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Motivation in the Context of Non-Formal, Job-Related Online Learning

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Tiivistelmä - Referat - Abstract

Tavoitteet. Tämän tutkielman tavoitteena oli selvittää, millaisia tavoiteorientaatioryhmiä on löydettävissä non-formaalin, työnkuvaan liittyvän verkko-oppimisen kontekstissa ja millä tavoin löydetyt ryhmät eroavat toisistaan koetuissa verkko-oppimisen kustannuksissa ja arviossa työorganisaation kannustavasta oppimiskulttuurista. Tutkimuksen konteksti tarjosi uudenlaisen sovellutuksen tavoiteorientaatiotutkimukseen, sillä tutkimuksen kohteena oleva oppiminen oli non-formaalia oppimista, täsmällisemmin nonformaalia työnkuvaan liittyvää verkko-oppimista. Tutkielma tukee osaltaan tieteellistä pyrkimystä ymmärtää työssäkäyvien oppimiseen liittyviä motivaatioprosesseja, ja työ esittää myös tuloksista johdettuja käytännön sovellutuksia työelämän verkkokurssien kehittämiseen, jotta ne kannustaisivat ja tukisivat entistä paremmin erilaisia oppijoita.

Menetelmät. Tutkimusaineisto kerättiin sähköisellä kyselylomakkeella tammi- ja helmikuussa 2021. Yhteensä 170 työssäkäyvää vastasi kyselyyn, ja vastaajia tavoitettiin eri aloilta ja erilaisista työtehtävistä sekä Euroopasta että Pohjois-Amerikasta. Vastaajat jaettiin tavoiteorientaatioryhmiin hyödyntäen henkilösuuntautunutta lähestymistapaa ja Two-Step klusterianalyysia. Ryhmien välisiä eroja tutkittiin yksisuuntaisen varianssianalyysin (ANOVA) avulla.

Tulokset ja johtopäätökset. Neljä erilaista tavoiteorientaatioryhmää tunnistettiin aineistosta: oppimisorientoituneet, saavutusorientoituneet, suoritusvälttämisorientoituneet ja välttämisorientoituneet. Oppimisorientoituneet erosivat muista ryhmistä koetuissa kustannuksissa, ja he arvioivat kustannukset merkittävästi muita alhaisemmiksi. Organisaation oppimiskulttuurin suhteen välttämisorientoituneet arvioivat oman työorganisaationsa kulttuurin vähemmän kannustavaksi kuin muut ryhmät. Tarkemman tutkimustulosten tarkastelun perusteella selvisi, että suoritus- ja välttämistavoitteet vaikuttavat olevan yhteydessä korkeampiin verkko-oppimisen koettuihin kustannuksiin, kun taas oppimis- ja saavutustavoitteet vaikuttavat olevan yhteydessä kokemukseen kannustavammasta organisaation oppimiskulttuurista. Tutkielman loppupuolella esitetään tuloksista johdettuja käytännön sovellutuksia. Tulokset osoittavat, että ymmärrys ja tieto erilaisista motivaatioprosesseista on arvokasta non-formaalin työelämän verkkokoulutuksen kehittämiseksi ja laajentamiseksi.

Avainsanat - Nyckelord Motivaatio, tavoiteorientaatio, koetut kustannukset, organisaation oppimiskulttuuri	
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Tiivistelmä - Referat – Abstract

Aims. The purpose of this thesis was to examine what kind of achievement goal orientation groups can be found in the context of non-formal, job-related online learning, and how the discovered groups differ from each other in perceived costs of online learning and in assessment of work organization's supportive learning culture. The study's context offered a unique application to the goal orientation profile research, as the examined type of learning was non-formal learning, or more specifically, non-formal online learning related to work. This study contributes to building an understanding of motivational processes among people in working life and presents practical implications for the development of online learning practices and materials so that those would be more encouraging and supportive to a wider audience of learners.

Methods. The research data was collected by an online questionnaire during January and February 2021. Altogether, 170 individuals from Europe and North America, working in different roles and fields, participated in the study. The participants were classified into goal orientation groups by utilizing a person-oriented approach and Two-Step cluster analysis. To examine in-between group differences, analyses of variance (ANOVA) were performed.

Results and Conclusions. Four distinct goal orientation profiles were identified: learning-oriented, success-oriented, performance-avoidance-oriented, and avoidance-oriented. Learning-oriented differed from the other groups in perceived costs, as they assessed the online learning costs to be significantly lower. In organizational learning culture, avoidance-oriented evaluated their work organization to have a less supportive learning culture than the rest of the groups. After further examination of the study results, it was found that performance and avoidance goals seem to be connected to higher perceived online learning cost, while mastery goals seem to be related to an assessment of a more supportive organizational learning culture. Based on these findings, this study also presents practical implications in the latter part of the paper. All in all, the results indicate that understanding and knowledge of different motivational patterns is crucial for the development and expansion of non-formal, job-related online education.

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1 Introduction

In 2021, continuous learning at work is treated almost as an axiom in public talks, articles, discussions, and reports. Reskilling and upskilling are advocated by practitioners, scholars, and policymakers, as active competence development is viewed as an advantage for individuals, organizations, and societies alike (Finnish Ministry of Education and Culture, 2020; Nikolova, Van Ruysseveldt, De Witte, & Syroita, 2014). Yet, at the same time, it seems that learning at work is not as extensive and widespread as the ideology of continuous learning is: According to OECD (2020), only about 40% of adults in OECD countries participate in formal or non-formal job-related training within a year. In the work context, there are groups of very active learners and groups of individuals who rarely participate in any job-related training at all (OECD, 2020). This kind of information is a strong indication for a need to develop more supportive learning practices and materials, so that the benefits of continuous learning would be reached and more people, as well as different kind of learners, would be encouraged to learn at work.

Online implementations can be a working solution to encourage more people to participate in short-term, job-related courses, since they commonly are more flexible, effortless, and cheaper than face-to-face education (see Jones, 2013; Park & Choi, 2009). However, for an online course to be successful and of high quality, it needs to be designed carefully and address diverse learner needs (Wieland & Kollias, 2020). Online courses face very easily high dropout rates if motivational support and design are inadequate (Jones, 2013), and without inclusive design, learning can be an attempting choice to only those people who are motivated in a way that aligns with the learning activities in question.

In order to promote job-related online learning and to make inclusive design choices, it is important to have knowledge about the variety of learners in the target group and e.g. the learning-related goals and other motivational processes that influence decision to take part and continue in education (Gorges & Kandler, 2012). This master's thesis aims to find tools to support non-formal, job-related online learning by examining the variety of motivational processes via three theoretical concepts: achievement goal orientations, perceived cost, and organizational learning culture. The theoretical approaches of achievement goal orientation and perceived cost were considered relevant and chosen for the study, because when a person makes decision about learning at work, they want to know how the educational activity will help them reach their goals (see Collins, 2004),

but in addition to that, they will also consider other options and evaluate the costs and benefits of the activities (Gorges & Kandler, 2012). Furthermore, it was considered important to include the aspect of organizational support to the study, as people need organizational support for their learning and individual learning decisions are likely affected by the surrounding organizational learning culture (van Breda-Verduijn & Heijboer, 2016).

This master's thesis analyzed online learning motivation at work quantitatively within a group of 170 individuals working in different roles and various industrial fields. The purpose of the study was to examine what kind of achievement goal orientation groups can be found in the context of non-formal, job-related online learning, and how the discovered groups differ from each other in perceived costs of online learning and in assessment of work organization's supportive learning culture. The theme was considered very topical due to the expansion of corporate online learning caused by Covid19 (see Wieland & Kollias, 2020). Based on the results of the study analyses, this thesis presents practical implications for the development of online learning practices and materials so that those would be more encouraging and supportive to a wider audience of learners in the work context.

2 Non-Formal Learning in the Work Context

Some decades ago, the work context was not viewed as a learning setting, but workplaces were primarily designed to enable labor activities (Nikolova et al., 2014). The perspective has changed since, and today, practitioners and scholars see learning at work as a requirement for an organization's and individuals' adaptation and competitive advantage (Nikolova et al., 2014; van Breda-Verduijn & Heijboer, 2016). Hence, fostering learning is a core part of many organization's management (Nikolova et al., 2014), and in addition to that, job-related training has developed into a business, as a growing number of institutions offer education and many companies have broadened their operations to customer training (see Blyzniuk et al., 2021).

The current discourse regarding learning at work includes also the idea of continuity (see van Breda-Verduijn & Heijboer, 2016). Continuous learning stresses consistent reskilling and upskilling throughout a person's career, and it may cover e.g. vocationally relevant knowledge, skills, and abilities (Finnish Ministry of Education and Culture, 2020; Nikolova et al., 2014). Learning activities in the work context can vary a lot in their formality and extent. Therefore, when discussing education in the context of work, it is important to specify the type of learning in question: formal, non-formal, or informal learning.

Formal and non-formal learning are both forms of organized training, while informal learning is not institutionalized, though intentional and can take place any time (e.g. learning by doing or from colleagues). Formal education refers to learning that lasts for at least one semester and is recognized by relevant authorities. Non-formal education, for its part, constitutes mainly of shorter courses or seminars, which last less than a semester or are not recognized by authorities. (Eurostat, 2021; Sutherland Olsen & Tikkanen, 2018). This thesis concentrated on to examine motivation regarding non-formal, job-related learning. In this paper, the terms learning, education, and training are used quite interchangeably, as those were all considered to describe non-formal learning activities equally well.

Learners in the work context can be defined as adults who are employed and have completed their initial education (see Gorges & Kandler, 2012). Adults are especially goal oriented, wanting to know how the educational activity will help them reach their goals (see Collins, 2004). They are self-directed, can determine the extent and the direction of

their learning, as well as decide on their participation in learning activities (Gorges & Kandler, 2012). At the same time, learning that is happening at the workplace can also be a decision made by the manager or the employer, and not by the individual themselves. Ideally, the decision to participate in non-formal education would be a joint one and all parties in an organization would share a similar motivation towards learning.

Regardless of who does the final decision about training engagement, the decision maker needs to think how learning will benefit them and if they have resources, like time and money, for the learning (see Gorges & Kandler, 2012). Most common reasons for not participating in job-related training include lack of time, scheduling conflicts, and distance constraints, along with lack of financial resources (Collins, 2004). The resources might be ones of the employee's or the organization's, and it seems that employees participate more likely in job-related training if their employer sponsors it: In 2016, around 69% of the non-formal education and training activities of adults in EU were job-related and sponsored by employers, while around 10% of the activities were job-related and funded otherwise (Eurostat, 2021).

Annually, on average, only about 40% of adults in OECD countries participate in formal or informal job-related training (OECD, 2020). Considering the prevailing view of the importance of continuous learning at work, the number is relatively low, as according to that 60% of adults do not take part in any kind of job-related education within a year. Consequently, there seems to be a need to support learning at workplaces. According to Collins (2004), best ways to support adult learning is to reinforce the reasons for participation and to decrease barriers. Since common barriers for adult learning include lack of time, scheduling conflicts, and distance constraints, it seems that due to its flexibility and cost-effectiveness, online training might be an effective way to lower the threshold for participation.

3 Online Learning

Online learning can be described through four elements: 1) separated learning group, 2) communication through internet, 3) synchronous learning activities, and 4) asynchronous learning activities (see Neroni, Meijs, Leontjevas, Kirschner, & De Groot, 2018). The first element refers to the fact that commonly online course students are separated by time and place. They also quite often get to study when they want and at their own pace. The second element, communication, means that as well as in other types of learning, in online learning there typically is interaction between the participants, the instructor(s), and resources (Neroni et al., 2018). Communication can happen e.g. through virtual classes and sessions, collaborative online tools, or chat (see Mäkitalo & Wallinheimo, 2012). The two other elements of online learning refer to the fact that depending on whether interaction and learning activities happen at the same time or at a different time, the learning is called synchronous or asynchronous (Neroni et al., 2018). In synchronous learning, people can communicate and learn together without a delay, for instance in an online classroom. Whereas asynchronous learning means activities that individuals do at their own time and pace, such as assignments, discussion on a forum, or self-study. Often an online course or program is a mixture of both synchronous and asynchronous learning activities (Neroni et al., 2018).

The notion of online learning is related to other similar terms, such as distance learning, e-learning, and web-based learning (see Moore, Dickson-Deane, & Galyen, 2011). Depending on the source, the definitions and use preferences vary. Generally, distance learning refers to learning activities that happen outside a classroom or workplace and the interaction between students and a teacher can occur through electronic or non-electronic media (e.g. correspondence) (Neroni et al., 2018). E-learning, in its part, means education that uses electronical tools in the arrangement of learning. However, there is uncertainty around the characteristics, because e-learning could be delivered via multiple forms, e.g. CD-ROM, the Internet, an Intranet, video- and audiotape, satellite broadcast, and interactive TV (Moore et al., 2011). Online learning seems more topical term than the two above, since today, a growing number of job-related learning happens particularly online (OECD, 2020). The notion of online learning is also quite established, compared to web-based learning, web-based training, or other similar terms (Moore et al., 2011).

One more viewpoint for the definition of online learning is the learning implementation: Online courses are commonly carried out in online learning environments (Mäkitalo & Wallinheimo, 2012). Different learning environments have varying features to match and support the learning objective, target group, and type of content in question (Moore et al., 2011). Even so, all learning environments usually include tools to create online courses, instruments to support participant communication, a tracking feature to offer information about learner activity, and a possibility to give automatic deadlines to assignments and exams (Mäkitalo & Wallinheimo, 2012). The learning materials, courses, and programs can either be self-paced, self-directed, or instructor-led (Moore et al., 2011).

Online implementations hold a lot potential for non-formal job-related learning, and being often relatively flexible regarding time and place, online education can reach a bigger number of people than face-to-face training (Jones, 2013). In addition, online learning is generally more affordable than face-to-face training (Park & Choi, 2009). For instance, traditional job-related education often has costs regarding location reservations, commuting, and learning material printing, which do not apply to online implementation. The clear advantages of online learning explain why it is considered an appealing alternative to organize education (Neroni et al., 2018). Especially blended learning, which combines online and face-to-face education, has become popular during recent years, and in a paper written by Rasheed, Kamsin, and Abdullah (2020) blended learning, is even stated "the most effective and most popular mode of instruction". During 2020, the extent of corporate online learning exploded, which was a real test to the potential of online education (see Wieland & Kollias, 2020). However, these changes were brought up by Covid19, an external shock, and not necessary because of any changes in interest in to learn online. As a matter of fact, data from previous years indicate that not many adults are learning online. In 2019, while 13% of young Europeans reported learning on an online course during the last three months, the same number for adults aged 25-64 was 9% (Eurostat, 2020). Another challenge regarding online learning is high dropout rates (Kim, 2009; Neroni et al., 2018; Park & Choi, 2009). On some adult online courses, attrition rates have been as high as 70-80% of the initial number of participants (Jones, 2013; Park & Choi, 2009). These courses have not necessary been job-related, but the statistics demonstrate that the threshold to quit online education can be relatively low if motivational challenges emerge.

The online implementation is not an invincible solution to low education participation rates, as technology itself can be a barrier for participation for some people. Users' lack of digital skills or negative perceptions about digital technologies often keep people from

participating in online education (Kim & Frick, 2011; see also Rasheed et al., 2020). Negative perceptions can be based on previous experiences of poorly implemented online courses, and negative experiences are a common reason to drop out of online education (Kim, 2009). Correspondingly, the barrier for participation can be technological insufficiencies, e.g. technical difficulties, technological accessibility challenges, outdated technology, or internet connection issues (Rasheed et al., 2020). When working on increasing the participation rates in online learning, education providers, or employers, should ensure that the target group has functional digital resources and needed knowledge.

According to previous research, the likelihood to participate in training depends greatly on the learner's attitudes (Jones, 2013). A person is more likely to participate in a self-directed online course if they consider the course to be "right for them", meaning that the delivery quality and relevance of the training are expected to be good and that the learner perceives organizational support for participation (Kim & Frick, 2011). To make non-formal, job-related online courses appealing to a wider target group of people, education designers should address the diversity of the learners. It is important to include strategies to make the content easy to digest, interesting, and enjoyable, as these elements build up the delivery quality and make the course relevant to people with different skill levels and goals (Jones, 2013).

People can be more or less eager to learn online but giving them some online learning experience might help them view online learning more positively (Kim, Liu, & Bonk, 2005). A relatively common view about online learning is that it is a less efficient or valid form of education because of a bigger amount of self-regulative work, i.e. the learner organizing their own learning (see Rasheed et al., 2020). This can be true if learners are not properly supported. Support can be offered through the elements in the learning material, e.g. interactivity, and a positive learning climate (Kim, 2009; Tapola & Veermans, 2012). In addition to offering support and quality learning material, education advocates can increase positive learner expectations via communication strategies (Jones, 2013).

Some learner characteristics are yet very stable features and cannot be easily shaped by educators, employers, or education designers. Orientation towards online learning, or towards learning in general, is this kind of a feature (see Niemivirta, Pulkka, Tapola, & Tuominen, 2019). Motivation is a key pre-requisite for participation in continuous learning (Gorges & Kandler, 2012): A negative orientation can be an especially great barrier for participation, whereas a positive motivation can drive a person to even work on to solve

other challenges related to their learning (see Tuominen-Soini, 2012). Because learning motivation is not easily changed, non-formal, job-related online learning practices and material should be developed so that they take into consideration different types of motivation people can have towards learning. This thesis aims to deepen the knowledge about the variety of online learning motivation among individuals in the work context. A good starting point for that is to examine, what motivates people to study online, e.g. what kind of learning-related goals people can have (see Dweck, 1986).

4 Motivation

Broadly defined, motivation is a group of processes that first push an individual to act and then direct and maintain the activities (Tapola & Veermans, 2012). In the field of educational psychology, there are multiple theories on motivation, which emphasize and conceptualize motivational processes differently. Eccles and Wigfield (2002) divide motivation theories into four categories: theories that focus on expectancies for success, theories focusing on task value, theories integrating expectancies and values, and theories that combine motivation and cognition.

Empirical research usually focuses on to examine motivation from one or two perspectives (Tapola & Veermans, 2012). In this study, motivation was investigated utilizing the theories of achievement goal orientation and perceived cost. According to the previously mentioned classification, achievement goal orientation theory belongs to theories focusing on task value, whereas the concept of perceived cost is a part of an expectancy-value theory of motivation (Eccles & Wigfield, 2002).

What motivates a person to study can also be expressed as an individual's achievement goal orientation (Dweck, 1986). The theory was applied to the topic of this thesis, because it was assumed that people in the work context make education-related decisions by thinking how well the activity supports their goals (see Collins, 2004). The concept of perceived cost was added to the study, since it was found important to include the idea of learning being a choice for adults. When making a decision about learning, people in the work context consider also other options and evaluate the costs of learning (Gorges & Kandler, 2012). Both concepts, achievement goal orientation and perceived cost, have a strong theoretical background (see Dweck, 1986 and; Eccles et al., 1983).

4.1 Achievement Goal Orientations

Motivation is a formation of situational features (e.g. learning topic or teacher) combined together with the individual's prior experiences, beliefs, and goals (Niemivirta et al., 2019). According to Niemivirta and colleagues (2019) the theory of achievement goal orientation is based on the notion of people being goal-oriented in different areas of life. A person can simultaneously have multiple goals, which vary in how detailed or distinct

they are, and which are hierarchical (Tuominen, Pulkka, Tapola, & Niemivirta, 2017). The goals can be about exact plans of tomorrow, as well as about distant future ambitions. For example, a goal can be the action itself (e.g. the enjoyment of learning a new language), the outcome of the action (e.g. gaining fluency in a language), or subsequent consequences (e.g. the advantage of language proficiency in a future job recruitment process) (see Niemivirta et al., 2019).

According to the theory, individual's favored achievement related goals, results, and consequences create a framework, achievement goal orientation, which generates models of thinking and acting (Tuominen-Soini, 2012). This means that a person's achievement goal orientation appears as typical ways to interpret and behave in learning and performance situations (Niemivirta et al., 2019). Researchers have conceptualized achievement goal orientations in varied ways (see e.g. Dweck, 1986; Elliot & Harackiewicz, 1996), but the initial distinguished orientations were mastery, performance, and work avoidance (Tuominen-Soini, 2012). Later research has expanded this scheme by describing additional goals related to achievement behavior (Niemivirta, 2002). All the conceptualizations, however, strive to identify different goals related to learning and performance.

Achievement goal orientation theory has its origin in the examination of learning and achievement goals in school context (see Tuominen et al., 2017) but later studies have applied the theory to diverse domains and also to adult learning (see e.g. Neroni et al., 2018; Nerstad, Richardsen, & Roberts, 2018; Pulkka & Niemivirta, 2013). The previous successful applications of the theory gave a strong indication for this study that the concept could be applied also to the examination of non-formal, job-related online learning motivation as well. This thesis utilized a five-dimension achievement goal orientation model, created by Niemivirta (2002; see also Tuominen-Soini, 2012), and it was assumed to portray the different goal orientations people in working life can have towards online learning. The five dimensions in the model are 1) mastery-intrinsic, 2) mastery-extrinsic, 3) performance-approach, 4) performance-avoidance, and 5) avoidance orientation (see Figure 1).

As said above, achievement goal orientation describes individual tendencies to prefer and pursue certain kind results (Niemivirta, 2002). The first achievement goal orientation in Niemivirta's (2002) instrument is *mastery-intrinsic orientation* (see Figure 1). It refers to focus on learning and development and to the goals of understanding and mastering the required skills (Dweck, 1986; Tuominen-Soini, 2012). In the context of this thesis,

mastery-intrinsic orientation could appear as a desire to learn to gain more work-related knowledge. *Mastery-extrinsic orientation*, for its part, refers to valuing succeeding and success as a result of learning activities. The aspired success is absolute achievement, i.e. achievement measured on a scale. Thus, mastery-extrinsic orientation focuses on comparing individual's accomplishments to their previous ones, and a good result indicates good learning (Elliot & McGregor, 2001). In the work context, this means that a person might want to learn to get, for instance, a qualification as a result of learning.

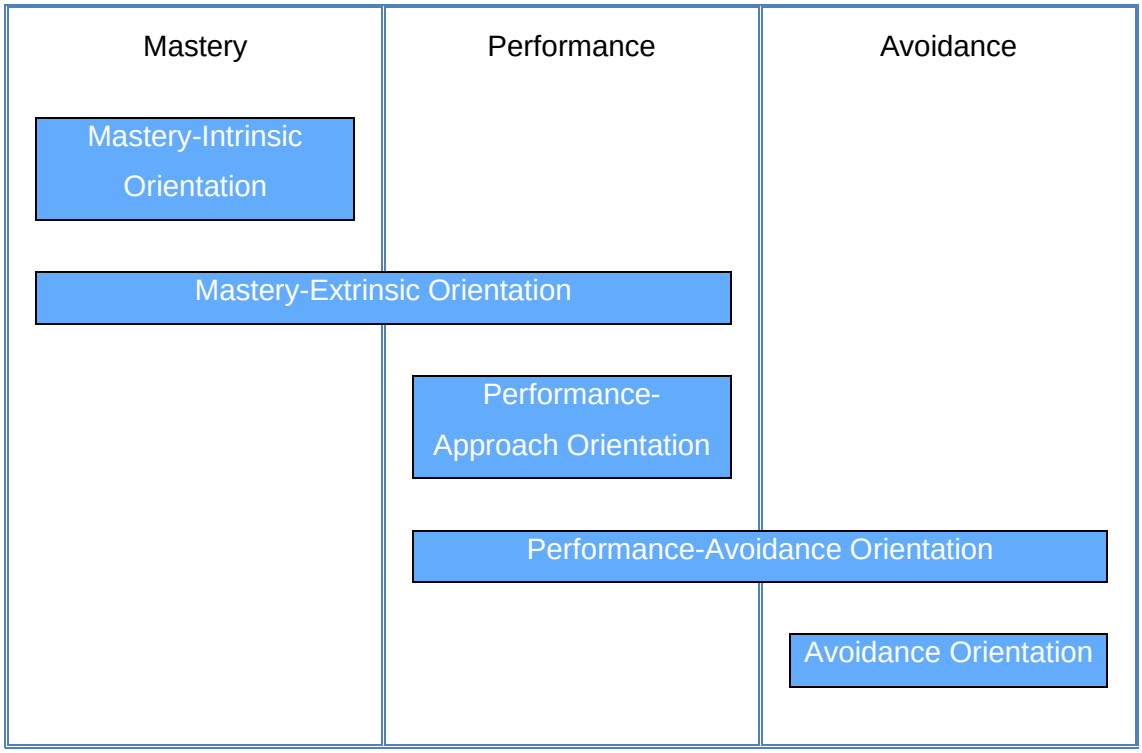

Figure 1. Achievement Goal Orientations (applied from Tuominen-Soini, 2012; see also Niemivirta et al., 2019).

The third orientation, *performance-approach orientation*, refers to aspiration to success as well, but in this case an individual compares themselves to others (Elliot & Harackiewicz, 1996). Within this orientation, it is considered important to seem capable in the eyes of others and to do better than them. Performance is the focus of the activity rather than mastering new skills (Tuominen-Soini, 2012). Another orientation referring to performance is *performance-avoidance orientation*, but in this one the focal point is to avoid failure and appearing incapable (Elliot & Harackiewicz, 1996). A person ends up avoiding challenging situations, because they do not want others to value them poorly. The fifth orientation in the instrument, *avoidance orientation*, refers to avoiding effort and work altogether (Nolen, 1988). Within avoidance-orientation the core aim is to pass tasks

with minimal work, and in the context of this thesis, an avoidance-oriented individual might want to do well in their role with as little learning activities as possible.

The above achievement goal orientations need to be viewed as overlapping, because an individual does not normally seek only one kind of goals. As said before, people can have various, diverse goals simultaneously (Tuominen-Soini, 2012). This means that a person can be, for instance, both mastery-intrinsic and mastery-extrinsic oriented towards learning, so they want to both learn and achieve good results. To consider the multiple goals an individual can have, achievement goal orientation research has used to a growing extent person-oriented approach in the motivation analysis. The idea in a person oriented analysis is to find similarities in the motivational patterns of the examinees and then to use these findings to group examinees into achievement goal orientation profiles (Niemivirta et al., 2019) (see Table 1). In this study, person-oriented approach was used in the analysis of online learning motivation.

Specific goal orientation profiles have been commonly found in school and educational contexts regardless of the age of the examinees (Tuominen-Soini, 2012). These groups have often included 1) a predominantly mastery goal orientation profile, 2) a predominantly performance goal orientation profile, 3) a combined mastery and performance-approach goal orientation profile, 4) a work-avoidant profile, and 5) a moderate multiple goals profile (Niemivirta et al., 2019; Tuominen-Soini, 2012). Table 1 differentiates the motivational characteristics of these profiles and explains how different orientations interpret, experience, and approach learning and performance situations.

Mastery-oriented learners emphasize mastery-intrinsic and mastery-extrinsic orientation in their actions (see Table 1). They commonly have high self-efficacy, meaning that they believe in their own abilities to learn. Previous research indicates also that mastery oriented express high intrinsic motivation, meaning that they value the process of self-improvement itself and that they demonstrate high persistence and effort in learning. As for the profile of *performance-oriented* learners, they demonstrate lower levels of mastery goals and emphasize performance goals (performance-approach or performance-avoidance goals, or both). Performance-related goals of these individuals emerge as relatively low self-efficacy and high fear of failure. The third orientation profile, *combined mastery and performance-approach,* can also be called the group of *success-oriented*. This profile is quite like the profile of predominantly mastery-oriented (see Table 1). However, because this group of individuals emphasize additionally performance-approach (i.e. being competent compared to other students), they often experience high fear of failure.

Table 1. Summary of The Most Commonly Identified Achievement Goal Orientation Profiles (applied from Niemivirta, Pulkka, Tapola & Tuominen, 2019).

	Predominantly Mastery	**Predominantly Performance**	**Combined Mastery and Performance-Approach**	**Work-Avoidant**	**Moderate Multiple Goals / Indifferent**
Characteristics of the profile	High mastery, low other goals	High performance, low mastery	High mastery and high performance-approach (success-oriented)	High work avoidance, low other goals	Moderate all goals
Motivation	High self-efficacy High intrinsic motivation Commitment and effort in relation to educational goals	Relatively low self-efficacy High fear of failure	High self-efficacy High intrinsic motivation Commitment and effort in relation to educational goals High fear of failure	Low commitment and effort Relatively high academic withdrawal	High academic withdrawal and fear of failure
Perceptions of and responses to the learning environment	Positive evaluations of course materials and teaching High participation Moderate satisfaction		Moderate evaluations of course materials Positive evaluations of teaching High participation Moderate satisfaction	Low evaluations of course materials and teaching Low participation Low satisfaction	Moderate evaluations of course materials and teaching Moderate participation Moderate satisfaction

Compared to other profiles, *the work-avoidant profile* scores high in avoidance orientation and often relatively low in mastery goals (see Table 1). They also show the most maladaptive patterns of motivation, such as relatively low valuing of education, low effort, and high withdrawal. The profile, which does not emphasize any particular goal orientation, is often called the group of *indifferent* or *moderate multiple goals* and this group can often be quite big and normative. The profile represents quite a typical learning motivation, where the learner does what is expected, but tries also to minimize the amount of work. Individuals of this orientation group can also have quite high fear of failure and low threshold to quit studying. (Niemivirta et al., 2019; Tuominen et al., 2017; Tuominen-Soini, 2012).

According to previous studies among students on different educational levels, achievement goal orientation profiles differ also in views of and actions in a learning environment (Niemivirta et al., 2019). As demonstrated in Table 1, predominantly mastery oriented and success-oriented have been commonly found to be active participants and quite satisfied with the education. They also evaluate course material and teaching relatively positively. The group of work-avoidant students is the opposite in this regard as well: They show low participation and satisfaction and evaluate pedagogical materials and teaching most poorly (see Table 1). However, teacher and peer support have been discovered to work as a buffer against this kind of avoidant behavior (King & McInerney, 2014).

Achievement goal orientation theory has been utilized also in the contexts of working life. The research has been about, for instance, the influence of achievement goal orientations to sales performance (see VandeWalle, Brown, Cron, & Slocum, 1999) or finding orientation profiles among employees in specific fields (see Kunst, van Woerkom, & Poell, 2018; Nerstad et al., 2018). Orientation profile research in the work context has not been very common before the last years (Kunst et al., 2018), but the studies by Nerstad (2018), Kunst (2018) and their colleagues offer a backing that in the work context there can be found similar motivational groups as in school or academic environments.

Nerstad and colleagues (2018) examined goal orientation profiles and their connections to performance at work and to perceived motivational climate. They examined the motivation of engineers and technologists and used two dimensions of achievement goal orientations; mastery and performance orientation. As a result, they found four orientation profiles: primarily mastery oriented, success oriented, indifferent, and moderate multiple goals profile. Primarily mastery oriented showed high levels of mastery orientation,

but they also indicated some performance orientation. Success oriented showed a lot of both mastery and performance orientation. Indifferent group scored relatively low in both orientations, whereas moderate multiple goals scored moderately high in both. The moderate multiple goals profile was the biggest group of the four (49%). The second in size was the group of indifferent (26%) and the third one was mastery oriented (18%).

Kunst et al. (2018), in their part, examined the connections between teachers' goal orientation profiles and participation in professional development activities. In this study, the used goal orientation dimensions were learning orientation, performance approach orientation, and performance avoidance orientation. Kunst and colleagues found five achievement goal orientation profiles among teachers: moderate learning (i.e. moderate mastery-intrinsic), success oriented, performance oriented, avoidance oriented, and a diffuse group. The diffuse group indicated learning (i.e. mastery-intrinsic), performance approach, and performance avoidance orientations equally moderately, and they were the largest of the groups (50% of the participants). The second biggest group was moderate learning profile (12%). When examining group differences in professional development activities, it was found that the success-oriented profile was significantly more active than the other profiles and avoidance group was significantly less active than others.

In school or academic domain, one can make a good hypothesis of the number of achievement goal orientation profiles. In the work context, contrarily, there is not many previous studies to make conclusions from. However, the two work domain studies introduced above have quite consistent results with school studies. In both studies, the biggest group was indifferent or moderate multiple goals, which is often a big profile in goal orientation profile research (see Tuominen et al., 2017). Another connecting factor in these studies (Kunst et al., 2018; Nerstad et al., 2018) is that mastery-intrinsic profile was quite a prominent group.

The instrument by Niemivirta (2002), which was used in this thesis, includes more goal orientation dimensions than the studies by Nerstad (2018), Kunst (2018) and their colleagues: mastery-intrinsic, mastery-extrinsic, performance-approach, performance-avoidance, and avoidance. Therefore, the instrument was assumed to support the aim to discover diverse learning related goals people have in working life. The research topic, online learning motivation in the context of non-formal job-related learning, also offered an interesting theoretical application. Achievement goal orientations have been studied before in digital learning environments and among adults (see Neroni et al., 2018), but

this study concentrated especially on finding achievement goal orientation profiles in the data.

4.2 Perceived Cost

As mentioned before, job-related learning is a choice made by the employee themselves, their manager, or the employer. Unlike for adolescents, education is not compulsory for adults, and they get to decide on the extent and the direction of learning (Gorges & Kandler, 2012). Therefore, non-formal job-related learning can be examined as a choice that is affected by individual values (see Eccles & Wigfield, 2002).

Eccles et al. expectancy-value theory of motivation assumes that people make achievement-related choices based on their expectancy for success and subjective value for the task (Conley, 2012). Values can be both negative and positive (Eccles & Wigfield, 2002), and they refer to task qualities, which increase or decrease the likelihood of the task to be selected (Conley, 2012). Hence, perceived task values predict participation in education (Gorges, 2016). Eccles et al. expectancy-value theory defines four types of task-value: attainment value, intrinsic value, utility value, and cost (Eccles & Wigfield, 2002). Cost is the only negative one of the values, but it is crucial: All choices presumably have costs associated with them, because when one makes a choice, other options are likely excluded (Eccles & Wigfield, 2002). For example, if a person takes part in job-related training, that time can be away from work, the money spent on training can be away from other investments, the learning activities might cause some stress on the learner, or the learner might have to work hard to learn new things.

This study focused on the cost value from the expectancy-value model (see Eccles et al., 1983). Perceived educational cost can be divided into subcategories including 1) effort cost, 2) emotional cost, and 3) opportunity cost (Gaspard et al., 2015). Effort cost means the amount of effort needed to succeed in a task, whereas emotional cost refers to negative emotions, such as performance anxiety and fear, that are connected to the learning activity (Eccles & Wigfield, 2002; Gaspard et al., 2015). The third cost value subcategories, opportunity cost, refers to lost opportunities resulting from a choice (Eccles & Wigfield, 2002). In the context of non-formal, job-related training, lost opportunities could be, for instance, loss of time or money on other tasks. In a study on adult learning motivation, Gorges (2016) actually divided opportunity cost into money and time, and so, she examined four types of cost: effort, psychological strain, time, and money. Gorges

(2016) measured each cost subcategory on two levels, high or low, and she remarked that even high costs are not necessarily a barrier for participation, if benefits outweigh the costs. This thesis utilized Gaspard and colleagues' (2015) instrument to measure effort cost, emotional cost, and opportunity cost, but as the instrument has been developed to assess motivation in school domain, it was first modified to fit this study's context. Especially opportunity cost was considered to be different in job-related learning than for adolescents (see Gorges, 2016), and so, the dimension of opportunity cost was reformulated to comprise of free time, working hours and money.

Cost has been the least studied task value, but more recent studies have showed cost to be a central factor in learning motivation (Conley, 2012). Conley (2012) found cost to be a discriminating factor in students' motivational patterns. Additionally, cost value perceived by students has been found to be connected to avoidance and performance goals, and drop-out intentions (Jiang, Rosenzweig, & Gaspard, 2018; Perez, Cromley, & Kaplan, 2014; Tuominen, Juntunen, & Niemivirta, 2020). One of the aims in this study was to investigate the connection between different goal orientations profiles and the perceived cost of non-formal, job-related online learning. This kind of information about different combinations of motivation was perceived to be important for the development of motivational support and encouragement practices.

All individuals are part of a community and a culture also at the workplace. Work communities and organizations are a scene of socialization effects (see Conley, 2012), so individual motivation can be assumed to be influenced by common views and practices in the work organization. It has also been argued that organizational support is particularly important for participation and retention on online courses (Park & Choi, 2009). Thus, this thesis included the aspect of organizational support, or more specifically supportive organizational learning culture, into the examination of learning motivation in the work context.

5 Organizational Learning Culture

Cambridge Dictionary (2020) defines organization as a group of people working together in an organized way for a shaped purpose. Work organizations can be hereby viewed as communities striving for a shared vision. Additionally, a work organization is not only a sum of individuals and their knowledge, but, according to the field of organizational research, a flexible entity with an ability to learn (van Breda-Verduijn & Heijboer, 2016; Yang, Watkins, & Marsick, 2004).

There is not one consistently used definition of organizational learning culture. According to van Breda-Verduijn and Heijboer (2016), it is something unique to each organization, and Schein (1984) has conceptualized organizational learning culture as a pattern of basic assumptions that a group has discovered, invented or developed. These basic assumptions form common practices and they are taught also to new members of an organization (Schein, 1984). All in all, an organization's learning culture should support organizational objectives and learning needed within the work community (van Breda-Verduijn & Heijboer, 2016).

In this thesis, organizational learning culture was analyzed using the theoretical framework of learning organization, created by Watkins and Marsick (1993). A learning organization is the kind of organization that is investing in continuous learning, is adaptive and has a high learning culture (Yang et al., 2004). Within this framework, organizational learning culture (OLC) is considered to encourage people to learn on the job, in groups, or through conversations (Marsick & Watkins, 2003). OLC fosters information acquisition by organization members and it also promotes distribution, recognition, and transfer of learning (Yang et al., 2004).

Research has repeatedly illustrated the importance of an encouraging learning environment to employee learning motivation (Banerjee, Gupta, & Bates, 2016). Also Marsick and Watkins (2003) argue for organization's role in employee learning: organizations should encourage, support, and make use of employee learning. However, building a supportive learning culture needs active work (Marsick & Watkins, 2003) and even if managers were working on supportive learning practices, it might not be experienced by employees. That is why this thesis focused on to measure individuals' assessments of the supportiveness of their work organization's learning culture. Thereafter, this study

proceeded to investigate the connections between the learning culture assessment and online learning motivation in the context of non-formal, job-related online learning.

The framework of the learning organization by Watkins and Marsick includes seven dimensions of learning on all organization levels – individual, team or group, and structural or system level (Yang et al., 2004). The dimensions are defined from an action perspective: (a) create continuous learning opportunities, (b) promote inquiry and dialogue, (c) encourage collaboration and team learning, (d) create systems to capture and share learning, (e) empower people to have a collective vision, (f) connect the organization to the environment, and (g) provide strategic leadership for learning (Joo, 2010; Marsick & Watkins, 2003). Each dimension contributes to employee learning (Marsick & Watkins, 2003) and this study examined how participants assessed these dimensions to be carried out in their work organization.

Previous studies utilizing the theory of the learning organization have discovered that OLC impacts organizational commitment and OLC promotes transfer of learning and knowledge (see Banerjee et al., 2016; Joo, 2010). Organizational learning culture is also connected to knowledge and financial performance of the organization (Marsick & Watkins, 2003). Similar findings include a discovery that employee's perceived organizational climate predicts interest and intention to participate in future education (Maurer & Tarulli, 1994). Organizational climate that supports engaging in learning activities has shown to create higher learning orientation and learning outcome expectations (Garofano & Salas, 2005). Based on previous research, a supportive organizational learning culture was hypothesized to be connected to achievement goal orientations regarding online learning.

It is essential to inspect organizational characteristics that possibly influence employee attitudes, beliefs, and behaviors relevant to learning, because that information could be used to reduce learning barriers and enhance possibilities (van Breda-Verduijn & Heijboer, 2016). In this thesis, the investigation of assessed organizational learning culture was expected to offer more extensive information regarding non-formal, job-related online learning motivation.

6 Aims and Hypotheses

6.1 Aims of the Study

The aim of this thesis was to examine, analyze, and interpret individuals' motivation in the context of non-formal, job-related online learning. Motivation was examined via the concepts of achievement goal orientations, perceived cost, and organizational learning culture.

The objective was to examine:

1. What kind of achievement goal orientation profiles can be identified among individuals in the context of job-related online learning?
2. How do individuals with different achievement goal orientation profiles differ in perceived costs of online learning?
3. How do individuals with different achievement goal orientation profiles differ in assessment of supportive organizational learning culture?

Achievement goal orientation research has a strong foundation in school and academic contexts, and studies in the domains of non-formal education or working life have been rarer. Especially research on orientation profiles has not been very common in the work context until last years (Kunst et al., 2018). This study further outlined the type of job-related learning to online learning and aimed to deepen the knowledge about goal orientations in the work context.

Another objective was to accumulate knowledge about goal orientations' relations to perceived learning costs and work organization's learning culture. Combining the theories of achievement goal orientation and task values (Eccles et al. expectancy-value theory of motivation) has not been common to date, but incorporating perceived costs into examination of goal orientation profiles can offer a more comprehensive understanding of motivational processes (Tuominen et al., 2020). Additionally, analyzing the relation between assessment of work organization's supportiveness and individual motivation was considered relevant, as research has repeatedly illustrated the importance of an encouraging learning environment to employee learning motivation (Banerjee et al., 2016). The

study results were expected to provide tools to motivational support and development of online learning materials and practices.

6.2 Hypotheses

Previous studies have usually discovered three to six achievement goal orientations profiles in the data – and in most of the studies the number of profiles has been three or four (Niemivirta et al., 2019; see also Tuominen-Soini, 2012). Studies conducted in the work context have resulted in similar numbers of groups (see Kunst et al., 2018; Nerstad et al., 2018). The most commonly found goal orientation profiles have been, almost irrespective of age or level of schooling, a predominantly mastery goal orientation profile, a predominantly performance goal orientation profile, a combined mastery and performance-approach goal orientation profile, a work-avoidant profile, and a moderate multiple goals profile (Niemivirta et al., 2019; Tuominen-Soini, 2012). In the work-domain studies, indifferent and moderate multiple goals have been the biggest goal orientation groups (see Kunst et al., 2018; Nerstad et al., 2018).

Hypothesis 1:

> Based on theory and previous research, it was expected that there would be three to four distinct achievement goal orientation groups found among individuals in the context of non-formal, job-related online learning. The most probable groups were hypothesized to be a profile with emphasis on mastery goals, a profile emphasizing both mastery and performance goals, a work-avoidant profile and an indifferent or moderate multiple goals profile.

Cost has been the least studied task value, but more recent studies have showed cost to be a central factor in learning motivation (Conley, 2012). Conley (2012) found cost to be a discriminating factor in students' motivational patterns, and cost value perceived by students has been found to be connected to avoidance and performance goals, and drop-out intentions (Jiang et al., 2018; Perez et al., 2014; Tuominen et al., 2020). A previous study by Tuominen et al. (2020) combined cost value to achievement goal orientation profile examination, and found profiles to differ significantly in all three cost subcategories (effort, emotional, and opportunity cost). The same study argues that combined performance and avoidance goals are most likely related to high cost.

Hypothesis 2:

> Achievement goal orientation profiles were expected to differ in terms of perceived cost of online learning. Based on previous research (Tuominen et al., 2020) and theory, it was expected that profiles that show relatively high levels of both performance and avoidance orientations would report higher cost than highly mastery-oriented or mostly avoidance-oriented profiles.

The connection between achievement goal orientations and assessed organizational learning culture (learning organization by Marsick and Watkins) has not, to current knowledge, been studied before. Previous studies utilizing the theory of the learning organization have discovered, however, that perceived OLC promotes transfer of learning and knowledge (see Banerjee et al., 2016; Joo, 2010). Other studies based on similar theories have found that organizational climate predicts interest and intention to participate in future education (Maurer & Tarulli, 1994) and a climate that supports engaging in learning activities creates higher learning orientation (Garofano & Salas, 2005).

Hypothesis 3:

> Achievement goal orientation profiles were expected to differ in assessment of organizational learning culture. Based on theories and studies in similar domains, it was assumed that predominantly mastery oriented would find their work organization's learning culture to be more supportive than other profiles. Due to scarcity of prior research, no other hypotheses were made about how the profiles would differ from each other. The third research question hereby offered another exploratory angle to the thesis.

7 Methods

7.1 Measures

The data for this thesis was collected by an online questionnaire. The questionnaire included three instruments measuring achievement goal orientations, perceived cost, and organizational learning culture (see Appendix 1). Before participants answered the first instrument's statements, which assessed achievement goal orientations, they were instructed to think about how they would feel about participating in online training related to their work and what kind of goals they would have in training. In addition to the three instruments, the questionnaire included also questions regarding participants' background information, work organization, and general views on training. These additional questions were out of the scope of the study analyses, but they were used to get a better conception of the study's participants.

7.1.1 Achievement Goal Orientation Profiles

Achievement goal orientations were measured by utilizing an instrument originally developed by Niemivirta (2002). As the instrument has been previously mainly used in the assessment of motivation in school or academic contexts, the instrument items were modified to fit the domain of non-formal, job-related online learning. The instrument's five scales measured the five previously introduced achievement goal orientations: mastery-intrinsic (e.g. "I would participate in work-related online training to learn new things"), mastery-extrinsic (e.g. "It is essential that I get good results in work-related online training"), performance-approach (e.g. "It is important to me to do better than other training participants"), performance-avoidance (e.g. "I usually avoid situations where I might fail or make mistakes"), and avoidance orientation (e.g. "I am especially pleased if I don't have to do too much work in online training"). Each scale consisted of three items, and participants answered the instrument's statements on a Likert-type scale from 1 (= not at all true) to 7 (= completely true).

The instrument by Niemivirta (2002) has demonstrated good internal consistencies in previous studies: The original reliability coefficients (Cronbach's alpha) for the five goal orientations were .82, .89, .77, .81, and .80 (Niemivirta, 2002), while Tuominen-Soini

(2012) discovered coefficients between .87 and .71 and Tuominen, Juntunen, and Niemivirta (2020) between values .91 and .71.

In this study, corresponding scale reliabilities were examined to see if the modified instrument items still succeeded to measure the same matter within each scale. The reliability coefficients (Cronbach's alpha) were .78, .64, .75, .72, and .65 for mastery-intrinsic, mastery extrinsic, performance-approach, performance-avoidance, and avoidance orientation respectively (see Table 2). As can be seen, the coefficients were lower than in previous research, and especially mastery extrinsic (.64) and avoidance (.65) orientation scales had relatively weaker reliabilities. However, according to an establish practice in behavioral sciences, internal reliability is sufficient if the coefficient (Cronbach's alfa) is bigger than .6., and all the study's scales exceeded that value. Any item deletions would not have improved the two lowest coefficients at all, and for the other coefficients the improvement would have been minor. Consequently, no items were deleted from the achievement goal orientation scales.

Normality tests were performed to inspect the distribution of the data produced by achievement goal orientation scales. Skewness and kurtosis indicated that the distribution of mastery intrinsic orientation was peaked and negatively skewed (*skewness* = -1.48, *kurtosis* = 2.38) (see Hair, Hult, Ringle, & Sarstedt, 2017, p.61). The skewness and kurtosis values were also compared with their standard errors, and histograms were examined. As a result, mastery intrinsic orientation was confirmed to be skewed, while other orientations were approximately normally distributed.

7.1.2 Perceived Cost

The instrument used in the assessment of perceived cost was created on the basis of Gaspard and colleagues' (2015) instrument, which investigates the four dimensions of value beliefs (see Eccles et al., 1983). More precisely, this study utilized the cost-subscale of the instrument (Gaspard et al., 2015) measuring three subcategories: effort cost, emotional cost, and opportunity cost. As the original instrument has been developed to measure motivation in school domain, the subscale's items were first modified to fit the assessment of job-related online learning motivation. Especially the subcategory of opportunity cost was further modified because opportunity costs in non-formal, job-related online learning were considered to be quite different than those for adolescents (see

Gorges, 2016). Thus, the subcategory of opportunity cost was reformulated to comprise of free time, working hours and money.

The cost scale included nine items, and three items assessed each subcategory: effort cost (e.g. ”Learning in online training exhausts me”), emotional cost (e.g. “Online training makes me stressed”), and opportunity cost (e.g. “Online training takes a lot of time away from actual work”). Survey participants answered all items on a Likert-type scale from 1 (= not at all true) to 7 (= completely true). The number of items and the seven-point Likert scale were implemented from Tuominen and colleagues’ (2020) study, as the original scale had some more items but only a four-point Likert scale. The chosen implementations has previously been proven to be viable and successful (see Tuominen et al., 2020), and the seven-point scale was a natural continuum in the questionnaire after the achievement goal orientation instrument.

Gaspard and colleagues (2015) measured the original internal reliability of their cost scale by scale reliability [rho], which is an alternative value to Cronbach’s alpha. The reliability values for the three subcategories were .90, .87, and .83 (effort required, emotional cost, and opportunity cost). Tuominen and colleagues (2020) utilized the same scale in their study of motivation towards English and mathematics, and their reliability coefficients (Cronbach’s alpha) were for English .87, .79, and .82 and for mathematics .77, .84, and .81 (effort required, emotional cost, and opportunity cost respectively).

Since the cost scale was widely modified for this particular study, it was important to examine the new internal scale reliabilities for the three cost subcategories. The discovered reliability coefficients (Cronbach’s alpha) were .78, .85, and .61 for effort required, emotional cost and opportunity cost respectively (see Table 2). As can be observed, the first two alpha values were good and in line with previous studies, but opportunity cost, which was the most modified subcategory, resulted in Cronbach’s alpha value that just exceeded the limit value of .6. The alpha value could have been risen to .66 by removing the item that assessed monetary cost of training (“Investments in online training would be better spent elsewhere”). However, as the reference studies by Gaspard et a. (2015) and Tuominen et al. (2020) did not divide opportunity cost in different categories, and as reliability maximization by item removal, but without strong theoretical reasoning, has been criticized (Vehkalahti, 2019, p.120), no items were eventually removed from opportunity cost subcategory. One more concern was too few items in a subcategory, and hence a weaker validity, if items were to be removed. Effort cost’s Cronbach’s alpha value could have been risen to .85 with item removal as well, but due to similar reasoning

as introduced above, no items were removed. Normality tests demonstrated that the distribution of emotional cost subcategory was peaked and positively skewed (*skewness* = 1.17, *kurtosis* = 1.47).

7.1.3 Organizational Learning Culture

Participants' assessments of their work organization's learning culture were measured by an instrument developed by Yang (2003), which is a short form of a questionnaire originally created by Marsick and Watkins (2003). The questionnaire, called the Dimensions of the Learning Organization Questionnaire (DLOQ), measures important shifts in an organization's climate, culture, systems, and structure that influence employee learning (Marsick & Watkins, 2003).

The learning culture instrument (Yang, 2003) included seven items, each measuring one of the dimensions of a learning organization (e.g. "In my organization, people are rewarded for learning", "My organization recognizes people for taking initiative", and "In my organization, leaders continually look for opportunities to learn"). According to Joo (2010), the seven-item instrument treats organizational learning culture as a single (unidimensional) construct, and consequently the seven dimensions cannot be analyzed individually when using the short version of the DLOQ instrument. However, in the context of this thesis, that kind of focus was favorable, since the target was to examine overall assessment of supportive learning culture. Participants answered the instrument's items on a Likert-type scale from 1 (= not at all true) to 7 (= completely true). The original answer scale was from 1 (= almost never) to 6 (= almost always) (see Marsick & Watkins, 2003), but it was modified for this study in order for it to cohere with the other two study instruments.

The DLOQ has been tested and modified through years of research and by individual researchers (Marsick & Watkins, 2003). Reliability estimates for the shortened version of the instrument have been good: Yang's (2003) original Cronbach's alpha value was .84 and the coefficient alpha in Joo's (2010) study was .82. These values compare favorably to the ones of the longer questionnaire, as for the seven dimensions the coefficient alphas ranged from 0.68 to 0.83 in Yang and colleague's study (2004).

In this study, the reliability coefficient (Cronbach's alpha) of the organizational learning culture instrument was .89 (see Table 2). Unlike other instruments in this thesis work,

the learning culture instrument was not much modified, which might in part explain the relatively good reliability result. Also, based on visual inspection and investigation of skewness and kurtosis values, the data produced by the instrument was confirmed to follow an approximately normal distribution.

Table 2. Correlations, Descriptive Statistics, and Cronbach's Alphas.

		1.	2.	3.	4.	5.	6.	7.	8.	9.
	Achievement Goal Orientations									
1.	Mastery-Intrinsic	-								
2.	Mastery-Extrinsic	.50**	-							
3.	Performance-Approach	-0.6	.37**	-						
4.	Performance-Avoidance	-.20**	-.04	.34**	-					
5.	Avoidance	-.28**	-.16*	.28**	.53**	-				
	Perceived Cost									
6.	Effort	-.32**	-.10	.10	.37**	.24**	-			
7.	Emotional	-.30**	-.04	.22**	.49**	.26**	.73**	-		
8.	Opportunity	-.23**	-.11	.14	.43**	.28**	.65**	.64**	-	
9.	**Organizational Learning Culture**	.26**	.20**	.09	-.20**	-.18*	-.15*	-.14	-.13	-
	M	6.23	5.25	3.31	2.81	3.14	2.79	2.13	2.77	4.38
	SD	.87	1.08	1.38	1.25	1.16	1.19	1.10	1.18	1.32
	α	.78	.64	.75	.72	.65	.78	.85	.61	.89

*p<.05, **p<.01

7.1.4 Descriptive Statistics and Correlations Between Variables

Before any further study analyses, descriptive statistics for each variable and correlations between variables were investigated (see Table 2). The mean scores for mastery-intrinsic and mastery-extrinsic orientations were high, whereas the mean scores for performance-avoidance orientation and all three cost subcategories were quite low (answer scale 1-7). The mean score for supportive organizational learning culture was relatively high, and the means for performance-approach and avoidance orientations were placed quite in the middle of the answer scale. Standard deviations for variables ranged from .87 to 1.38. The inspection of standard deviations, maximum and minimum values, and histograms demonstrated that in some variables, there was less variation (mastery-intrinsic orientation, *SD*=.87, *range*=4.33), and in regard to some other variables there was more variation between participants (performance-approach *SD*=1.38, *range*=6.00; performance-avoidance orientation *SD*=1.25, *range*=6.00; organizational learning culture *SD*=1.32, *range*=5.57). Descriptive statistics signaled that the sample was quite highly mastery oriented.

Pearson's correlation coefficient was used in the correlation analyses between variables. The correlation results between achievement goals and in relation to cost and learning culture variables showed statistically significant and expected relations (see Table 2):

Mastery-intrinsic and mastery-extrinsic orientations were positively and relatively strongly correlated. Avoidance orientation was correlated with every other orientation, the strongest correlation being with performance-avoidance orientation, and both of these orientations were moderately negatively related to mastery-intrinsic orientation. Performance-approach orientation was correlated positively with both mastery-extrinsic and performance-avoidance orientation. The two latter did not have a relation, neither did performance-approach and mastery-intrinsic orientations. These correlation results were in line with previous studies (see e.g. Pulkka & Niemivirta, 2013; Tuominen et al., 2020).

Cost subcategories were positively and strongly correlated with one other, which was also expected on the basis of theory and previous studies (see Gaspard et al., 2015). Goal orientations were related to cost subcategories differently: Mastery-intrinsic orientation was negatively correlated with all cost subcategories, while mastery-extrinsic was not statistically significantly related to any of them. Performance-avoidance orientation was related to cost subcategories stronger than other goal orientations, while avoidance

orientation was moderately correlated with cost subcategories. Tuominen and colleagues (2020) also discovered diverse correlations between achievement goal orientations and costs in their data, but the correlations found in this study were stronger and more statistically significant.

Both mastery orientations were moderately positively correlated with the assessment of supportive organizational learning culture, whereas the correlation between learning culture and the two avoidance orientations was negative. As for performance-approach orientation, there was no statistically significant relation found between the orientation and organizational learning culture. To sum up, the discovered relations between learning motivation and learning culture seemed to be in line with what was expected based on previous research (see e.g. Banerjee et al., 2016).

7.2 Population, Participants, and Procedure

This thesis study was carried out as an assignment for a global technology company, which has around 2000 employees and over 30 offices globally. In addition to product offering, the company also offers services, including training services, for their technical products. The current main goal of the subject company's training services is to grow the business by creating new, relevant online training content, by discovering customer needs, and by improving training delivery practices. These actions align with the latest company strategy, informed in October 2020, which emphasizes the focus on customer experience and digital applications. This thesis aimed to contribute to the subject company's online training development work by examining non-formal, job-related online learning motivation of customers and potential customers. It was expected that the study results would offer tools to practical solutions as well.

The population of this study consisted of individuals working in customer organizations and individuals who had previously expressed an interest in the subject company's offering (so-called potential customers). The population was further narrowed down to people working in Europe or North America and to people who had been interested in or purchased products from certain product areas. This additional narrowing was done because of perceived difficulties of obtaining a representative sample of such a large population as the whole customer (and potential customer) base (see Vehkalahti, 2019, p. 43).

The quantitative research data was collected by an online questionnaire in January and February 2021 (see Appendix 1). To encourage people to participate in the survey, the subject company decided to organize a prize draw of a product worth 450 euros. Survey participants' contact information for the draw was collected via a separate form as the response data had to be anonymous. It was agreed with the subject company's marketing department to begin the data collection by sending out newsletter-style email invitations, and the receivers' email addresses were picked from a newsletter subscription database. Consequently, the participant sample consisted of all those European and North American customers and potential customers, who had subscribed to one or more newsletters concerning the given product areas. The survey mail was sent to around 20 000 recipients and 110 of them participated in the study (response rate 0.6%). If only those 8% of the recipients who opened the mail are considered, the response rate rises then to about 6.9%. Either way, these rates evoked the need for a new approach in data collection.

The second applied approach was more personal: The survey email invitation was sent from a personal work email address, the style of the message was more down-to-earth, and the mail had a personal signature at the end. This time the receivers' email addresses were picked from a service contract database, meaning that all the receivers were employees in customer organizations. Because of the manual sending of the emails, geographical narrowing had to be made again. The subject company wanted to target a few of the most relevant customer countries, so the invitation was sent to 949 randomly selected individuals working in customer organizations in Finland, Sweden, the Netherlands, and the United States. In this second sending round, 60 people participated, and the response rate was 6.3%.

Altogether, 170 individuals working in customer or potential customer organizations participated in this study on non-formal, job-related online learning motivation. Participation in the study was voluntary and participants were assured about the anonymity and confidentiality of their responses. European (54.7%, *n*=93) and North American (44.7%, *n*=76) were almost equally represented in the data, and there was also one participant who reported to live in Oceania. It was thought to be possible that this participant had previously lived and worked in Europe or North America and was that way selected to the study. All organization levels from employees to top level management were represented in the data as well. The biggest group was participants working in specialist or expert role (45.9%, *n*=78), but other groups were more equal in size with the smallest being the group of lower-level managers (7.6%, *n*=13). Vast majority of the participants

worked in customer organizations (78.8%, *n*=134), so potential customers were a minority.

The data showed variety in online training experience (see Figure 2): 42.4% of the participants had participated in online training of any topic (also non-work related) more than ten times, while 26.5% had experience from two or less occasions. The rest of the participants, 31.2%, were placed somewhere in between with their amount of online training experience. Majority of the participants (55.9%) had not attended any training organized by the subject company, which was not surprising since the training business was still relatively new (see Figure 2). The most popular mode of training by the subject company was webinars, and 37.1% of the participants had attended those. The subject company had previously implemented mostly webinars in their training, so this result was quite predictable too. Online courses were the second popular type of training (10.6%) in the data, and on-site training was around as common (9.4%). Even though participants had relatively little experience of subject company's training, they demonstrated a positive attitude towards it. Majority of the participants (75.9%) responded that they would either likely or very likely attend or encourage others to attend to the subject company's training (see Figure 2). The rest responded the likelihood to be either unlikely (18.8%) or very unlikely (5.3%). This result was thought to indicate that the participants viewed the subject company quite positively in the first place. Also, they had possibly decided to answer the survey due to this initial interest in the company's business.

From the very beginning of the thesis work it was quite evident that gaining a representative sample of the study population was demanding. In fact, it was evident that there were difficulties even in defining the population. It was unclear and challenging to measure, how many customer or potential customer organizations there was, how many potential training participants worked in those organizations, and what kind of demographics described these organizations and individuals. Even after narrowing down the population geographically and by products, the scope was so extensive that customers could be found almost in any industry from pharmaceutical to automotive and agriculture. Additionally, the study sample could have not be anything else but a non-probability sample, because there was no database containing contact information of the whole population and no equal chance for everyone to be included in the study (see Vehkalahti, 2019, p.46). In a non-probability sample, a poor response rate does not weaken the representation of the sample, as the sample is not representative in the first place (Vehkalahti, 2019, p.43). Since these limitations were identified early on, the aim of the study

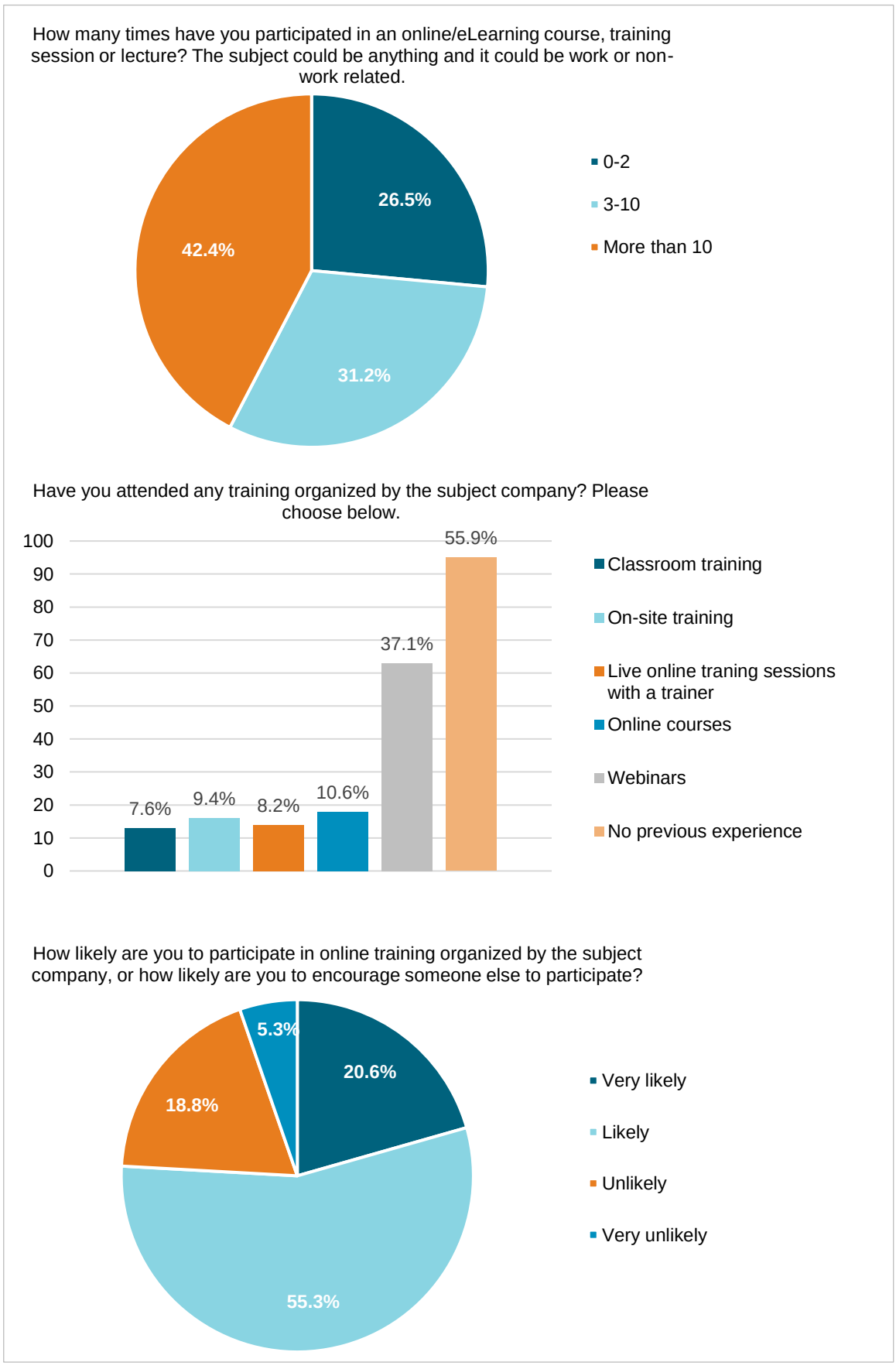

Figure 2. Background Information Describing the Study's Sample.

was chosen accordingly. The aim was not to make a generalization about the population's motivation, but to identify different motivational goals among it. Considering that aim, the sample of 170 participants was considered to be fitting and sufficient.

7.3 Data Analyses

At the beginning of data analyses, a decision between parametric and non-parametric tests had to be made. A couple of variables in this study did not completely fill the assumption of normality, which was realized to be problematic. However, the dataset (*n*=170) was considered relatively large for a thesis study, which was an advantage as in large datasets skewed distributions do not easily violate parametric tests. Additionally, parametric tests have a tendency to identify phenomena in a sample more sensitively than non-parametric tests (Nummenmaa, 2009, p.153). Due to these reasonings, parametric tests were chosen for the study analyses, but the variable distributions were kept in mind so that conclusions from the analysis were drawn more cautiously. All the research analyses were performed using IBM SPSS Statistics 27 software package.

7.3.1 Two-Step Cluster Analysis

The first research question aimed to understand what kind of achievement goal orientation groups can be identified among individuals in the context of non-formal, job-related online learning. To achieve this, survey participants with similar patterns of achievement goal orientations were grouped together and group differences were examined. This kind of analytical approach is called person-oriented approach because it sets individuals to the center of analysis instead of variables. Person oriented approach fits well achievement orientations studies as it does justice to the diversity of an individual's goals (Niemivirta et al., 2019). In this study, the clustering of participants was conducted by using Two-Step cluster analysis (IMB SPSS 27.0.1). In Two-Step cluster analysis the statistics software determines statistically best solution for the number of groups. Hereby, the analysis differs from traditional clustering techniques, in which the researcher sets an assumption about the number of groups to be found. (IBM Knowledge Center, 2021.) The used clustering methods in Two-Step are based on both distance measures and probability-based methods, and the aim is to differentiate individuals to groups that differ from each other as much as possible (Kent, Jensen, & Kongsted, 2014). Two-step cluster analysis was considered the most reliable cluster analysis method for this thesis study.

Before the clustering, the orientation variables were standardized (0,1), so that variables would be better comparable. Also, the order of cases in data was randomized by using a random variable, since Two-Step cluster analysis' solution can be affected by the order of cases (IBM Knowledge Center, 2021). Even though the statistics software computes the statistically best solution, the final decision about the number of groups is made by the researcher themselves, as they can also analyze the data from theoretical point of view. In this study, the final decision about the number of groups was made based on Schwarz's Bayesian Criterion (BIC) value, theory, and previous research.

7.3.2 Analyses of Variance

The second and third research questions aimed to examine how individuals with different achievement goal orientation profiles differ in perceptions of online learning -related costs and in assessments of their work organization's learning culture. Analyses of variance (ANOVA) were conducted to investigate these group differences. Statistical significances were inspected by carrying out Games-Howell and Bonferroni post hoc correction tests (see Nummenmaa, 2009, p.210). ANOVA's non-parametric equivalent, Kruskall-Wallis one-way analysis of variance, was also conducted to confirm the statistical significance of group differences.

8 Results

8.1 Achievement Goal Orientation Profiles

The first goal of this thesis was to find out what kind of achievement goal orientation groups could be identified among individuals in the context of non-formal, job-related online learning. As a result of Two-Step cluster analysis, a three-profile solution fitted the data statistically best, as it had the lowest Schwarz's Bayesian Criterion (BIC) value. The inspection of the BIC curve supported the three-profile model too, but it also showed that a four-profile solution could be possible as well since the curve began to stabilize just after four profiles (see Figure 3). After exploring with both models, the four-profile solution proved to be qualitatively informative and interesting, since the fourth group (avoidance oriented) differed significantly from other groups.

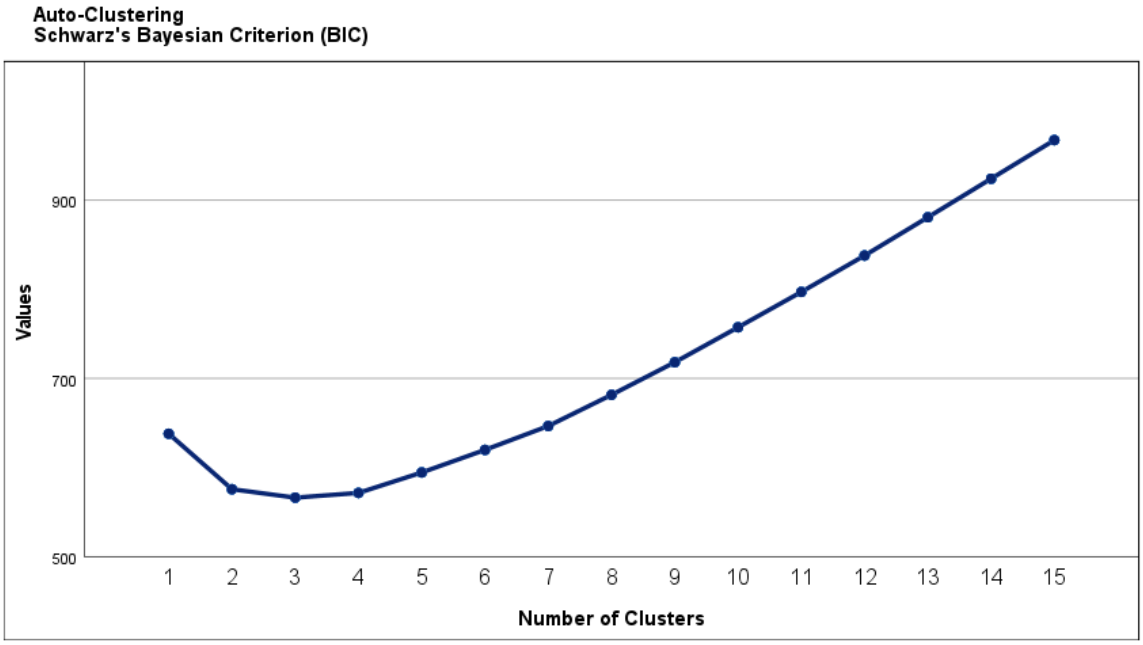

Figure 3. Schwarz's Bayesian Criterion (BIC) Curve.

A problem with the four-profile solution was, however, that the fourth group was relatively small (*n*=13). This raised a concern about the solution's suitability for further study analyses as ANOVA usually requires groups to be bigger than 20 participants (see Nummenmaa, 2009, p.194). On the other hand, a commonly considered limit for a group size

has been 5% of the whole sample (Metodiklinikka, University of Helsinki, personal communication, March 20, 2021) and the group exceeded that precent. In previous studies, a work-avoidant group had been a prominent one, and also theoretical considerations supported the existence of such a group. The reason for a small group size was presumed to be related to the sample size itself and the non-probability of the sample. It was considered that the profile could be quite prominent in the study's population and that the four-profile model would offer a more comprehensive understanding about the quality and variety of motivation in the context of non-formal, job-related online learning than the three-group solution. After much reading and exploring, the four-profile solution was chosen for the study. The results produced by ANOVA were decided to be further verified with Kruskall-Wallis one-way analysis of variance, as it does not have as high minimum limit for a group size (Nummenmaa, 2009, p.274).

The four achievement goal orientation groups were named after means score profiles: (1) *learning-oriented*, (2) *success-oriented*, (3) *performance-avoidance-oriented* and (4) *avoidance-oriented*. Figure 4 presents the standardized mean score profiles.

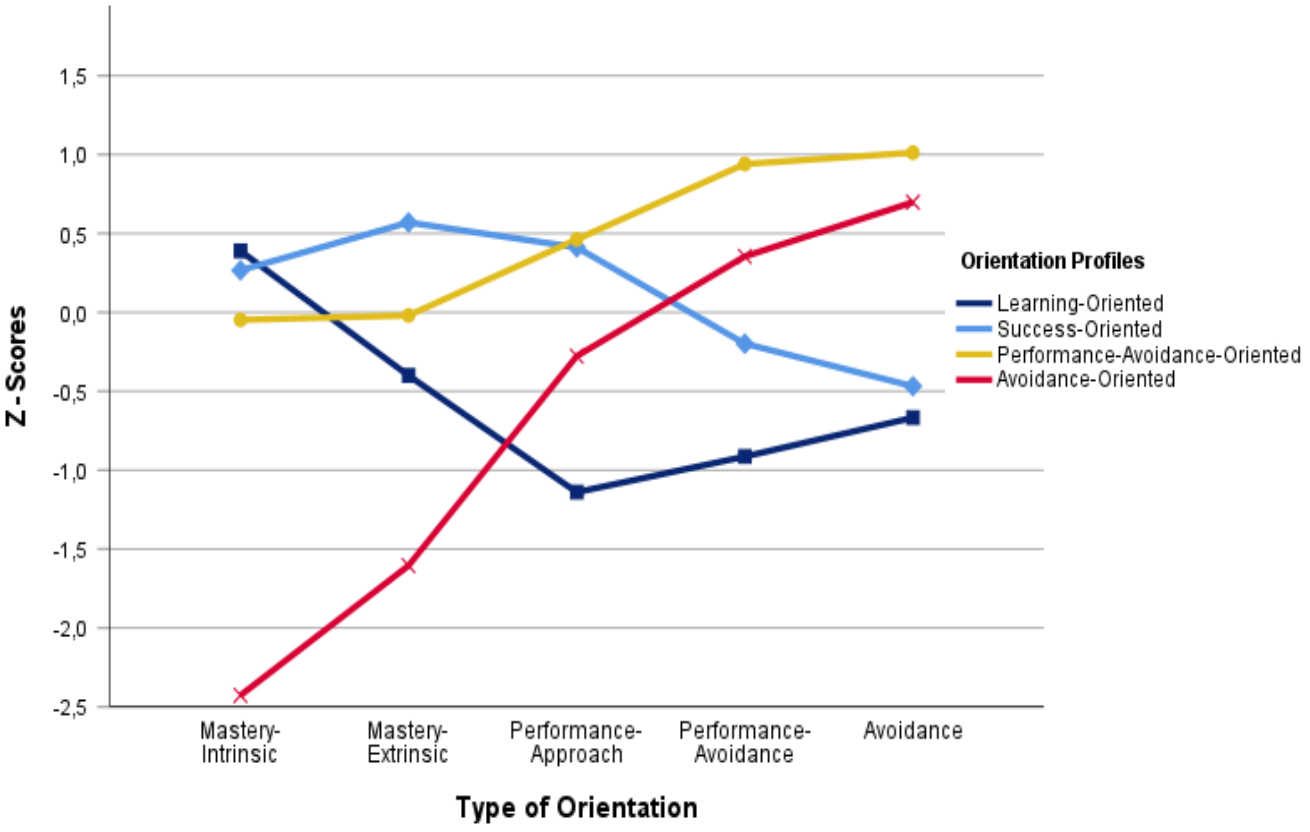

Figure 4. Achievement Goal Orientation Profiles (standardized mean scores for achievement goal orientations).

Table 3. Mean Differences in Achievement Goal Orientations Between Goal Orientation Groups.

	Learning-Oriented		Success-Oriented		Performance-Avoidance-Oriented		Avoidance-Oriented				
	N = 41		*N* = 67		*N* = 49		*N* = 13				
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	η^2
Mastery-Intrinsic	6.57_{a}	.51	6.46_{ab}	.55	6.19_{b}	.70	4.13	.78	F(3,166) = 59.68	<.001	.52
Mastery-Extrinsic	4.81_{a}	1.17	5.86	.73	5.22_{a}	.76	3.51	.73	F(3,166) = 31.92	<.001	.37
Performance-Approach	1.73	.54	3.88_{a}	1.14	3.95_{a}	1.19	2.92	1.01	F(3,166) = 45.36	<.001	.45
Performance-Avoidance[1]	1.67	.72	2.57_{a}	.78	3.99_{b}	1.12	3.26_{ab}	1.05	F(3,166) = 51.95	<.001	.48
Avoidance[1]	2.37_{a}	.86	2.60_{a}	.72	4.31_{b}	.76	3.95_{b}	1.12	F(3,166) = 62.30	<.001	.53

Note. Group means on the same row and with the same subscript are not significantly different at p<.05 level (with Games-Howell correction, [1] with Bonferroni correction).

The four identified achievement goal orientation groups differed in their emphasis on goal orientations (see Figure 4 and Table 3). According to both ANOVA and Kruskall-Wallis one-way analysis of variance, there were differences between groups in all goal orientations. The mean differences presented in Table 3 are results produced by ANOVA.

Learning-oriented (*n*=41, 24.1%) participants demonstrated very high levels of mastery-intrinsic orientation. They scored lowest in performance and avoidance orientations and lower than the scale mean in mastery-extrinsic orientation, so the group did not really pursue success or avoidance in learning activities, but mainly pure learning. The group of *success-oriented* (*n*=67, 39.4%), the biggest one of the groups, also scored above the scale mean in mastery-intrinsic orientation, but they simultaneously emphasized highest levels of mastery-extrinsic and performance-approach orientations. In other words, this group of participants seemed to strive for both relative and absolute success in addition to learning and gaining new skills. The profile of *performance-avoidance-oriented* (*n*=49, 28.8%) stood out from others due to relatively high scores in performance-avoidance and avoidance orientations. A notable point about the profile was, however, that it had similarities with learning-oriented and success-oriented profiles in mastery and performance-approach orientations, so even though the profile pursued avoidance goals, it simultaneously wanted to learn and do well in training. The smallest group, *avoidance-oriented* (*n*=13, 7.6%), scored low in mastery orientations compared to scale means and other groups. This group emphasized especially avoidance orientation in their profile (see Figure 4), as it was the only orientation where they exceeded the scale mean.

All in all, the sample could be described as highly mastery-oriented, since especially the mean of mastery-intrinsic orientation was high (see Table 2). Even avoidance-oriented, the most maladaptive profile, scored high in mastery-intrinsic orientation on a scale 1-7, and performance-avoidance-oriented scored high for both mastery orientations (see Table 3). Achievement goal orientation profiles had some shared similarities, as some orientation values between profiles did not statistically differ from each other (see Table 3).

8.2 Differences in Perceived Costs of Online Learning

The second research question aimed to investigate group differences in perceptions about online learning costs in the context of non-formal, job-related learning. Group differences regarding the three cost subcategories were examined separately using one-way ANOVA. The results from Kruskall-Wallis one-way analysis of variance confirmed

the statistical significance of group differences (p<.05). Group differences (ANOVA) are presented in Table 4.

Achievement goal orientation groups explained 13% of the variation in effort cost, 10% in emotional cost, and 11% in opportunity cost. Learning-oriented differed statistically significantly from the rest of the groups in effort and emotional costs. That is, learning oriented estimated the workload and negative emotions related to non-formal, job-related online learning to be quite minor, while the other profiles found them to be some bigger. As for opportunity cost, learning-oriented differed statistically significantly from the two avoidance-oriented groups. This indicated that for learning-oriented the loss of time and money caused by learning activities was less weighty than for the groups that emphasized avoidance goals in their learning.

The results show that all in all, the costs of online learning were not perceived as very high (see Table 2 and Table 4). The lowest perceived cost in relation to other cost subcategories within a profile was emotional cost for all profiles, while effort and opportunity costs were assessed quite equally high.

Table 4. Group Differences in Perceived Cost

	Learning-Oriented		Success-Oriented		Performance-Avoidance-Oriented		Avoidance-Oriented				
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	η^2
Effort[1]	2.11	.98	2.86_a	1.26	3.05_a	1.08	3.62_a	.84	F(3,166) = 8.44	<.001	.13
Emotional	1.56	.74	2.14_a	1.11	2.48_a	1.21	2.49_a	.95	F(3,166) = 6.26	<.001	.10
Opportunity[1]	2.19_a	1.04	2.75_{ab}	1.05	3.15_b	1.30	3.31_b	1.07	F(3,166) = 6.53	<.001	.11

Note. Group means on the same row and with the same subscript are not significantly different at p<.05 level (with Games-Howell correction, [1] with Bonferroni correction).

8.3 Differences in Assessment of Supportive Organizational Learning Culture

The third research question aimed to examine differences between goal orientation groups in their assessments of supportive organizational learning culture. One-way ANOVA was utilized to detect the group differences, and the results were verified by Kruskall-Wallis one-way analysis of variance, which confirmed the statistical significance of group differences ($p<.05$). Results from ANOVA are presented in Table 5.

Achievement goal orientation groups explained 6% of the variation in assessment of organizational learning culture. Avoidance-oriented differed statistically significantly from the other groups, and they assessed their work organization's learning culture to be less supportive than the other profiles. The other groups did not differ from each other statistically significantly. On the whole, organizational learning culture was assessed to be quite supportive, as the sample mean and group mean scores were mainly located distinctly above the middle of the answer scale (1-7) (see Table 2 and Table 5).

Table 5. Group Differences in Assessment of Supportive Organizational Learning Culture.

	Learning-Oriented		Success-Oriented		Performance-Avoidance-Oriented		Avoidance-Oriented				
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*p*	η^2
Org. Learning Culture	4.63_a	1.37	4.41_a	1.28	4.43_a	1.34	3.26	.85	$F(3,166) = 3.76$	.01	.06

Note. Group means on the same row and with a subscript are not significantly different at $p<.05$ level (with Bonferroni correction).

9 Discussion

The main purpose of this thesis was to examine what kind of achievement goal orientation groups can be identified in the context of non-formal, job-related online learning, and how the discovered goal orientation groups differ from each other in perceived costs of online learning and in assessment of supportive organizational learning culture. The study's population consisted of people working in varied roles in diverse industries and organizations across Europe and North America, but the topic could be equally applied to other populations in the work context as well.

In the analyses, a person-oriented approach was used, and as expected, varied achievement goal orientation profiles were identified from the sample. The four identified groups, *learning*-, *success*-, *performance-avoidance*-, and *avoidance*-oriented, were partly quite similar to those groups discovered in previous studies (see Kunst et al., 2018; Niemivirta et al., 2019; Tuominen-Soini, 2012). As was hypothesized, some statistically significant group differences were found between profiles regarding perceived costs and assessment of supportive organizational learning culture.

The whole sample proved to be highly mastery oriented, and all in all, participants estimated online learning costs to be relatively low and their work organization to have a quite supportive learning culture.

9.1 Achievement Goal Orientation Profiles

This study discovered four different achievement goal orientation profiles in the research data: *learning-oriented* (24.1%), *success-oriented* (39.4%), *performance-avoidance-oriented* (28.8%), and *avoidance-oriented* (7.6%). The number of profiles was in accordance with what was expected from previous studies and so were some of the identified profiles. Success-oriented and avoidance-oriented groups have been among the most commonly identified achievement goal orientation profiles (see Niemivirta et al., 2019; Tuominen-Soini, 2012), but a predominantly mastery-intrinsic-oriented profile (learning-oriented) or a profile emphasizing both avoidance and performance goals (performance-avoidance-oriented) have not been as common. The emergence of a learning-oriented profile might have been brought about by the sample's strong emphasis on mastery-intrinsic orientation: considering that all profiles scored relatively high on learning goals,

it was not surprising that one profile strived for purely learning. On the other hand, learning-oriented may generally be a more prominent group in non-formal education, as Kunst and colleagues (2018) also found a learning-oriented profile in their data. Unlike in formal education, in job-related non-formal courses achievement is not necessarily measured or participants rewarded for good learning, so perhaps less individuals strive for achievement in a non-formal learning context.

As for the group of performance-avoidance-oriented, it was presumed that the two avoidance-oriented groups were divided into those who strived for little work but still doing good compared to and in the eyes of others, and to those that did not care as much about performance. The emergence of performance-avoidance-oriented profile perhaps signals something about work domain: it might be so that avoidance goals alone are not viewed as acceptable for adults at work as they are for pupils, and hence, for some individuals, avoidance is paired with performance goals.

This study did not identify an indifferent or a moderate multiple goals profile among the study participants like was hypothesized. An indifferent or a moderate multiple goals group has commonly been quite a big and normative group in achievement goal orientation studies, and also in work domain motivation research (Kunst et al., 2018; Nerstad et al., 2018; Niemivirta et al., 2019; Tuominen et al., 2017). The small sample size and the high levels of mastery goals may explain in part why this kind of a profile was not identified. It is likely that a profile emphasizing no particular goal orientation would have emerged if the used sample had been bigger and more representative of the whole population.

Below, the characteristics of the four identified achievement goal orientation profiles are summarized together with profile differences in perceived cost and assessed organizational learning culture.

Learning-oriented (*n*=41) participants scored highest of all profiles in mastery-intrinsic orientation and the lowest or below the scale mean in all the other goal orientations. They demonstrated low costs in online learning and quite highly supportive organizational learning culture.

Success-oriented (*n*=67) was the biggest one of the profiles, and this group was named after its high levels of mastery and performance-approach goals. Success-oriented

scored also relatively low in cost variables, and their mean score in organizational learning culture was relatively high.

Performance-avoidance-oriented (*n*=49) stood out from others due to relatively high scores in performance-avoidance and avoidance orientations. However, as mentioned before, due to the highly mastery-oriented sample, also performance-avoidance oriented demonstrated quite high levels of mastery orientations. This group scored quite low in emotional cost and a little below the middle of the answer scale in effort and opportunity costs. They estimated their work organization's learning culture to be relatively supportive.

Avoidance-oriented (*n*=13) participants emphasized especially avoidance orientation in their motivational profile and demonstrated lower levels of mastery orientations compared to other groups. They reported quite average levels of cost, the highest levels being in effort cost. This group estimated organizational learning culture to be less supportive. A notable thing about this goal orientation profile was its small size, which was presumed to be caused by the small size and unrepresentativeness of the sample. However, the group size was not seen as an obstacle for the study, since this thesis aimed primarily to discover the different types of goal orientation profiles in the study's context instead of making conclusions about the actual group proportions in the population.

Compared to previous achievement goal orientations studies in the work context (see Kunst et al., 2018; Nerstad et al., 2018), this study utilized an instrument (Niemivirta, 2002) with more goal orientation dimensions. By applying all the five dimensions to the analysis, it was possible to identify diverse profiles in the data, such as a performance-avoidance-oriented profile. The research topic offered a new theoretical application to the achievement goal orientation research: this study combined goal orientation profile examination, non-formal online education, and the context of working life.

9.2 Group Differences in Perceived Cost

There were some differences found between goal orientation groups in perceived costs of online learning. When group mean scores in cost variables were compared, it was discovered that learning-oriented differed significantly from other groups. In effort and emotional cost, learning-oriented estimated the costs to be lower than the three other groups, which did not differ from each other statistically significantly. In opportunity cost,

learning-oriented displayed lower cost than the two avoidance-oriented groups, but there were no group differences found between success-, performance-avoidance-, and avoidance-oriented groups.

According to Jiang et al. (2018), perceived cost can be a factor in adoption of avoidance goals, and the findings of this thesis were partly in line with this view. Perceived cost of online training seemed to be related to both avoidance and performance goals, as was hypothesized (see Tuominen et al., 2020). Correlational results show that there was a positive association between all cost subcategories and avoidance orientation. And yet, there were even stronger correlations between performance-avoidance orientation and cost subcategories.

Performance and avoidance goals were linked to higher perceived costs on the group-level as well: Learning oriented, who differed from others in cost, scored statistically significantly lower than the other groups in performance orientations and lower than the two avoidance groups in avoidance-orientation. Success-, performance-avoidance-, and avoidance-oriented profiles, which did not differ from each other in any of the cost subcategories, had similarities in their achievement profiles too, e.g. avoidance-oriented did not differ from the two other groups in performance-avoidance orientation, and the two avoidant groups had similar levels of avoidance goals.

Even though success-, performance-avoidance-, and avoidance-oriented individuals scored similarly in cost variables, they likely react to perceived costs differently. Success-oriented, for their part, demonstrate high mastery goals that often require a lot of time and effort, but these mastery aspirations might overpower learning costs at the end. Actually, success-oriented are typically described as a group of high effort, commitment and participation (Niemivirta et al., 2019). By contrast, costs may play a bigger role in the actions of the two avoidance-oriented groups: According to study by Tuominen et al. (2020), perceived cost seems to be a discriminant factor in adopting avoidance behavior especially for those people, who strive for relative success and are afraid of failing. Hence, it might be so that in the context of non-formal, job-related online learning, costs can be a notable barrier for training participation for performance-avoidance-oriented and avoidance-oriented people.

Inspection of the sample mean scores showed that the study participants assessed effort and opportunity costs to be slightly higher than emotional cost, and that all cost variables

were quite strongly correlated. In future research, it would be interesting to examine opportunity cost factors separately, e.g. time and money divided into their own categories, so that learning-related costs could be understood more comprehensively. All in all, the online learning -related costs were estimated to be relatively low in this study. The sample mean scores for all three cost subcategories were between 2.13-2.77 on the answer scale 1-7, and these results could be interpreted to signalize something positive about non-formal online learning in this study's context. As job-related training is generally more or less occasional and online learning tends to be more flexible and affordable than face-to-face training (Jones, 2013; Park & Choi, 2009; Sutherland Olsen & Tikkanen, 2018), short courses taking place online may be perceived less costly than some other forms of adult learning (e.g. classroom lectures or more extensive study programs). This supports the view that online implementation could ramp up the participation rates by decreasing barriers for participation (see Collins, 2004). However, no strong conclusions should be drawn from the cost mean score results, as it may be that the high mastery goals in the sample affected those also. Perceived learning-related costs should be further examined with a more representative sample and by comparing costs between online and face-to-face training.

Gorges (2016) theorized in her paper that a person participates in training if the perceived training benefits outweigh the perceived costs. So even if people find costs related to non-formal online training to be relatively low, they will not be interested in to take part in such training if they do not believe that the education will be relatively highly beneficial for them. Nevertheless, low perceived costs can be a good starting point in the attempts to grow internal motivation to learn. Tools to encouragement could be outlined by applying Gorges' (2016) views to achievement goal orientation theory: People at workplaces should be motivated to participate in learning activities via expression and emphasis on training benefits, while simultaneously addressing the different goals that individuals in the context might have.

9.3 Group Differences in Assessment of Supportive Organizational Learning Culture

Prior the study analyses, it was hypothesized that a primarily mastery-oriented profile would differ significantly from other achievement goal orientation profiles in assessment of work organization's learning culture. The hypothesis was made on the basis of a paper

from a slightly different theoretical background (organizational climate instead of organizational learning culture), which argues that a climate that supports engaging in learning activities creates higher learning orientation (see Garofano & Salas, 2005).

As the result of the study analyses, it was discovered that the avoidance-oriented differed statistically significantly from the other groups, and they assessed their work organization's learning culture to be less supportive than the other profiles. The learning-, success- and performance-avoidance-oriented groups did not differ from each other. This means that individuals in the three groups evaluated their work organization similarly in regard to encouragement, support, and utilization of employee learning (see Marsick & Watkins, 2003).

Even though the study results did not fully match the hypothesis, mastery goals appeared to be, after all, connected to a higher assessed organizational learning culture: The group of avoidance-oriented scored significantly lower than the other groups in mastery goals, while the other groups were similar in relation to mastery-intrinsic and mastery-extrinsic orientations. In other words, the higher, or more supportive, an individual rated their work organization's learning culture to be, the more likely they also prioritized learning and absolute achievement goals in their actions. This finding was in line with previous study results according to which OLC promotes transfer of learning and knowledge (see Banerjee et al., 2016; Joo, 2010) and that a supportive climate creates higher learning orientation (see Garofano & Salas, 2005). Consequently, it seemed that it may be possible for an organization to affect employees' learning goals, and to promote mastery orientations within the work community.

On the whole, participants in this sample assessed supportive organizational learning culture to be quite high, because the sample mean and group mean scores were mainly located distinctly above the middle of the answer scale (1-7). Descriptive statistics showed that there was some variation in the answers, and the range of variation was 5.57. A relatively big number of participants assessed the supportiveness to be quite high though, as 70% of the participants scored above the value 3.57 in the OLC variable. It was assumed that the high organizational learning culture scores were in part explained by the high mastery goals in the sample, but it was also reckoned that some participants possibly aimed to give a positive impression about their workplace in an external survey, and hence assessed the instrument's items relatively highly, even though all answers were anonymous.

A prior study from an intersecting theoretical background discovered that perceived organizational climate predicted interest and intention to participate in future education (Maurer & Tarulli, 1994), and on these grounds it could have be concluded that the sample's individuals working in high OLC organizations would be the most eager participants in external training. However, contrary to this view, Jones (2013) argues that most active learners get also training-specific organizational support, i.e. positive presentation of the usefulness and benefits of the training in question. Also from motivation theory point of view, to encourage employees to participate in a specific course, they would need to be given topic- or training-specific reinforcement from their supervisors, since motivation typically varies depending on the course in question and other situational features (see Niemivirta et al., 2019). Additionally, according to Kim and Frick (2011), a person is more likely to participate in a self-directed online course if they perceive organizational support for participation and consider the course to be "right for them", meaning that the delivery quality and relevance of the training are expected to be good. Based on these views, it was concluded that even though the sample assessed learning culture to be supportive and demonstrated mastery goals, the participants would not necessarily participate actively in all kind of online courses, or in the subject company's training. They would more likely do so if their work organization was supportive of the training in question and highlighted the usefulness of it.

9.4 Reliability and Validity

In behavioral sciences, it is especially important to examine and discuss the conducted measurements from a measurement theoretical perspective, because the studied concepts are not directly measurable or unambiguously defined, and hence, there usually remains some random error in measurement results (Nummenmaa, 2009, p.346). Measurement theoretical examinations concentrate on a study's reliability and validity: Reliability means consistency and repeatability of a measure, and it covers estimation of the level of measurement error and the error's effects (Nummenmaa, 2009, p.346; Vehkalahti, 2019, p.41). Validity, instead, describes the relationship between an instrument and the concept to be measured – in other words, it informs if the instrument really measures what it was supposed to (Nummenmaa, 2009).

During the thesis process, reliability and validity were sought by appropriate data collection and data analysis methods. Participation in the study's survey was voluntary and

participants were both informed about the study's purpose and ensured that their identities were anonymous.

However, a limitation of this study, which was evident right from the beginning of the thesis work, was the unrepresentativeness of the sample. This issue was related to the difficulty to even define the population, and to the inevitability of the sample being a non-probability sample. Probability could not be reached as there was only a limited amount of population's contact information available. There also proved to be difficulties in getting individuals to participate in the study, and response rate ended up being low. Nevertheless, as the limitation of unrepresentativeness was defined early on, the aim of the study was chosen accordingly. The aim of this study was not to make a generalization about the population's motivation, but to identify different motivational goals among it. Eventually, 170 individuals participated in the study, and considering the aim, the sample size was found to be fitting and sufficient.

This thesis utilized three previously created instruments to measure achievement goal orientations, perceived cost, and organizational learning culture in the context of non-formal, job-relate online learning. The utilized instruments had been widely used in previous research and developed over the years of studies (see Gaspard et al., 2015; Marsick & Watkins, 2003; Niemivirta et al., 2019). An advantage of prepared instruments is their refined details, such as a suitable number of items, and the utilization of previously developed instruments strengthened validity and reliability of the study's results.

The three instruments had still to be modified, so that they would fit the study's context. Achievement goal orientation and cost instruments were modified content-wise, because the original instruments measured kids' learning motivation at school (see Gaspard et al., 2015; Niemivirta, 2002). The third dimension in the cost instrument, opportunity cost, was modified the most, as participating in non-formal, job-related online training was thought to be connected to different opportunity costs compared to the ones related to kids' schoolwork (e.g. monetary costs). Additionally, both instruments had to be translated from Finnish to English. The items in organizational learning culture instrument, for their part, were not modified as they suited this study's context as they were. The answer scales in cost and organizational learning culture instruments were widened and some answer options were renamed so that all three instruments were assessed on an identical Likert-scale, making the responding easier. Cost instrument's answer scale had already been modified successfully in a previous study (Tuominen et al., 2020).

Modifications done to an instrument may weaken the measurements' validity and reliability. According to Vehkalahti (2019, p.41), for example language translations to instruments might be challenging in this light. Therefore, to ensure validity and reliability as well as possible, changes to original instruments were done cautiously, and researchers familiar with the theoretical frame were consulted during the instrument modification process. The English-language survey also went through a professional language revision, while cultural clashes and misunderstandings were tried to be minimized by narrowing down the population to citizens in North America and Europe. After the data collection, reliability coefficients of all variables were analyzed, and they proved to be sufficient (>.60). The lowest reliability was in opportunity cost (Cronbach's alpha .61), which was also the most modified variable. Altogether, some scale reliabilities decreased due to the contextual and language changes, but the changes were crucial for this kind of instrument experimenting. Also, above all, the instrument applications generated some new research information on achievement goal orientations and perceived cost of learning. In future research, cost and goal orientation instruments in the context of non-formal adult learning could be further improved through testing and various measurements.

A confirmatory factor analysis would have been a good addition to this study from the perspective of scale validity, as it is always beneficial to conduct a factor analysis to confirm that structures in the data correspond to the theory (Vehkalahti, 2019, p.112). After the data collection, it was ensured though, that the factor analyses in previous studies had given results supporting the theoretical reasonings, so there was confirmation that the used instruments had fitted different datasets previously (see Gaspard et al., 2015; Joo, 2010; Niemivirta et al., 2019; Tuominen et al., 2020; Tuominen-Soini, 2012).

Other discussion points concerning the research questionnaire's reliability include e.g. the length of the questionnaire. According to Vehkalahti (2019), responding can be simplified e.g. by using simple language, clear layout, and a compact number of questions. In the case of this study, it was presumed that the population would face response fatigue quite easily, so the language and the number of questions were planned carefully and discussed together with researchers and translators. Also, the order of survey questions was contemplated, and the eventual order had the three instruments located after some light background questions. The questionnaire ended with another set of background questions, and this order was believed to support careful answering to study instrument questions. A beneficial addition to the survey form would have been a short definition of non-formal online learning courses and the different possible online course implementations. It is likely that there were differences in the participants' conceptions of online

learning activities, based on which they answered to all the questions. However, the e-mail invitation already included some information about different online course implementations, and in the fear of a too long questionnaire form and response fatigue, any extra descriptions were chosen to be left out from the questionnaire.

Normality tests are a routine-like step in a reliable research process (Nummenmaa, 2009, p.154), and hence, they were a part of this thesis process too. Normality of data distributions was tested by inspecting histograms, skewness, and kurtosis, and by comparing skewness and kurtosis values to their standard errors. As a result, it was discovered that mastery intrinsic orientation was negatively skewed and emotional cost positively skewed, while other variables were approximately normally distributed. Based on these findings it would have been justified to use non-parametric tests in the study analyses (Nummenmaa, 2009, p.154). The decision between parametric and non-parametric tests was further contemplated though, as the sample (n=170) was relatively big for a thesis study and in large samples skewed distributions do not easily violate parametric tests. It was also in the know that parametric tests usually identify phenomena in a sample more sensitively than non-parametric tests (Nummenmaa, 2009, p.153). These reasonings eventually directed to the decision to conduct parametric tests, but the variable distributions were kept in mind so that conclusions from the analyses were drawn more cautiously and some non-parametric tests were performed to confirm the significance of the test results.

This study mixed person-oriented (Two-Step cluster analysis) and variable-oriented (ANOVA, correlational analyses) methods in the examination of relations between achievement goal orientations, perceived cost of learning, and assessment of organizational learning culture. Two-Step cluster analysis was chosen for the clustering, because in it, statistics software determines statistically best solution for the number of groups, and the technique gives this way relatively much guidance for the researcher (IBM Knowledge Center, 2021). Two-Step has also been shown to determine the fitting number of groups better than traditional hierarchical cluster techniques (Kent et al., 2014). In this thesis, the final four-profile-solution was chosen on the grounds of theory, previous research, and statistical analysis results. More experienced researchers were consulted about the profile solution. The fourth profile, avoidance-oriented, caused some discussion as the group was so small (n=13), but it was included in the solution, because, based on theory and previous research, it was believed to be a significant group in the population. Excluding the group of avoidance-oriented was thought to be a bigger drawback than using a small group in further study analyses. The small size of the group was

presumed to be connected to the unrepresentative sample, as it seemed that the sample was in general quite highly mastery oriented. In further study analyses, the results of one-way ANOVA were confirmed by conducting a non-parametric equivalent, Kruskall-Wallis one-way analysis of variance, which also generated statistically significant group differences ($p<.05$). All the conducted analyses were described in detail, so they are replicable.

As discussed earlier, the whole sample proved to be highly mastery oriented, and all in all, participants estimated online learning costs to be relatively low and their work organization to have a quite high, or supportive, learning culture. Because of these results, it was assumed that certain kind of learners or learner features were over-represented in the sample. Findings from the background information support this assumption: 75.9% of the participants answered that they would likely or very likely participate or encourage someone else to participate in the subject company's training, even though majority (55.8%) had no experience of it. In other words, respondents seemed to be quite eager learners and interested in the subject company's activities. Additionally, quite a big proportion (45.9%) of the respondents reported to be working in an expert or a specialist role, which might be connected to interest in to learn about job-related themes. It is understandable that there was this kind of selectivity in the data that was collected via e-mail and was based on voluntariness. Hence, in future studies, methods in data collection could be re-evaluated and improved so that more diverse groups of learners would be reached.

The results of this study present the relations between achievement goal orientations, perceived learning-related cost, and assessment of supportive organizational learning culture, as well as differences between discovered goal orientation groups. The results do not tell about causal connections between variables, so conclusions, e.g. how to affect employee learning motivation, need to be drawn cautiously. The whole study process is described in detail in this paper, which supports the transparency of the research process.

9.5 Practical Implications

As a result of this study, it was discovered that there can be found multiple goals and different achievement goal orientation groups in the context of non-formal, job-related

online learning. The goal orientation groups identified in this study included a group striving for mainly learning, a group that emphasized both mastery goals and relative success, a group valuing relative success as well as avoiding both failure and work, and lastly, a group that emphasized especially work avoidance. The most significant implication from this thesis for education practices is the importance to acknowledge and support the different kind of learners in the learner target group. By taking into consideration individuals with diverse learning-related goals, and by offering them versatile support, more and more people can be encouraged to participate in and to finish non-formal, job-related courses. Next, some practical measures for support and encouragement will be discussed.

9.5.1 Communicational Implications

The support and encouragement practices can be implemented already in the communication phase prior training. The different achievement goal orientation groups in the target group should be addressed when communicating about both the benefits and the practicalities of a course. Since avoidance-oriented generally value less the actual process of learning and are motivated by little work, they could be encouraged e.g. by highlighting the skills to be obtained that will increase the effectiveness of their own work. As for learning-oriented, they might develop an interest in a course if they were told that they would gain deeper knowledge about the phenomena related to their work. Both success-oriented and performance-avoidance-oriented could feel more enthusiastic about a course if they would get to showcase their learning by getting qualifications or a certificate from a course. However, as performance-avoidance oriented have also low self-efficacy, are afraid of failing, and demonstrate avoidance goals, for them it would be central to know that getting the certification would not require a lot of extra work or that the participants' results would not be public or compared.

Correspondingly, from the expectancy-value theory's perspective, communication about training should build the target group's positive expectations as to how the activity would meet their needs and spotlight the value training would offer them (Jones, 2013). The results of this thesis indicate that costs related to non-formal, job-related online learning are relatively low, and this information should be voiced to the target group as well. Or, even more importantly, the costs should be presented to be relatively low compared to the benefits of training (Gorges, 2016). The target group should know that non-formal online learning does not require a lot of effort, as you can usually familiarize yourself with

quite practical themes without the pressure of getting assessed. Also opportunity costs are often experienced to be low, because online implementation offers more flexibility time-wise and the courses are usually cheaper than in face-to-face education (Neroni et al., 2018; Park & Choi, 2009).

Previous studies have shown that mastery-oriented and success-oriented groups display high participation in learning activities, while work-avoidant groups demonstrate low participation (Niemivirta et al., 2019). Additionally, this study discovered, in line with previous research, that performance and avoidance goals were connected to perception of higher learning costs, and former studies have found high costs to be a discriminant factor in adopting avoidance behavior (Jiang et al., 2018; Tuominen et al., 2020). Thus, it is likely that avoidance and performance-avoidance-oriented individuals need more encouragement for participation, and that communication should emphasize especially the kind of benefits that are in line with the goals of these groups.

One more result of this study was the discovered connection between mastery goals and a supportive organizational learning culture. Due to this finding, it was presumed that work organizations can possibly promote mastery goals within the work community. However, it was also contemplated that people require training-specific support from their work organization, since their motivation typically varies depending on the course in question and other situational features (see Jones, 2013; Niemivirta et al., 2019). Therefore, communication about customer training should be aimed both at individual potential participants and to managers in customer organizations. If the people who make decisions about employee learning are familiar with the party organizing training, and if they have an impression that offered training is beneficial and would match their needs, then they likely make an effort in encouraging employees to participate in such education.

9.5.2 Educational Implications

Achievement goal orientation is a very stable feature that a person develops over the years of live, and it is not easily shaped by educators, employers, or education designers (see Niemivirta et al., 2019). Therefore, instead of trying to change individual tendencies or goals, educational design should address different achievement goal orientation groups so that diverse learners would stay motivated, pass training, and enjoy the learning activities. Educational design strategies are particularly important on online courses,

as high dropout rates have been a problem related especially to self-directed online learning (Kim, 2009; Neroni et al., 2018; Park & Choi, 2009).

According to Tuominen (2012), to encourage avoidance-oriented learners, it is important to support their engagement, valuing of education, and feeling of competence as well as to link the educational themes to their life in a meaningful way. Thus, to address the avoidance-oriented learners on non-formal, job-related online courses, it would be a good practice to make courses compact, practical, and easy to digest. Training that is effortless and possible to complete flexibly might also lower the learning-related costs perceived by avoidant learners, whereas to increase intrinsic course-specific motivation among avoidant participants, education should offer useful skills or knowledge to every-day work (see Tuominen-Soini, 2012). Additionally, as teacher and peer support have been discovered to work as a buffer against avoidance goals (King & McInerney, 2014), communication and interaction possibilities should be broadened and supported in non-formal online education too.

When it comes to performance-avoidance oriented individuals on non-formal, job-related online courses, they would likely benefit most from an environment that emphasizes individual development instead of or comparisons or elusive merits. This suggestion is based on the knowledge that performance-oriented are particularly afraid of failure and that they measure their achievements in relation to others (Niemivirta et al., 2019). Since performance-avoidance oriented also demonstrate avoidance goals, it is likely that their intrinsic motivation could be increased via similar practices as that of avoidance-oriented.

Learning and success-oriented participants are more likely to stay intrinsically motivated throughout an online course (see Niemivirta et al., 2019). However, to make learning more enjoyable for them, their goals could be addressed via additional course features that may also support the mastery goals of other groups: Mastery-intrinsic goals could be supported via extra, in-depth course materials that are optional but available for all. Incorporating more advanced information and extra readings to a course is also a way to include people with different skill levels. Mastery-extrinsic goals, for their part, could be supported by offering participants chances to test their own knowledge and to obtain course certificates or certificates of competence, as mastery-extrinsic goals are related to valuing achievement as a result of learning (Elliot & McGregor, 2001). However, to lower the perceived learning-related costs for the group of success-oriented, a practical implementation could be to build an educational atmosphere that, in the long run, emphasizes individual learning and development over success and merits.

10 Conclusion

The purpose of this thesis was to examine what kind of achievement goal orientation groups can be found in the context of non-formal, job-related online learning, and how the discovered groups differ from each other in perceived costs of online learning and in assessment of work organization's learning culture. Four distinct goal orientation profiles were identified: learning-oriented, success-oriented, performance-avoidance-oriented, and avoidance-oriented. Learning-oriented differed from the other groups in perceived costs, as they assessed the online learning costs to be significantly lower. In organizational learning culture, avoidance-oriented evaluated their work organization to have a less supportive learning culture than the rest of the groups. After further examination of the study results, it was found that performance and avoidance goals seem to be connected to higher perceived cost, while mastery goals seem to be related to a more supportive organizational learning culture.

The study's context offered a unique application to the goal orientation profile research, as the examined type of learning was non-formal learning, or more specifically, non-formal online learning related to work. Compared to previous achievement goal orientation studies in the work context (see Kunst et al., 2018; Nerstad et al., 2018), this study utilized an instrument (Niemivirta, 2002) with more goal orientation dimensions. By applying all the five dimensions to the analysis, it was possible to identify diverse profiles in the data, such as a performance-avoidance-oriented profile. The concurrent examination of goal orientations, perceived costs, and assessed organizational learning culture offered a more comprehensive understanding of motivational processes in the study's context.

Furthermore, this study gives some practical implications for the development of online learning practices and materials so that those would be more encouraging and supportive to a wider audience of learners in the work context. Future research could incorporate also positive task values into the investigation of motivation (see Eccles & Wigfield, 2002), and compare the value beliefs between face-to-face education and online learning. To conclude, the findings of this study indicate that understanding and knowledge of different motivational patterns is crucial for the development and improvement of non-formal, job-related online education.

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Appendix

Appendix 1

Job-related online learning

This survey focuses on the perceptions and views people in working life have towards online learning. The results of the study will be used to improve the subject company's* online training offering. All responses will be handled anonymously and confidentially and cannot be connected to any organization or individual. Response data will only be used for study analyses.

It will take approximately 10 minutes to complete the survey. If you wish to take part in the prize draw for the chance to win a subject company's device* (worth approx. €450), follow the link at the end.

Thank you very much for your time, I appreciate your help and wish you good luck in the prize draw!

Best regards,
Hanna Torpo
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1. How many times have you participated in an online/eLearning course, training session or lecture? The subject could be anything and it could be work or non-work related.
   ☐ 0-2 ☐ 3-10 ☐ more than 10

2. Where do you live?

   ☐ Europe
   ☐ North America
   ☐ South America
   ☐ Asia
   ☐ Africa
   ☐ Oceania

3. What is your role in your work organization?
   ☐ Employee
   ☐ Employee in a specialist or expert role
   ☐ Lower-level management

* = anonymized

☐ Mid-level management
☐ Top-level management

4. What is the approximate size of your work organization?
   ☐ 50 employees or less
   ☐ 51-250 employees
   ☐ 251-1000 employees
   ☐ 1001 employees or more

5. If you wanted to participate in job-related training organized by a third party, would you be able to make that decision independently?

   ☐ Yes ☐ No ☐ To some extent

6. Do you find online training and classroom training equally appealing ways to learn about job-related subjects?
   ☐ Yes

   ☐ No

   ☐ It depends

7. Please explain your answer to the previous question:
   _____

* = anonymized

8. Goals and views regarding online training

Think about how you would feel about participating in online training related to your work and what kind of goals you would have, then score the following statements from 1 = Not at all true to 7 = Completely true.	
Succeeding in online training could mean, for example, quick learning or high scores in a knowledge test.	
Succeeding in work-related online training is an important goal for me.	1 2 3 4 5 6 7
It is important to me to do better than other training participants.	1 2 3 4 5 6 7
I am especially pleased if I don't have to do too much work in online training.	1 2 3 4 5 6 7
I would participate in work-related online training to learn new things.	1 2 3 4 5 6 7
I usually avoid situations where I might fail or make mistakes.	1 2 3 4 5 6 7
I have reached my goals if I achieve better learning results than other training participants.	1 2 3 4 5 6 7
I want to pass online training with minimum effort.	1 2 3 4 5 6 7
I do not want to participate in online training that might make me seem incompetent.	1 2 3 4 5 6 7
It is essential that I get good results in work-related online train-ing.	1 2 3 4 5 6 7
An important goal for me is to learn as much as possible.	1 2 3 4 5 6 7
It is important to me that I don't fail in front of others in online training.	1 2 3 4 5 6 7
I will only do the mandatory tasks in online training.	1 2 3 4 5 6 7
My goal in work-related online training is to do well.	1 2 3 4 5 6 7
It is important that others in online training find me competent.	1 2 3 4 5 6 7
An important goal for me in online training is to gain new knowledge.	1 2 3 4 5 6 7

* = anonymized

9. Possible negative aspects of participation

Like all choices, the decision to participate in online training can also have negative aspects and costs. Think about these negative aspects of job-related online training and evaluate how you feel about them from 1 = Not at all true to 7 = Completely true.	
Online training requires a lot of effort from me.	1 2 3 4 5 6 7
Online training makes me anxious.	1 2 3 4 5 6 7
I have to sacrifice a lot of my free time to participate in job-related online training.	1 2 3 4 5 6 7
Participating in online training drains me.	1 2 3 4 5 6 7
Learning in online training irritates me.	1 2 3 4 5 6 7
Online training takes a lot of time away from actual work.	1 2 3 4 5 6 7
Learning in online training exhausts me.	1 2 3 4 5 6 7
Online training makes me stressed.	1 2 3 4 5 6 7
Investments in online training would be better spent elsewhere.	1 2 3 4 5 6 7

10. Learning practices in your organization

How does your organization support and use learning? Note that your answers are anonymous and cannot be connected to you or your organization. From 1 = Not at all true to 7 = Completely true	
In my organization, people are rewarded for learning.	1 2 3 4 5 6 7
In my organization, people spend time building trust with one another.	1 2 3 4 5 6 7
In my organization, teams revise their thinking as a result of group discussions or information collected.	1 2 3 4 5 6 7
My organization makes its lessons learned available to all employees.	1 2 3 4 5 6 7
My organization recognizes people for taking initiative.	1 2 3 4 5 6 7

* = anonymized

My organization works together with the outside community to meet mutual needs.	1 2 3 4 5 6 7
In my organization, leaders continually look for opportunities to learn.	1 2 3 4 5 6 7

11. Have you attended any training organized by the subject company*? Please choose below.

☐ Classroom training
☐ On-site training (e.g. training at device delivery or installation)
☐ Live online training sessions with a trainer
☐ Online courses (eLearning)
☐ Webinars

☐ No previous experience

12. What kind of x* technology training would you be interested in?

☐ User training for a specific product
☐ Maintenance and troubleshooting
☐ Best practices on xx*
☐ General training / theory of x* technologies
☐ Calibration
☐ Industry specific training

☐ Other

13. In which industry does your organization operate?

☐ Automotive
☐ Chemical
☐ Food, beverage, and agriculture
☐ HVAC and indoor air
☐ Life science and pharmaceutical
☐ Pulp, paper, and wood
☐ Research facilities and meteorology
☐ Semiconductor

☐ Other

14. Does your organization use the subject company's* products or systems? If yes, which ones?

☐ x*
☐ xx*

* = anonymized

☐ xxx*
☐ Other product or system
☐ No, we do not use the subject company's* products or systems
☐ I don't know

15. How likely are you to participate in online training organized by the subject company*, or how likely are you to encourage someone else to participate?

☐ Very likely ☐ Likely ☐ Unlikely ☐ Very Unlikely

* = anonymized