2,066$; $p = 0,039$), tulevikule orienteeritus ($Z = 2,302$; $p = 0,021$) ja avatus uutele kogemustele ($Z = –3,299$; $p < 0,001$). Ainult säilenõtkuse ja vastutuse faktorites ei olnud erinevused statistiliselt olulised. Ilmselt vajavad need faktorid pikemaajalist või täiendavaid meetodeid kasutavaid sekkumist.

Intervjuud menoritega tõid esile, et ettevalmistav koolitus aitas arendada pädevusi mentoritena enesejuhitud õppimise oskuste arendamisel ning mõisteti nende oskuste arendamise olulisust ja väljakutseid töös NEET staatuses noortega. Sekkumist tervikuna kogesid nii mentorid kui ka noored postiivsena. Mõlemad osapooled tõid esile, et sekkumine aitas neil liikuda oma eesmärkide suunas. Noored omandasid paremaid toimetuleku- ja õppimisoskusi ning laiendasid oma sotsiaalseid võrgustikke, samas kui mentorid rõhutasid sekkumise käigus oma professionaalsete oskuste arengut. Seega näitasid neljanda uuringu tulemused, et loodud sekkumismudel on rakendatav NEET staatuses noorte enesejuhitud õppimise oskuste arendamiseks.

Doktoritöö tuvastas enesejuhitud õppimise käsitluse puudujäägi formaalharidusest väljaspool olevate noorte jaoks ning lõi NEET staatuses noorte olukorda arvestava enesejuhitud õppimise käsitluse, hindamisvahendi ja sekkumismeetodi. Enesejuhitud õppimise kontseptsiooni käsitlemine NEET staatuses noorte perspektiivist võimaldab laiendada olemasolevaid teoreetilisi lähenemisi kohandades neid inimestele, kes ei osale aktiivselt õppeprotsessides. Uurimistöö tõi esile, et varasemad teoreetilised lähenemised käsitlevad enesejuhitud õppimist eelkõige protsessina, milles õppijal on juba vajalikud oskused ning ta suudab iseseisvalt läbida õppeprotsessi erinevad etapid. NEET-noorte puhul ei ole aga esmane küsimus mitte osalemine õppeprotsessis ega selles toimetulek, vaid valmisolek üldse õppeprotsessi siseneda. Tundes sihtrühma spetsiifilisemaid enesejuhitud õppimise tegureid ja toevajadust on võimalik sihtida ka toetust tõhusamalt. Uuring pakub valideeritud enesehindamisküsimustikku SDL-NEET, mida saab edukalt rakendada ka teiste noorte või täiskasvanute gruppidega. Tulemused tõid esile, et NEET staatuses noorte puhul on oluline arendada eeltingimusi õppesse sisenemiseks, sh avatus uutele kogemustele, tulevikuvisioon, vastutusvõime. Toetudes enesejuhitud õppimise varasematele uuringutele võib häid enesejuhitud õppimise eeldusi omav noor inimene olla õppe- ja tööprotsessidesse sisenedes oma tegevustes jätkusuutlik ja ennast arendav. Samuti leidis kinnitust, et loodud enesejuhitud õppimise oskuste sekkumine on piisavalt tõhus, et seda integreerida NEET staatuses noorte tugisüsteemidesse, haridus- ja noorsootöö programmidesse eesmärgiga maksimeerida noorte toetuse tulemuste jätkusuutlikkust ja suurendada noorte osalust hariduses. Arvestades, et enesejuhitud õppimise toetamine NEET staatuses noorte puhul ei tähenda eeskätt oskuste otsest arendamist, vaid noores selliste eeltingimuste loomist, mis võimaldavad tal õppeprotsessi siseneda, võib enesejuhitud õppimise sekkumist NEET staatuses noorte kontekstis käsitleda eelkõige üleminekuid toetava protsessina. Seetõttu ei tuleks sekkumist vaadelda isoleeritud ja eraldiseisva tegevusena, vaid osana laiemast tugisüsteemist. Areng saab toimuda korduvate õppimise ja kogemuse tsüklite kaudu, kus iga tsükkel loob võimalusi refleksiooniks, kohanemiseks ja kasvuks. See käsitlus toetab arusaama, et muutus ei toimu lineaarselt, vaid järkjärgulise arenguprotsessina, kus iga kogemus suurendab noore valmisolekut osaleda aktiivsemalt järgmistes tegevustes. Sekkumine toimib NEET staatuses noorte puhul positiivselt mitte ainult enesejuhitud õppimise valmisoleku paranemises, vaid ka üldises valmisolekus osaleda ühiskonnaelus ja inimestevahelises suhtluses. Käesolev doktoritöö viidi ellu osaliselt rahvusvahelisena, mis kannab endas ka rahvusvahelise praktika väärtust, toetab sekkumismudeli rakendatavaust erinevates kultuurikeskkondades ning hõlbustab erineva kultuuritaustaga noorte kaasamist.

APPENDICES

APPENDIX 1. SDL-NEET SCALE

Rate the following statements according to how true they are for you, using a scale from 1 (not true for me) to 5 (true for me)

Items*	1	2	3	4	5
1. I like to evaluate what I do					
2. When I'm reading I sometimes stop and check my understanding.					
3. I need to know why					
4. It is important for me to understand the essence of things					
5. I like to gather the facts before I make a decision					
6. I want to learn more so that I can keep growing as a person					
7. If learning is hindered, I would rather give up					
8. When I see something that I don't understand, I stay away from it					
9. I often have a problem motivating myself to learn					
10. I do not manage my time well					
11. I love to learn					
12. I have a need to learn					
13. Learning is fun					
14. Constant learning is a bore					
15. I´m looking forward to learning as long as I´m living					
16. Learning is a tool for life					
17. The more I learn, the more exciting the world becomes					
18. The people I admire most are always learning new things					
19. I know what I want to learn					
20. If there is something I need to learn, I find a way to do so right away.					
21. I try to relate what I am learning to my long-term goals					
22. I prefer to plan my own learning					
23. I am responsible for my own decisions/actions					
24. I prefer to set my own learning goals					
25. I prefer to set my own goals					
26. I am responsible for my own learning					
27. I like to make decision for myself					
28. I am capable of learning for myself almost everything I might need to know					
29. I enjoy a challenge					

Items*	1	2	3	4	5
30. I like to try new things, even if I´m not sure how they will turn out					
31. When presented with a problem I cannot resolve, I will ask for assistance					
32. I am open to new ideas					
33. I think of problems as challenges, not stopsigns					
34. I´m happy with the way I investigate problems					

*Items: 1–6 Metacognition; 7–10 Resilience; 11–18 Attitude to learning; 19–21 Future orientation; 22–28 Responsibility; 29–34 Openness to new experiences
**Items 7–10 and 14 is reversed items

APPENDIX 2. The detailed programme of the intervention SDL-NEET

Stage 1, "Training for mentor" (40 hours), involves the mentor training sessions to prepare them for individual and group support for SDL skills development. The aim of the training is to enhance participants' understanding of the SDL concept and factors, and to increase skills in implementing methods and tools that support SDL skills in working with NEET youth. Mentors have two roles during the intervention – to be facilitators for the events and also mentors to young people. Each mentor has 6–10 mentees. The training course is divided into theoretical lectures, group work, and practical sessions.

Stage 2 is referred to as "Intro workshop and Instructions", and it involves pre-testing with the self-report questionnaire of SDL-NEET (Kõiv & Saks, 2024) to assess the respondents' SDL skills, at least two individual mentoring meetings, filling the goal setting worksheet (Morisano et al., 2010) at first individually and then discussing it with the mentor. During the mentoring sessions led by mentors, the personal learning needs and goals are analyzed. Also, intro workshop is implemented in a small group together with presenting materials about SDL to prepare participants for the activities in the next stage. The aim of this session is to determine the young person's readiness for developing SDL skills, their learning needs, and goals.

Stage 3 – "Individual plan, Experiential learning process, and Reflection". After the individual mentoring process and meeting with other participants, all young people are invited to participate in the camp activities. It is preferred to use a venue that is equally (un)familiar to all participants. Participants are all be accommodated in the same conditions – in single or twin rooms. The activities are spread over two weeks, the first of which consists of understanding together with other young people the concept of learning and SDL, and setting interests and goals together. The second part is based on experiential learning activities and the third part is focused on reflection. These group activities help the young person understand that they are not alone in their NEET status, but others are experiencing the same. Learning activities, which take place in groups, individually, and in pairs, are facilitated by mentors. Free-time activities are filled by the youth in a way that pleases them.

The first part of the Stage 3 is divided into the programme introduction and getting to know activities (1st–2nd day), and sharing the previous learning experiences and learning about SDL (3rd–4th day). During the first day, there are several activities that support teambuilding and getting to know each other. The second day is filled with workshops and discussions about understanding the concept of SDL (Knowles, 1975; Kõiv & Saks, 2023) and learning process (Kolb, 2007). During the third day, every participant fills their portfolio. The focus of the day is future vision and goal setting individually, in a small groups and sharing in the whole group. It is important to explain why it is necessary to set goals and plan their activities beforehand. The fourth day is for discovering the resources and designing the learning plan. A learning plan is not a complete document, therefore, the learners were encouraged to return to it any time they felt that they could change anything in it. The fifth day is focused on making the learning contract to fulfill the learning aim during the second part of the Stage 3 activities. Writing the learning contract was guided by the following questions: What are your learning goals for the new activity week? Through which interest topics do they wish to learn? and How do you know that you have achieved these goals? Learning contract is shared in the dialogue with another participant, then shared with the mentor, and then signed by the mentor and the young person. After these five days, young people get a day off and the mentors analyze and categorize the learning contracts according to the participants interests or hobby.

The second part of the Stage 3 is based on the inquiry-based experiential learning activities, which are led by young people and mentored by mentors. To implement the SDL model, students are encouraged to explore real-life situations through experiential learning according to their learning aims. Based on the intervention suggestions by Schweder and Raufelder (2022), several learning processes are experienced and evaluated during this stage. The seventh day of the programme starts completing the activity groups by the interests that young people have written to their learning contract (i.e., *art, sport, music, gaming, travel* etc). Each group gets a mentor and the task is to take initiative and create the mini-project which is based on the group's common interest and each participant's learning goal according to their learning contract. The seventh and eights day of the intervention are for creating a common idea for activities and sharing the idea with the whole group. More so, the mentor encourages the participants to use the internet, local people, and other resources for their learning process. There can be at least two different types of activities: 1) planning the activity for the group where the whole group can get new experiences, for example, hands-on activities, or 2) the interest-based group create an activity together and they present the result of their activity to others. The example of the first type of activity is organizing a sport competition, handicraft workshop or a hiking tour for others, and the example of the second type of activity is a music group preparing a song or performance to others or organizing a special experience within the small group, like an adventure and presenting the summary about their activity to others. The calendar of activities for the intervention 9th–13th day is filled by these groups according to how long time they need for preparation and what time is the best for their activities to others or for their presentation.

The third part as "Reflection" is divided into individual and group reflections. Every evening of the activity days, there is a group reflection session where everyone reflects on their personal experience of the day. If necessary, the option to provide written reflection should also be made available in case a young person does not wish to share their thoughts with others. Each mini-project group reflects their process in the group together with the mentor. The 14th and 15th days of the intervention are for general reflection, evaluation, and summarizing all the process. Also, post-testing with the SDL-NEET scale is performed to see the changes in their SDL skills. Each mentor has a personal meeting with their mentee based on the first goal-setting discussions before the activity programme and the learning contract. During the whole process, special attention was paid to participants' mental health and general well-being. Every day, the reflection sessions were held, and after the first week and end of the activity programme general evaluation sessions were organized for the whole group. As this was a new activity for most of the learners, it was important to encourage them to open up and express their doubts and expectations.

Stage 4 "Follow up mentoring" is organized for participants latest one month after the 3rd phase. There are at least 3 mentoring sessions after Stage 3. The aim is to reflect all that has been learned, evaluate the aims and results of the process. The participants are guided to complete their personal portfolios that truly reflect the learning experiences that could give them diverse opportunities, as well as help them determine the areas of skills improvement needs for individual development. According to the young person's needs and mentor resources, long-term mentoring can be implemented after this SDL for NEET-youth intervention programme. Mentors can guide the young person toward other specialists, institutions, or employers that align with their new ideas and needs, supporting the development of a helpful network, or providing direct support themselves according to their expertise.

REFERENCES

Aloni, N. (2013). Empowering Dialogues in Humanistic Education. *Educational Philosophy and Theory*, *45*(10), 1067–1081. http://dx.doi.org/10.1111/j.1469-5812.2011.00789.x

Alvarado, A., Conde, B., Novella, R., & Repetto, A. (2020). NEETs in Latin America and the Caribbean: Skills, aspirations, and information. *Journal of International Development*, *32*(8), 1273–1307. https://doi.org/10.1002/jid.3503

Assmann, M. L., & Broschinski, S. (2021). Mapping young NEETs across Europe: Exploring the institutional configurations promoting youth disengagement from education and employment. *Journal of Applied Youth Studies, 4*(2), 95–117. https://doi.org/10.1007/s43151-021-00040-w

Beck, V. (2015). Learning providers' work with NEET young people. *Journal of Vocational Education & Training, 67*(4), 482–496. http://dx.doi.org/10.1080/13636820.2015.1086412

Berigel, M., Boztaş, G. D., Rocca, A., & Neagu, G. (2023). A model for predicting determinants factors for NEETs rates: Support for the decision-makers. *Socio-Economic Planning Sciences*, *87*, 101605. https://doi.org/10.1016/j.seps.2023.101605

Berry, C., Easterbrook, M. J., Empson, L., & Fowler, D. (2019). Structured activity and multiple group memberships as mechanisms of increased depression amongst young people not in employment, education or training. *Early intervention in psychiatry*, *13*(6), 1480–1487. https://doi.org/10.1111/eip.12798

Billett, S. (2018). Distinguishing lifelong learning from lifelong education. *Journal of Adult Learning, Knowledge and Innovation*, *2*(1), 1–7. https://doi.org/10.1556/2059.01.2017.3

Boeren, E., Cabus, S., Mackie, A. (2023). Participation in Adult Learning: System Characteristics and Individuals' Experiences. In: Holford, J., Boyadjieva, P., Clancy, S., Hefler, G., Studená, I. (Eds), Lifelong *Learning, Young Adults and the Challenges of Disadvantage in Europe* (pp. 87–113). Palgrave Studies in Adult Education and Lifelong Learning. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-14109-6_4

Bolhuis, S. (2003). Towards process-oriented teaching for self-directed lifelong learning: a multidimensional perspective. *Learning and Instruction, 13,* 327–347. https://doi.org/10.1016/S0959-4752(02)00008-7

Bouchard, P. (1998). Teaching tasks and learning tasks in a self-directed environment. In H. B. Long & Associates (Eds.), *Developing paradigms for self-directed learning* (pp. 45–59). Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma.

Boyer, S. L., Edmondson, D. R., Artis, A. B., & Fleming, D. (2013). Self-Directed Learning: A Tool for Lifelong Learning. *Journal of Marketing Education*, *36*(1), 20–32. https://doi.org/10.1177/0273475313494010

Brockett, R. G., & Hiemstra, R. (1991). Self-direction in adult learning: Perspectives on theory, research, and practice. Routledge.

Bäckman, O., & Nilsson, A. (2016). Long-term consequences of being not in employment, education or training as a young adult. Stability and change in three Swedish birth cohorts. *European Societies*, *18*(2), 136–157. https://doi.org/10.1080/14616696.2016.1153699

Candy, P. C. (1991). *Self-direction for lifelong learning.* Jossey-Bass Publishers. San Francisco.

Caroleo, F. E., Rocca, A., Neagu, G., & Keranova, D. (2022). NEETs and the process of transition from school to the labor market: A comparative analysis of Italy, Romania, and Bulgaria. *Youth & Society, 54*(2_suppl), 109S–129S. https://doi.org/10.1177/0044118X211056360

Chang, C.-C. (2006). Development of Competency-Based Web Learning Material and Effect Evaluation of Self-Directed Learning Aptitudes on Learning Achievements. *Interactive Learning Environments, 14*(3), 265–286. https://doi.org/10.1080/10494820600954112

Cleary, M., Kornhaber, R., Thapa, D. K., West, S., & Visentin, D. (2018). The effectiveness of interventions to improve resilience among health professionals: A systematic review. *Nurse education today*, *71*, 247–263. https://doi.org/10.1016/j.nedt.2018.10.002

Cohen P., Ainley P. (2000). In the country of the blind? Youth studies and cultural studies in Britain. *Journal of Youth Studies, 3*(1), 79–95. https://doi.org/10.1080/136762600113059

Cornford, I. R. (2002). Learning-to-learn strategies as a basis for effective lifelong learning. *International journal of lifelong education*, *21*(4), 357–368. https://doi.org/10.1080/02601370210141020

Costa, A.L. & Kallick, B. (2004). Assessment strategies for self-directed learning. Crowin Press.

Cremers, P. H., Wals, A. E., Wesselink, R., Nieveen, N., & Mulder, M. (2014). Self-directed lifelong learning in hybrid learning configurations. *International Journal of Lifelong Education*, *33*(2), 207–232. http://dx.doi.org/10.1080/02601370.2013.838704

Denkowska, S., Fijorek, K., & Węgrzyn, G. (2020). Formal and non-formal education and training as an instrument fostering innovation and competitiveness in EU member countries. *Journal of Competitiveness, 12*(3), 82–98. https://doi.org/10.7441/joc.2020.03.05

Dewey, J. (1930). *Democracy and Education.* New York: The McMillan Company.

Dewey, J. & Hinchey, P.H. (2018). Democracy and education by John Dewey: With a critical introduction by Patricia H. Hinchey. Myers Education Press.

Edmondson, D. R., Boyer, S. L., & Artis, A. B. (2012). Self-directed Learning: A Meta-analytic review of adult learning constructs. *International Journal of Education Research,7*(1), 40–48.

Elfert, M. (2023). Humanism and democracy in comparative education. *Comparative Education, 59*(3), 398–415. https://doi.org/10.1080/03050068.2023.2185432

Ellena, M. A., Marta, E., Simões, F., Fernandes-Jesus, M., & Petrescu, C. (2021). Soft Skills and Psychological Well-being: A Study on Italian Rural and Urban NEETs. *Calitatea Vieții*, *32*(4), 352–370. https://doi.org/10.46841/RCV.2021.04.02

Ellena, A. M., De Luca, G., Mazzocchi, P., Rocca, A., Simoes, F., & Marta, E. (2025). Life satisfaction and future expectations among young NEETs: A mixed method approach. *Archive of Psychology, Neurology and Psychiatry,1*, 82–105. https://doi.org/10.26350/112233_000005

Eurofound. (2012). NEETs: Young people not in employment, education or training: Characteristics, costs and policy responses in Europe. Publications Office of the European Union.

Eurofound. (2016). *Exploring the diversity of NEETs*. Publications Office of the European Union, Luxembourg.
Eurofound. (2021). *Youth in EU* [Infographic]. Publications Office of the European Union. https://www.eurofound.europa.eu/system/files/2021-11/youth_infographic_26112021.pdf
European Social Fund. (2023). NEETs Census for the Reinforced Youth Guarantee https://jobsplus.gov.mt/media/3vfjqg3n/neets-census-for-the-reinforced-youth-guarantee.pdf
European Union. (2020). Council recommendation of 30 June 2020 on the European Youth Guarantee. *Official Journal of the European Union, C 372,* 1–10. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2020.372.01.0001.01.ENG&toc=OJ%3AC%3A2020%3A372%3ATOC
Eurostat. (2025). *Statistics on young people neither in employment nor in education or training.* European Commission. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Statistics_on_young_people_neither_in_employment_nor_in_education_or_training
Fabrizi, E., & Rocca, A. (2024). NEET status duration and socio-economic background. *Socio-Economic Planning Sciences*, *95*, 101986. https://doi.org/10.1016/j.seps.2024.101986
Filia, K., Teo, S. M., Brennan, N., Freeburn, T., Baker, D., Browne, V., ... & X Gao, C. (2024). Inequitable access to mental healthcare for socially excluded adolescents. *International Journal of Social Psychiatry*, *70*(7), 1267–1278. https://doi.org/10.1177/00207640241262703
Fisher, M.J., King, J., & Tague, G. (2001). Development of a self-directed learning readiness scale for nurses. *Nurse Education Today, 21*(7): 516–525. https://doi.org/10.1054/nedt.2001.0589
Freire, P. (2005). *Pedagogy of Oppressed*. Continuum. New York
Fuertes, V., McQuaid, R., & Robertson, P. J. (2021). Career-first: an approach to sustainable labour market integration. *International Journal for Educational and Vocational Guidance*, *21*(2), 429–446. https://doi.org/10.1007/s10775-020-09451-2
Furlong, A. (2006). Not a very NEET solution: representing problematic labour market transitions among early school-leavers. *Work, Employment and Society, 20*(3), 553–569. https://doi.org/10.1177/0950017006067001
Gabriel, J. (2015). Young people's experiences of moving out of being 'Not in Education, Employment or Training'(NEET): an exploration of significant factors. [Doctoral Dissertation. University of Birmingham]. Birgmingam, UK.
Gariépy, G., Danna, S. M., Hawke, L., Henderson, J., & Iyer, S. N. (2022). The mental health of young people who are not in education, employment, or training: a systematic review and meta-analysis. *Social psychiatry and psychiatric epidemiology*, 1–15. https://doi.org/10.1007/s00127-021-02212-8
Garrison, D.R. (1997). Self-directed learning: toward a comprehensive model. *Adult Education Quarterly, 48*(1), 18–33. http://dx.doi.org/10.1177/074171369704800103
Goldman-Mellor, S., Caspi, A., Arseneault, L., Ajala, N., Ambler, A., Danese, A., ... & Moffitt, T. E. (2016). Committed to work but vulnerable: Self-perceptions and mental health in NEET 18-year olds from a contemporary British cohort. *Journal of Child Psychology and Psychiatry*, *57*(2), 196–203. https://doi.org/10.1111/jcpp.12459
Gorard, S., Rees, G., Fevre, R., & Furlong, J. (1998). Learning trajectories: travelling towards a learning society?. *International Journal of Lifelong Education*, *17*(6), 400–410. https://doi.org/10.1080/0260137980170606

Gibbons, M. (2002). The self-directed learning handbook: Challenging adolescent students to excel. John Wiley & Sons.

González-Pérez, L. I., & Ramírez-Montoya, M. S. (2022). Components of Education 4.0 in 21st century skills frameworks: systematic review. *Sustainability*, *14*(3), 1493. https://doi.org/10.3390/su14031493

Gubbels, J., van der Put, C.E. & Assink, M. (2019).Risk Factors for School Absenteeism and Dropout: A Meta-Analytic Review. *Journal of Youth and Adolescence 48*, 1637–1667. https://doi.org/10.1007/s10964-019-01072-5

Guglielmino, L.M. (1977). *Development of the Self-Directed learning Readiness Scale.* [Doctoral Dissertation. University of Georgia]. Athens, GA.

Haikkola, L. (2018). Shaping activation policy at the street level: Governing inactivity in youth employment services. *Acta Sociologica, 62*(3), 334–348. https://doi.org/10.1177/0001699318784341

Heglum, M. A., & Nilsen, W. (2024). A life course perspective on the NEET phenomenon: long-term exclusion across cohorts, gender, and social origin among young adults in Norway. *Journal of Youth Studies*, 1–21. https://doi.org/10.1080/13676261.2024.2305907

Hiemstra, R. (1994). Self-directed learning. In T. Husen & T. N. Postlethwaite (Eds.), *The International Encyclopedia of Education* (second edition). Oxford: Pergamon Press.

Hu, L. & Bentler, P. (1999). Cutoff criterion for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.

Hult, M.; Kaarakainen, M., & De Moortel, D. (2023). Values, Health and Well-Being of Young Europeans Not in Employment, Education or Training (NEET). *International Journal of Environmental Research and PublicHealth*, *20*, 4840. https://doi.org/10.3390/ijerph20064840

Hämäläinen, J. (2012). Social pedagogical eyes in the midst of diverse understandings, conceptualisations and activities. *International Journal of Social Pedagogy,1*(1), 3–16. https://doi.org/10.14324/111.444.ijsp.2012.v1.1.002

Hämäläinen, J. (2015). Defining social pedagogy: Historical, theoretical and practical considerations. *The British Journal of Social Work*, *45*(3), 1022–1038. https://doi.org/10.1093/bjsw/bct174

International Labour Organization. (n.d.). *North Macedonia – ILOSTAT country profile*. ILOSTAT. https://ilostat.ilo.org/data/country-profiles/mkd/

Janssen, J., Berlanga, A. J., & Koper, R. (2011). Evaluation of the Learning Path Specification. *Educational Technology & Society*, *14* (3), 218–230. https://www.jstor.org/stable/jeductechsoci.14.3.218

Jansen, R. S., van Leeuwen, A., Janssen, J., Conijn, R., & Kester, L. (2020). Supporting learners' self-regulated learning in Massive Open Online Courses. *Computers & Education*, *146*, 103771. https://doi.org/10.1016/j.compedu.2019.103771

Jongbloed, J., & Giret, J. F. (2021). Quality of life of NEET youth in comparative perspective: subjective well-being during the transition to adulthood. *Journal of Youth Studies*, *25*(3), 321–343. https://doi.org/10.1080/13676261.2020.1869196

Jónasson, J. T. (2016). Educational change, inertia and potential futures: Why is it difficult to change the content of education?. *European Journal of Futures Research, 4*(1), 7. https://doi.org/10.1007/s40309-016-0087-z

Jonsson, F., & Goicolea, I. (2020). "We believe in you, like really believe in you": Initiating a realist study of (re) engagement initiatives for youth not in employment, education or training with experiences from northern Sweden. *Evaluation and Program Planning*, *83*, 101851. https://doi.org/10.1016/j.evalprogplan.2020.101851

Jossberger, H., Brand-Gruwel, S., Boshuizen, H., & Van de Wiel, M. (2010). The challenge of self-directed and self-regulated learning in vocational education: A theoretical analysis and synthesis of requirements. *Journal of vocational education and training*, *62*(4), 415–440. http://dx.doi.org/10.1080/13636820.2010.523479

Jõgi, L. (2013). Andragoogika. In R.Mikser (Ed), *Haridusleksikon* (pp 44–48). Eesti Keele Sihtasutus.

Kain, C., Koschmieder, C., Matischek-Jauk, M., & Bergner, S. (2024). Mapping the landscape: A scoping review of 21st century skills literature in secondary education. *Teaching and Teacher Education*, *151*, 104739. https://doi.org/10.1016/j.tate.2024.104739

Khiat, H. (2017). Academic performance and the practice of self-directed learning: The adult student perspective. *Journal of further and Higher Education*, *41*(1), 44–59. https://doi.org/10.1080/0309877X.2015.1062849

Kleif, H.B. (2021). The temporality of being NEET: A longitudinal study of NEET occurrences among young adults in Denmark. *Young*, *29*(3), 217–235. https://doi.org/10.1177/1103308820945098

Kleif, H. B. (2023). A Typology of Transition Patterns Involving Long-Term NEET Episodes: Accumulation of Risk and Adversity. *Youth, 3*(1), 170–183. https://doi.org/10.3390/youth3010012

Kline, R. B. (2005). *Principles and practice of structural equation modeling*. Guilford Press.

Knowles, M. (1975). Self-Directed Learning. A guide for learners and teachers. Prentice Hall/Cambridge

Kolb, D. A. (1984). Experiential learning. Experience as The Source of Learning and Development. Prentice Hall, Inc. Englewood Cloffs, New Jersey.

Kolb, D. A. (2007). *The Kolb learning style inventory*. Boston, MA: Hay Resources Direct.

Kovalenko, M., & Mortelmans, D. (2016). Contextualizing employability: do boundaries of self-directedness vary in different labor market groups?. *Career development international*, *21*(5), 498–517. https://doi.org/10.1108/CDI-01-2016-0012

Kumar, M. (2006). Constructivist epistemology in action. *The Journal of Educational Thought/Revue de la Pensée Educative*, 247–261. https://www.jstor.org/stable/23767425

Kõiv, K. & Saks, K. (2023). The role of self-directed learning while supporting NEET-youth: theoretical model based on systematic literature review. *International Journal of Adolescence and Youth, 28*(1), 2242446. https://doi.org/10.1080/02673843.2023.2242446

Kõiv, K. & Saks, K. (2024). Development of an instrument to measure NEET-youth self-directed learning skills. *International Journal of Adolescence and Youth*, *29*(1), 2306256. https://doi.org/10.1080/02673843.2024.2306256

Kõiv, K., Saks, K., Gencel, I. E., Güven, K.M., Azzopardi, A., Todoroska, V., Matic, V. & Petrovska, E. (2024). An intervention model for developing self-directed learning skills in NEET-youth: a literature review. *Frontiers in Education*, *9,* 1433484. https://doi.org/10.3389/feduc.2024.1433484

Kõiv, K., Saks, K. Todoroska, V., Azzopardi, A. & Şen, E. (2025). Empowering NEET youth: Assessing the impact of self-direcled learning skills intervention. *International Journal of Educational Research*, *129*, 102497. https://doi.org/10.1016/j.ijer.2024.102497

Lindblad, V., Ravn, R. L., Gaardsted, P. S., Hansen, L. E., Lauritzen, F. F., & Melgaard, D. (2024). Beyond the mind: Understanding the influence of mental health on youth NEET status in Europe – A systematic literature review. *Journal of Adolescence*, *96*(7), 1428–1444. https://doi.org/10.1002/jad.12374

Leander, K. M., Phillips, N. C., & Taylor, K. H. (2010). The changing social spaces of learning: Mapping new mobilities. *Review of research in education*, *34*(1), 329–394. https://doi.org/10.3102/0091732x09358129

Loeng, S. (2020). Self-directed learning: A core concept in adult education. *Education Research International*, *2020*(1), 3816132. https://doi.org/10.1155/2020/3816132

Long, H.B. (2000). *Practice & Theory in Self-directed Learning*. Motorola University Press.

Lounsbury, J.W., Levy, J.J., Park, S-H., Gibson, L.W., & Smith, R. (2009). An Investigation of the construct validity of the personality trait of self-directed learning. *Learning and Individual Differences, 19*, 411–418. http://dx.doi.org/10.1016/j.lindif.2009.03.001

Lüküslü, D., & Çelik, K. (2022). Gendering the NEET category: young NEET women in Turkey. *Turkish Studies*, *23*(2), 200–222. https://doi.org/10.1080/14683849.2021.1882861

Mascherini, M. (2019). Origins and future of the concept of NEETs in the European policy agenda. *Youth labor in transition*, 503–529. https://doi.org/10.1093/oso/9780190864798.003.0017

Marques, M. J., Alves, R. F., Dias, S., Torri, E., Paza, A., Dantas, C., & Bertotti, M. (2025). A realist synthesis of interventions for youth not in education, employment or training (NEET): building programme theories for effective support. *International Journal of Adolescence and Youth*, *30*(1), 2472022. https://doi.org/10.1080/02673843.2025.2472022

Membrive, A., Silva, N., Rochera, M. J., & Merino, I. (2022). Advancing the conceptualization of learning trajectories: A review of learning across contexts. *Learning, Culture and Social Interaction*, *37*, 100658. https://doi.org/10.1016/j.lcsi.2022.100658

Mendolia, S., & Walker, I. (2014). *Do NEETs need grit?* (No. 8740). IZA Discussion Papers. https://docs.iza.org/dp8740.pdf

Mentz, E. & Bailey, R. (2020). Self-directed learning research and its impact on educational practice. *NWU Self-Directed Learning Series, 3*, pp. i-420, AOSIS. https://doi.org/10.4102/aosis.2020.BK206

Merriam, S. B., & Baumgartner, L. M. (2020). *Learning in adulthood: A comprehensive guide.* Jossey-Bass.

Mawn, L., Oliver, E. J., Akhter, N., Bambra, C. L., Torgerson, C., Bridle, C., & Stain, H. J. (2017). Are we failing young people not in employment, education or training (NEETs)? A systematic review and meta-analysis of re-engagement interventions *Systematic reviews*, *6*, 1–17. https://doi.org/10.1186/s13643-016-0394-2

Mitrou, F., Haynes, M., Perales, F., Zubrick, S. R., & Baxter, J. (2021). Not in employment, education or training (NEET); more than a youth policy issue. *International Journal of Population Data Science*, *6*(1). https://doi.org/10.23889/ijpds.v6i1.1676

Moher, D., Liberati, A., Altman, D. G. and The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *PLoS medicine, 6*(7), 1– 6. https://doi.org/10.1371/journal.pmed.1000097

Morisano, D., Hirsh, J. B., Peterson, J. B., Pihl, R. O., & Shore, B. M. (2010). Setting, elaborating, and reflecting on personal goals improves academic performance. *Journal of applied psychology*, *95*(2), 255. https://doi.org/10.1037/a0018478

Morris, T. H. (2019). Self-directed learning: A fundamental competence i a rapidly changing world. *International Review of Education, 65*(4), 633–653. https://doi.org/10.1007/s11159-019-09793-2

Morris, T. H. (2023). Four dimensions of self-directed learning: A fundamental meta-competence in a changing world. *Adult Education Quarterly*, *74*(3), 236–254. https://doi.org/10.1177/07417136231217453

Moss, P. & Petrie, P. (2019) 'Education and social pedagogy: What relationship?'. *London Review of Education, 17* (3), 393–405. https://doi.org/10.18546/LRE.17.3.13

Määttä, M., Toiviainen, S., & Aaltonen, S. (2024). Participatory Support for NEET Young People: A Case Study of a Finnish Educational Project. *Journal of Applied Youth Studies*, *7*(1), 65–82. https://doi.org/10.1007/s43151-024-00115-4

Nahkur, O. (2024). Child Vulnerability from a Cross-Country Comparative Perspective. In D.Kutsar, M. Beilmann & O.Nahkur (Eds.), *Child Vulnerability and Vulnerable Subjectivity*, (pp 53–74). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-61333-3

OECD. (2020). *Education at a Glance 2020: OECD Indicators*. OECD Publishing, Paris. https://doi.org/10.1787/69096873-en

OECD. (2021). Improving the Provision of Active Labour Market Policies in Estonia. Connecting People with Jobs. OECD. Publishing, Paris. https://doi.org/10.1787/31f72c5b-en

OECD. (2025). Youth not in employment, education or training. OECD. https://www.oecd.org/en/data/indicators/youth-not-in-employment-education-or-training-neet.html.

O'Higgins, N., & Brockie, K. (2024). The youth guarantee, vulnerability, and social exclusion among NEETs in Southern Europe. *Politics and Governance*, *12*. https://doi.org/10.17645/pag.i378

Paabort, H., Flynn, P., Beilmann, M., & Petrescu, C. (2023). Policy responses to real world challenges associated with NEET youth: a scoping review. *Frontiers in Sustainable Cities*, *5*, 1154464. https://doi.org/10.3389/frsc.2023.1154464

Paju, E., Näre, L., Haikkola, L., Krivonos, D. (2020). Human capitalisation in activation: investing in the bodies, selves and skills of unemployed youth in Finland. *European Journal of Cultural and Political Sociology, 7*(1), 7–28. https://doi.org/10.1080/23254823.2019.1689834

Parola, A., & Donsì, L. (2019). Time perspective and employment status: NEET categories as negative predictor of future. *Mediterranean Journal of Clinical Psychology*, *7*(3). 10.6092/2282-1619/2019.7.2093

Parola, A., & Marcionetti, J. (2022). Youth unemployment and health outcomes: the moderation role of the future time perspective. *International Journal of Educational and Vocational Guidance*. 22, 327–345. https://doi.org/10.1007/s10775-021-09488-x

Petrie, P. (2014). Social justice and social pedagogy. In C. Cooper, S. Gormally, & G. Hughes (Eds.), *Socially-just radical alternatives for education and youth work practice: Re-imagining ways of working with young people* (pp. 85–106). Palgrave Macmillan.

Pimentel, M. H., Simões, F., Marques, P. F., & Barbosa-Ducharne, M. (2025). A Mapping Review on NEETs' Psychological Characteristics: Informing Policies and Programs. *Journal of Community & Applied Social Psychology*, *35*(2), e70070. https://doi.org/10.1002/casp.70070

Pohl, A., & Walther, A. (2007). Activating the disadvantaged. Variations in addressing youth transitions across Europe. *International Journal of Lifelong Education*, *26*(5), 533–553. https://doi.org/10.1080/02601370701559631

Poquet, O., Kitto, K., Jovanovic, J., Dawson, S., Siemens, G., & Markauskaite, L. (2021). Transitions through lifelong learning: Implications for learning analytics. *Computers and Education: Artificial Intelligence*, *2*, 100039. https://doi.org/10.1016/j.caeai.2021.100039

Rahmani, H., & Groot, W. (2023). Risk Factors of Being a Youth Not in Education, Employment or Training (NEET): A Scoping Review. *International Journal of Educational Research, 120*, 102198. https://doi.org/10.1016/j.ijer.2023.102198

Rahmani, H., Groot, W., & Rahmani, A. M. (2024). Unravelling the NEET phenomenon: a systematic literature review and meta-analysis of risk factors for youth not in education, employment, or training. International Journal of Adolescence and Youth, 29(1), 2331576. http://dx.doi.org/10.1080/02673843.2024.2331576

Ralston, K., Feng, Z., Everington, D., & Dibben, C. (2018). Do young people not in education, employment or training experience long-term occupational scarring? A longitudinal analysis over 20 years of follow-up. In *Exploring Social Inequality in the 21st Century* (pp. 101–119). Routledge. https://doi.org/10.1080/21582041.2016.1194452

Ralston, K., Everington, D., Feng, Z., & Dibben, C. (2022). Economic inactivity, not in employment, education or training (NEET) and scarring: The importance of NEET as a marker of long-term disadvantage. *Work, Employment and Society*, *36*(1), 59–79. https://doi.org/10.1177/0950017020973882

Ramsdal, G. H., & Wynn, R. (2022). Attachment and school completion: Understanding young people who have dropped out of high school and important factors in their re-enrollment. *International journal of environmental research and public health*, *19*(7), 3938. https://doi.org/10.31219/osf.io/wsj8h

Redmond, P., & McFadden, C. (2023). Young people not in employment, education or training (NEET): Concepts, consequences and policy approaches. *The Economic and Social Review*, *54*(4), 285–327.

Ruesga-Benito, S. M., González-Laxe, F., & Picatoste, X. (2018). Sustainable development, poverty, and risk of exclusion for young people in the European Union: The case of NEETs. *Sustainability*, *10*(12), 4708.https://doi.org/10.3390/su10124708

Rocca, A., Neagu, G., & Tosun, J. (2022). School-work-transition of NEETS: A comparative analysis of European countries. *Youth & Society*, *54*(2_suppl), 130S–152S. https://doi.org/10.1177/0044118X211051761

Ryan, R. M., Curren, R. R., & Deci, E. L. (2013). What humans need: Flourishing in Aristotelian philosophy and self-determination theory. In A. S. Waterman (Eds.), *The best within us: Positive psychology perspectives on eudaimonia* (pp. 57–75). American Psychological Association. https://doi.org/10.1037/14092-004

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, *25*(1), 54–67. https://doi.org/10.1006/ceps.1999.1020

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary educational psychology*, *61*, 101860. https://doi.org/10.1016/j.cedpsych.2020.101860

Saks, K., & Leijen, Ä. (2014). Distinguishing self-directed and self-regulated learning and measuring them in the e-learning context. *Procedia-Social and Behavioral Sciences*, *112*, 190–198. https://doi.org/10.1016/j.sbspro.2014.01.1155

Schweder, S. and Raufelder, D. (2022). Adolescents' enjoyment and effort in class: Influenced by self-directed learning intervals. *Journal of School Psychology*, *95*, 72–89. https://doi.org/10.1016/j.sp.2022.09.002

Simões, F., Marta, E., Marzana, D., Alfieri, S., & Pozzi, M. (2021). An analysis of social relationships' quality associations with hope among young Italians: the role of NEET status. *Journal of Applied Youth Studies*, *4*(2), 169–184. https://doi.org/10.1007/s43151-021-00034-8

Social Insurance Board. (2025). Noortegarantii Tugisüsteem. https://sotsiaalkindlustusamet.ee/sotsiaalkindlustusameti-aastaraamat-2024/noortegarantii-tugisusteem.

Social Welfare Act. (2025). RT I, 12.06.2025. https://www.riigiteataja.ee /en/eli/519062025004/consolide

Stea, T. H., Bertelsen, T. B., Fegran, L., Sejersted, E., Kleppang, A. L., & Fyhn, T. (2024). Interventions targeting young people not in employment, education or training (NEET) for increased likelihood of return to school or employment – A systematic review. *Plos one*, *19*(6), e0306285. https://doi.org/10.1371/journal.pone.0306285

Stockdale, S. L., & Brockett, R. G. (2011). Development of the PRO-SDLS: A measure of self-direction in learning based on the personal responsibility orientation model. *Adult Education Quarterly*, *61*(2), 161–180. https://doi.org/10.1177/0741713610380447

Tashakkori, A., & Teddlie, C. (2010). Sage handbook of mixed methods in social & behavioral research. SAGE publication

Tayfur, S. N., Prior, S., Roy, A. S., Fitzpatrick, L. I., & Forsyth, K. (2021). Adolescent psychosocial factors and participation in education and employment in young adulthood: A systematic review and meta-analyses. *Educational Research Review*, *34*, 100404. https://doi.org/10.1016/j.edurev.2021.100404

Thøgersen, M. (2024). Integration and differentiation in collaboration between services for youth not in employment, education, or training (NEET). *European Journal of Social Work*, *27*(3), 664–677. https://doi.org/10.1080/13691457.2024.2306378

Thomas, E. J., & Rothman, J. (2013). *Intervention research: Design and development for human service*. Routledge. https://doi.org/10.4324/9780203058060

Vadivel, B., Alam, S., Nikpoo, I., & Ajanil, B. (2023). The impact of low socioeconomic background on a child's educational achievements. *Education Research International*, *1*, 6565088. https://doi.org/10.1155/2023/6565088

Valiente, O., Capsada-Munsech, Q., & G de Otero, J. P. (2020). Educationalisation of youth unemployment through lifelong learning policies in Europe. *European Educational Research Journal*, *19*(6), 525–543. http://dx.doi.org/10.1177/1474904120908751

van Tonder, G. P., Kloppers, M. M., & Grosser, M. M. (2022). Enabling Self-Directed Academic and Personal Wellbeing Through Cognitive Education. *Frontiers in Psychology*, *12*, 6332. https://doi.org/10.3389/fpsyg.2021.789194

van Vugt, L. L. J. (2023). *Different NEETs, different needs? Explaining why vulnerable young people are more likely to become NEET*. [Doctoral Thesis, Maastricht University]. ROA. https://doi.org/10.26481/dis.20230713lv

van Vugt, L., Levels, M., & van der Velden, R. (2024). The low skills trap: the failure of education and social policies in preventing low-literate young people from being long-term NEET. *Journal of Youth Studies*, *27*(2), 217–251. https://doi.org/10.1080/13676261.2022.2118036

Varas, D., Santana, M., Nussbaum, M., Claro, S., & Imbarack, P. (2023). Teachers' strategies and challenges in teaching 21st century skills: Little common understanding. *Thinking Skills and Creativity*, *48*, 101289. https://doi.org/10.1016/j.tsc.2023.101289

Veldman, K., van Zon, S. K., & Bültmann, U. (2024). Once in NEET, always in NEET? Childhood and adolescent risk factors for different NEET patterns. *European Journal of Public Health*, *34*(3), 505–510. https://doi.org/10.1093/eurpub/ckae025

Villalba-García, E. (2021). Validation of non-formal and informal learning: The hero with a thousand faces?. *European Journal of Education*, *56*(3), 351–364.

Wells, M. B., Blom, L., Modin Asper, M., & Lindberg, L. (2024). Emerging Adults' Perspectives of Received Youth Worker Support and Their Personal and Structural Barriers to Find Employment or Further Education: A Qualitative Study From Sweden. *Emerging Adulthood*, *12*(6), 1069–1085. https://doi.org/10.1177/21676968241273236

World Bank. (n.d.). *Percentage of youth not in education, employment, or training (NEET)*. Gender Data Portal. https://genderdata.worldbank.org/en/indicator/sl-uem-neet-zs#idEconomyComparison

Yates, S. & Payne, M. (2007). Not so NEET? A Critique of the Use of 'NEET' in Setting Targets for Interventions with Young People. *Journal of Youth Studies,* 9. 329–344. https://doi.org/10.1080/13676260600805671

Zolkoski, S. M., & Bullock, L. M. (2012). Resilience in children and youth: A review. *Children and youth services review*, *34*(12), 2295–2303. https://doi.org/10.1016/j.childyouth.2012.08.009

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My work has always focused on young people who need more support than others.

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Ribeiro, A. S., Lendzhova, V., Vyšniauskienė, S., Ferreira, T., Sousa, J. C., Roque, I., Kõiv, K.…& O'Higgins, N. (2024). Public employment services' responses to the pandemic: examples from Portugal, Bulgaria, and Lithuania. *Politics and Governance*, *12*.

Kõiv, K. & Paabort, H. (2022). Youth not in Education, Employment, or Training: Practical reasons and support in Estonia. In: Bojnec, Š., Petrescu, C. (Eds.), *Youth Policy Application of the Intervention:Best-Practices with Rural NEETs.* (137–157). COST Action Action CA 18213.

Kõiv, K., Saks, K., Paabort, H., Lendzhova, V., & Smoter, M. (2022). A service model for self-directed learning of NEET youth at the local government level. *Youth & Society*, *54*(2_suppl), 52S–68S. https://doi.org/10.1177/0044118X21105822

Beilmann, M., Otstavel, S., Kõiv, K., Paabort, H. (2022). NEET-staatuses noored teenuste ja programmide võrgusilmas: kuidas paremini toetada mitteõppivaid ja -töötavaid noori? Sotsiaaltöö, 4, 81–93.

Kõiv, K. & Paabort, H. (2021). Laste osalus avatud noorsootöös. Laste võimalused koolivälisek tegevuseks. D. Kutsar (Toim*.), Lapsed Eesti ühiskonnas. (*95–120). Tallinn: Õiguskantsleri Kantselei.

Villum, B., Kivest, A-L., Kängsepp, K., Kõiv, K., Paabort, H., Pirk, R., Reinomägi, A., Turk, P. (2021). Laste võimalused koolivälisek tegevuseks. D. Kutsar (Toim.), *Lapsed Eesti ühiskonnas.* (95–120). Tallinn: Õiguskantsleri Kantselei.

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Ribeiro, A. S., Lendzhova, V., Vyšniauskienė, S., Ferreira, T., Sousa, J. C., Roque, I., Kõiv, K.…& O'Higgins, N. (2024). Public employment services' responses to the pandemic: examples from Portugal, Bulgaria, and Lithuania. *Politics and Governance*, *12*.

Kõiv, K. & Paabort, H. (2022). Youth not in Education, Employment, or Training: Practical reasons and support in Estonia. In: Bojnec, Š., Petrescu, C. (Eds.), *Youth Policy Application of the Intervention:Best-Practices with Rural NEETs.* (137–157). COST Action Action CA 18213.

Kõiv, K., Saks, K., Paabort, H., Lendzhova, V., & Smoter, M. (2022). A service model for self-directed learning of NEET youth at the local government level. *Youth & Society*, *54*(2_suppl), 52S–68S. https://doi.org/10.1177/0044118X21105822

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Kõiv, K. & Paabort, H. (2021). Laste osalus avatud noorsootöös. Laste võimalused koolivälisek tegevuseks. D. Kutsar (Toim*.), Lapsed Eesti ühiskonnas.* (95–120). Tallinn: Õiguskantsleri Kantselei.

Villum, B., Kivest, A-L., Kängsepp, K., Kõiv, K., Paabort, H., Pirk, R., Reinomägi, A., Turk, P. (2021). Laste võimalused koolivälisek tegevuseks. D. Kutsar (Toim.), *Lapsed Eesti ühiskonnas. (*95–120). Tallinn: Õiguskantsleri Kantselei.

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