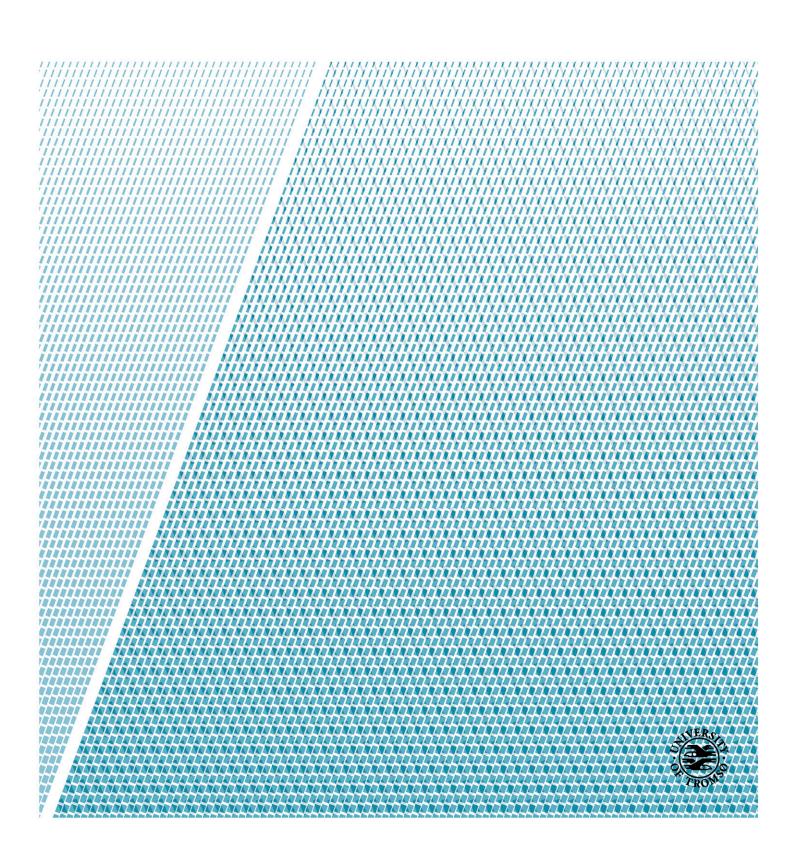UiT
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Long-term motivation and persistence

A literature review

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1 Introduction

1.1 Theme and background

This thesis is about is motivation, and specifically long-term motivation. As long as I can remember I´ve always been interested in why people do what they do and how we become how we become. One thing in particular that has always intrigued me, and that I have been awed by, is the singlemindedness needed to pursue something over a long period of time, consistently choosing the right thing to do, steering clear of disturbances and temptations. To become really good at something, to achieve expert performance, to reach a long-term goal, it seems like you have to have this singlemindedness. You have to be willing to work hard over a long period of time to achieve what you want.

Most of us have things what we want to achieve. But doing what it takes, every day, week by week, year after year is too much for most of us. But the best, those who go all the way, understands what it takes and do what they have to do. They stick with the plan and are fully committed to their goals (Riise et al. 2015: 16).

According to Ericsson et. al. the general rule is that it takes 10 years or more of preparation to achieve expert or international level performance in a wide range of domains (Ericsson et. al., 1993: 366). Within elite sports it is argued that it takes 10 000 hours of hard training to develop expertise. So elite performers has to take responsibility to follow the long-term plan. To resist the temptation to stay in the warm bed on a cold, rainy morning and the body is acing with tiredness, and instead get ready for a 90-minute tough and challenging training session is common within elite sports (Perris and Kenttä 2015: 45). This long preparation period can also be found in many other domains, such as for scientists, evaluation of livestock, diagnosis of x-rays and medical diagnosis (Ericsson et al., 1993: 363). The relevance of this long preparation period also for the work domain points to the focus of this thesis: What can work organisation can learn from the research on long-term motivation?

To achieve expert performance, become really good at something, you have to be motivated to make deliberate efforts to improve performance, in a continues process of repetition, feedback and learning over time (Ericsson et a., 1993: 366-368). Deliberate practice requires the interaction of several elements, but at the centre and driving the process is motivation to keep working, keep training, keep learning and developing (Sternberg 2017: 11).

Motivation can be defined as a construct for describing the internal and/or external forces that produce the initiation, direction, intensity and persistence of behaviour (Sarrazin et. al., 2002: 396, Martinsen 2011: 217) and many studies have revealed that motivation leads to several important outcomes (Pelletier et. at., 2001: 284). Different types of motivation have been hypothesised to lead to different consequences (Sarrazin et. al., 2002: 396) and the effects of different types of motivation can vary in relation to type of consequence, meaning that what leads to shorter term motivation can be different than what leads to long-term motivation (Vallerand at al. 1997:1170).

So what is long-term motivation? There is no commonly agreed definition on this, but I think we can all agree that it is not about the here-and-now, and not about tomorrow. Whether someone is motivated to do something today is not what we are inquiring into, neither if they are motivated to do something tomorrow. It might not have to be so long-term as Erichssons 10 years (ibid.), but definitively months, and perhaps preferably years.

Imagine two people, Kari and Per, who both completed medical school 7 years ago, both with the intention of becoming surgeons. Kari has now just become a surgeon after completing 7 years of specialist training following completion of medical school. Per left the medical profession all together three years ago and is now in a job outside his original profession. How can motivational theory and research explain these two very different trajectories? I will come back to this example throughout the thesis.

So the question in this thesis is which types of motivation can last over a significant amount of time, that is, which types of motivation can lead to the type of persistence required to reach high levels of expertise and performance needed to become e.g. a surgeon.

1.2 Scope

While it would be interesting to look into all factors related to motivation, the plethora of theories would make this unmanageable. So the choice is to focus on what I find most interesting: What theories and types of motivation can explain persistence over time, meaning, what motivates people in the long-term. The field of motivation will be dealt with in a later chapter, so for now I would just like to limit the scope of the review with specifying the theoretical framework I would like to look into. The question of what motivates refers to

what is often called content theories of motivation. This in contrast to process theories that tries to explain how motivation works (Brochs-Haukedal 2018: 109, Kanfer and Frese 2017: 339, Kruglanski et al. 2015: 1-2), and context theories which refers to the environmental factors that influence motivation (Kanfer and Frese 2017: 339).

Vallareand and Ratelle (2002: 37) claims that motivation has both different determinants and consequences. They propose a four stage, causal sequence of social factors, psychological mediators, types of motivation and consequences (Vallerand and Ratelle 2002: 41).

In this review, the consequence, or dependent variable, is long-term motivation and persistence. The independent variable we are investigating is type of motivation. In line with the exclusion of context theories, social factors and psychological mediators is out of scope.

In the framework I will use, there are five content theories of motivation: self-determination theory, flow theory, individual differences theories of intrinsic motivation, interest theories and goal theories (Eccles and Wigfield 2002: 112-117). These five content theories of motivation will form the basis for reviewing research on long-term motivation: Which of these theories, and which types of motivation within these theories, is associated with long-term motivation? Using these five theories I find is both focused enough to be manageable and broad enough to encompass the most contemporary theories of today within the content category.

Deliberate practice is about both long-term persistence and the quality of the involvement with the activity (Ericsson et a., 1993: 366-368). Motivation influences other outcomes than persistence, such as quality of involvement (Ames 1992: 262). To further clarify the scope, this review will deal only with the longitudinal perspective of persistence, not the quality of involvement and learning perspective.

To summarize, the scope of this review is then to look into longitudinal research done in real life situations using content theories of motivation to find what this can tell us about long-term motivation.

1.3   Research questions

The purpose of this thesis is to investigate what research can tell us about long-term motivation, and what work organisations can learn from this. Specifically, the question I want to answer is: What types of motivation leads to long-term motivation and persistence?

To try to answer this, I have developed three research questions:

1. What are the theoretical frameworks used in the research on long-term motivation and persistence?
2. Within these theories, what are the factors or types of motivation associated with long-term motivation and persistence?
3. What conclusions can be drawn from the research, and what can work organisations learn from it?

2 Theoretical foundation and relevant research

2.1 Motivation

In its simplest form, motivation can be defined as to be moved to act, which also refers back to the Latin root of the word "motivation", which means "to move" (Eccles and Wigfield 2002: 110, Ryan and Moller 2017: 215). Motivation is then what makes someone start something, initiating behaviour (Brochs-Haukedal 2018: 109, Sarrazin et. al., 2002: 396, Martinsen 2011: 217).

This is obviously important, because it means that something motivates a person to start the training to become a surgeon. But the focus of this thesis is on long-term motivation, on what makes people pursue something over a long period of time. And many definitions of motivation also point to this, stating that motivation are psychological process that not only initiates but also maintains behaviour and leads to persistence (Brochs-Haukedal 2018: 109, Sarrazin et. al., 2002: 396, Martinsen 2011: 217, Cook and Artino 2016: 998). So after starting the training, what keeps people continue it over many years?

Numerous theories have been developed to try to explain the phenomenon of human motivation, but none has yet been able to explain it as a way an integrated whole (Baumeister 2016: 1, Cook and Artino 2016: 998, Lazowski and Hulleman 2016: 604). Since the field of human motivation is so vast, I have to make choices on which theories to utilise.

To organise and simplify the field, I have chosen to use a use a framework from Eccles and Wigfield (2002). In their summary of theories and research within the field of motivation, they group motivational theories into four broad categories: theories focused on expectancy, theories focused on reasons for engagement, theories integrating expectancy and value constructs and lastly theories integrating motivation and cognition.

Theories focused on *expectancy* is about on people's beliefs about their competence, efficacy, success and control over outcomes. For the individual, this can be boiled down to the question "Can I do this task?", and a positive answer to this question generally leads to better performance and more motivation. Theories listed in this category are self-efficacy theory and control theories (Eccles and Wigfield 2002: 110-112, Brown et al. 2015: 188).

Theories focused on the ***reasons for engagement*** is about why an individual chooses to do something, where the choice is made on the basis how interesting and enjoyable the individual finds the task. Theories in this category are intrinsic motivation theories (e.g. self-determination theory and flow theory), individual difference theories of intrinsic motivation, interest theories and goal theories (Eccles and Wigfield 2002: 112-117, Brown et al. 2015: 188).

The third category are theories ***integrating expectancy and value constructs***. Within this category, motivation comes from success beliefs with regards to task and the subjective value placed on successful achievement of that task. An individual's motivation is then dependent on whether he or she believes she can successfully achieve the task at hand, and that he or she believes that the task is worth pursuing. Attribution theory, modern expectancy-value theory and self-worth theory are examples within this category (Eccles and Wigfield 2002: 117-123, Brown et al. 2015: 188-189).

Lastly, theories ***integrating motivation and cognition*** is about motivation as a key element in self-regulation. Here, the focus is on the relationship between motivations and learning, and the role motivation plays in self-regulation. In many ways, the theories in this category are attempts to integrate some of the motivational theories in the first three categories with the concept of self-regulation. Theories in this category are social cognitive theories of self-regulation and motivation, theories linking motivation and cognition, theories of motivation and volition, integrating theories of self-regulation and expectancy-value models of motivation (Eccles and Wigfield 2002: 123-127, Brown et al. 2015: 189).

None of these categories or theories as put forward by Eccles and Wigfield (2002) explicitly describes factors leading to long-term motivation, but we can make a choice on which category to focus on if we go back to the theme and research question of the thesis, which is why people choose to do something, and why they keep on doing something.

This _why_ is what Eccles and Wigfeld describes as reasons for engagement, and which is often called ***content theories***. Content theories focus on what motivates, as opposed to ***process theories*** that tries to explain how motivation works (Brochs-Haukedal 2018: 109, Kanfer and Frese 2017: 339, Kruglanski et al. 2015: 1-2).

To further clarify the choice of theories to be included in this review, we can look to Kanfer and Frese (2017). In addition to the mentioned distinction between content and process, they propose a third category, namely **context.** Context refers to the environmental factors that influence motivation. Things like sociocultural variables, psychical conditions, culture and economic conditions influence motivation directly or indirectly (Kanfer and Frese 2017: 339). Theories within the context category can be job characteristics theory and theories about leadership, organisational culture and climate as well as team characteristics (Kanfer and Frese 2017: 339,343).

Again, if we look at the research questions of the thesis, we are interested in why people do something. This _why_ is certainly influenced by environmental factors, but in this review the choice is to focus on the content of the why.

From this then, we can conclude that the focus of the review will be content based theories, what Eccles and Wigfield calls **reasons for engagement**. In their article they list five theories or areas of theories that focus on the question of why (Eccles and Wigfield 2002: 112-117):

- Self-determination theory
- Flow theory
- Individual difference theories of intrinsic motivation
- Interest theories
- Goal theories

2.2   Theoretical framework – content theories of motivation

As we have just seen, I will focus on five content theories or areas of theories based on (Eccles and Wigfield 2002). In the following, I will present the five theories.

2.2.1   Self-determination theory

Self-determination theory claims that humans have basic psychological needs, and that the fulfilment of these needs leads to different types of motivation, which again predicts performance and persistence (Ryan and Moller 2017: 214-215).

One such type of motivation is ***intrinsic motivation***, which is present when the individual finds the activities he or she is engaging in interesting and enjoyable in itself, the reward for doing the activity is intrinsic to the activity, and the motivation and reward come from doing the activity (Ryan and Moller 2017: 215). If a manger in an organisation enrols in a part-time executive education programme because he or she finds the subject interesting an enjoys learning new things, that person can be said to be intrinsically motivated.

Another type of motivation is ***extrinsic motivation***. This is present when the motivation to do the activity is extrinsic to the activity itself. The motivation and reward do not come from doing the activity in itself, rather the activity is seen as an instrument through which something can be gained that is external of the activity (Ryan and Moller 2017: 215). So if a manager in an organisation enrols in a part-time executive education programme because he or she is told to do so by the superior manager, or because they see it as a way to achieve promotion, the motivation comes from external expectations or expectations of external rewards, and is therefore extrinsic.

A third type of motivation is amotivation. Amotivation is when there is a lack of motivation; meaning when the person is neither extrinsically or intrinsically motivated (Ryan and Moller 2017: 216-217).

While many theories of motivation focus on the overall amount of motivation, and whether it is extrinsic or intrinsic, self-determination theory focus on the type and quality of a person's motivation and based on this differentiates on types of extrinsic motivation and the different consequences this has (Deci Ryan 2008: 182). So within self-determination theory, extrinsic motivation is further subdivided into four categories along an internalisation continuum extending from maximally controlled (least autonomous) to maximally autonomous. Maximally controlled means that the activity is externally controlled, maximally integrated or autonomous means that even though the activity is not enjoyable or interesting in itself, it has value to the person doing the activity. These types of motivation come from the fulfilment, or lack of fulfilment, of basic psychological needs. These psychological needs are: Autonomy (feeling choiceful, having ownership), competence (the need to attain greater competence) and relatedness (a sense of connectedness with other people) (Ryan and Moller 2017: 217-219).

Higher likelihood of satisfaction of the basic psychological needs leads to more integrated forms of motivation, with autonomy as the most fundamental need. While people can be strongly motivated by both autonomous and controlled forms of motivation, the consequences of these different types are different. More autonomous forms (also called more self-determined forms) of motivation have several positive consequences, and of special interest for this review, autonomous forms of motivation are associated with more sustainable persistence (Ryan and Moller 2017: 215-217, Sarrazin et. al. 2002: 412).

Figure 1: Types of motivation in self-determination theory

Type of motivation	Amotivation	Extrinsic motivation				Intrinsic motivation
Type of motivation	Amotivation	External regulation	Introjected regulation	Identified regulation	Integrated regulation	Intrinsic motivation
	Amotivation	Controlled motivation		Autonmous motivation		
		Most controlled	← →			Most autonomous
Examples	The person is not motivated to attend medical school	The person attends medical shool because the parents tell him or her to	The person attends medical school bacuse he or she thinks she should, because grandsparents, parents, siblings etc. has done it before her	The person values attending medical shoold because his or her goal is to become a surgeon	The person values attending medical shool because he or she wants to become a surgeon, which again fits with his or hers wider interest in making a positive impact in the world	The person finds studying and attending medical shool interesting and enjoyable in itself.

Based on Ryan and Moller (2017: 216).

As you can see of figure 1, the basic need of autonomy is linearly related to type of motivation, in such a way that external regulation is most controlled and least autonomous, while integrated regulation and intrinsic motivation is least controlled and most autonomous. A way of looking at it is that with external and introjected regulation someone else values the the activity, while with identified and integrated regulation as well as intrinsic motivation, it is the person him or herself that values the activity.

The relationship between the other two basic psychological needs, competence and relatedness is more complex and not linear, but all three needs can only be satisfied in identified and integrated regulation as well as intrinsic motivation (Ryan and Moller 2017: 220).

So, if we look at our example of Kari and Per who graduated from medical school seven years ago, one can speculate that Kari, who continued on with the training and finally became a surgeon, had high levels of autonomous, or self-determined, motivation. Autonomous motivation means that she felt that she chose the occupation as a doctor herself, that the job and training had value in and to herself, or even that the activities she engaged in as part of her training and job were interesting and enjoyable in itself.

For Per, who left the medical profession and never became a surgeon, one can speculate that his motivation was less autonomous and self-determined. This could result from him choosing the career based on external pressure (e.g. from parents) or the expectancy of external rewards such as money and prestige. The different activities that was part of the training and job was maybe not interesting or enjoyable in themselves. At some point, motivation may have disappeared totally, with there being neither intrinsic or extrinsic motivation, which is what self-determination theory labels amotivation.

2.2.2 Flow theory

Flow theory and research has its origin in trying to understand the phenomenon of intrinsically motivated activity, meaning activities that are rewarding in and of itself (Nakamura and Csikszentmihalyi 2009: 195). It tries to answer the question of why people engage in activities that can be hard, difficult and even dangerous, and from which they get no extrinsic rewards of note. Flow is a subjective state where people are completely involved to the extent that they forget about everything else than the activity. Attention is totally on the

task at hand, things like time and fatigue disappears from consciousness, and the person functions at his or her full capacity. This state of flow is experienced as so enjoyable that they are willing to try hard to experience it again (Csikszentmihalyi et. al. 2014: 230).

Flow can be affected by many factors, but the three main conditions are a clear set of goals, a balance between perceived challenges and skills, and clear and immediate feedback. The goals add direction and channels attention towards the activity; right balance between challenges and skills circumvents boredom and anxiety through stretching the persons capabilities without being too difficult; immediate feedback informs the person on how he or she is progressing and whether he or she needs to adjust the course of action (Csikszentmihalyi et. al. 2014: 232).

From the angle of motivation, flow theory argues that people constantly evaluate their experiences, and that they choose to come back to activities that they find enjoyable and intrinsically rewarding. The experience of flow then becomes a powerful motivating force, as individuals who experience the state of flow during an activity will try to replicate this state trough engaging with the activity again. If the activity is not enjoyable, it will not continue unless the individual is motivated by extrinsic rewards (Csikszentmihalyi et. al. 2014: 233). To continue to experience flow state, one must actively seek progressively more challenging activities (Nakamura and Csikszentmihalyi 2009: 197), and persistence then comes from the expected reward of experiencing flow again (Nakamura and Csikszentmihalyi 2009: 199).

So it is the perceived quality of the experience that is the proximal cause of intrinsic motivation (Csikszentmihalyi et. al. 2014: 235), and the continued anticipation of re-experiencing it that gives persistence to the activity.

For the two people in in our example, the Kari who became a surgeon may have been motivated by experiencing flow during training and practice, and the expectancy of experiencing it again. Per, who left the medical profession, might not have experienced this state of total involvement and enjoyment, maybe because of the lack of clear goals, maybe because of a lack of feedback, or maybe because the balance between challenge and skills have not been right. Whatever the reasons, this lack of experiencing flow from being a doctor in training may have made Per go to other domains in search of activities that he finds enjoyable and intrinsically rewarding.

2.2.3   Individual difference theories of intrinsic motivation

A different angle on intrinsic and extrinsic motivation comes from individual differences theories of intrinsic motivation (Eccles and Wigfield 2002: 114). While self-determination theory claims that intrinsic and extrinsic motivation comes from the level of fulfilment of basic psychological needs that we all have, and flow theory claims that intrinsic motivation comes from the perceived quality of experience we have during an activity, individual difference theories of intrinsic motivation claims that orientation towards intrinsic and extrinsic motivation is in part due to enduring individual differences (Amabile et. al. 1994: 950). This direction sees intrinsic and extrinsic motivation more as traitlike characteristics rather than states of motivation (Eccles and Wigfield 2002: 114, Amabile et. al. 1994: 951, 959).

Traits are recurrent patterns of thoughts, emotions or actions between individuals that are relatively stable across time and situations, and which results in tendencies to act or react in specific ways (Amabile et. al. 1994: 951, Brochs-Haukedal 2018: 271, Baumeister 2015: 2). Motivation as a state refers to the desire to engage in a particular activity or behaviour on a particular occasion (Baumeister 2015: 2).

This means that Kari might have a traitlike motivational disposition that helped her towards becoming a surgeon, while Per has a motivational disposition that is disadvantageous towards this.

2.2.4   Interest theories

Another pathway to intrinsic motivation is interest. According to Hidi and Harackiewicz, interest can be seen as an interactive relation between an individual and some feature of his or her environment (Hidi and Harackiewicz 2000: 152). People are intrinsically motivated as a result of the nature this interaction with a particular content or task. This interaction leads to intrinsic motivation if the person finds the task or content interesting. Interest is content specific, in the sense that whether someone is interested or not interested depends on the specific object of interest (Harackiewicz and Knogler 2017: 335). So, one is not simply interested, one is interested in something.

Interest can be both a state and a trait. Interest as a state means that one desires to engage in activities in the present moment, and the experience of interest is temporary (Harackiewicz and Knogler 2017: 335). A traitlike interest is a more stable, enduring interest in a specific content (Harackiewicz and Knogler 2017: 338). Someone who does not normally play football, and is in general not that interested in it, can still enjoy joining his or her friends for an impromptu football match. He or she is then experiencing a state of interest and is intrinsically motivated for the duration of that match. There might be others participating in the football match who is practicing football regularly and has done so for many years. These are also intrinsically motivated, but the interest can then be described as a trait.

A state of interest combines feelings of enjoyment and curiosity with focused attention and perceptions of value and importance. In a state of interest, there is no conflict between what a person is doing and what is important to them (Harackiewicz and Knogler 2017: 336). So the person engaging in interesting activities is experiencing enjoyment and finds the activity valuable and important to the extent that there is no other place he or she would rather be, or other activity he or she would rather be doing.

Traitlike interest, also called individual interest (Hidi and Harackiewicz 2000: 152), is usually the outcome of a long and positive engagement with a particular content (Harackiewicz and Knogler 2017: 338). The relationship between object/content and person has been described in several ways, but three critical component that can be highlighted are positive affect, stored value and stored knowledge. Positive affect refers to an individual's evaluation of the activity as enjoyable and exiting, stored value relates to the individuals understanding and knowledge of the subject content, and stored value refers to the feelings of competence and other feelings that comes from the engagement with the subject content (Harackiewicz and Knogler 2017: 339-340, Schiefele 2009: 203).

With regards to our example, Kari, who became a surgeon, might be more interested in the content and task of medicine and surgery. Her interactions over time with activities involved in this area might have led to feelings of enjoyment and curiosity, and the length of the training needed suggests that the interest is traitlike, meaning that it is stable over time.

For Per, feelings of enjoyment, curiosity and interest might not have been there, and if it surfaced, it was more sporadic and statelike, resulting in intrinsic motivation being lower and more unstable.

2.2.5 Goal theories

There are several approaches to goals and their relation to achievement behaviour. One of the approaches points to the effect of specific, proximate and challenging goals (Eccles and Wigfield 2002: 115). Here, goals are seen as the object of an action (Locke and Latham 2002:705), the ultimate result of one's behaviour in a certain course of action. Within this approach, specific goals can lead to focused attention, proximal goals are more motivating than distant goals, and challenging goals can lead to more effort (Schunk 1990): 74).

Of special interest for this thesis is the way goals are believed to affect effort and persistence. According to Locke and Latham, difficult goals lead to both more and prolonged effort, as well as directing that effort towards the relevant goal-directed activities. (Locke and Latham 2002:706-707).

In the pursuit of long-term goals, which is what is relevant for this thesis, Locke and Latham argues that in itself they are not very motivating, but that the addition of relevant proximal goals along the way can lead to significantly higher motivation (Locke and Latham 2002:706-707).

Another approach is to see goals as broad orientations or purposes rather than specific goals (Cook and Artino 2016: 1006). The goals people have in relation to their achievements are thought to be related to the type of behaviour they engage in (Eccles and Wigfield 2002: 115). Achievement goals concerns the purpose of this behaviour (Ames 1992: 261), meaning _why_ one is engaged in an activity.

Since it is widely agreed that the centrepiece of achievement is competence, achievement goals can then be defined as the purpose of engaging in competence related behaviour, that is, behaviour relating to ability and success (Elliot and Hulleman 2017: 43-44).

Two types of purpose, or categories of achievement goals, has received most attention. Both categories have been labelled with different names; one has been called learning, task-involvement and mastery goals, the other category performance and ego-involvement goals These two categories describe different ways of looking at success and ability, different reasons for engaging in achievement-oriented behaviour, and different ways of thinking about oneself, the task and the result (Ames 1992: 261-262, Elliot and Hulleman 2017: 44).

Learning, task involvement and mastery goals (from now on called mastery goals) is based on the belief that effort and outcome is related so that effort will lead to success or a sense of mastery. A person holding this belief is oriented towards learning new skills, trying to understand new things, improving competence and achieving a sense of mastery based on self-referenced standards (Ames 1992: 262). Mastery goals are hypothesised to lead to positive, adaptive outcomes (Elliot and Hulleman 2017: 44) such as persistence, consistence of effort and mastery-oriented behaviours (Grant and Dweck 2003: 541) and long-term involvement in learning (Ames 1992: 263).

Performance or ego-involvement goals (from now on called performance goals) focus on ability and proving one's ability through comparison to others or some normative standard. Learning is viewed as a means to achieve something else, and success without effort is seen as further proof of ability. A person holding this belief around achievement is focused on the result rather than learning, and external standards and recognition are the benchmarks of achievement (Ames 1992: 262). Performance goals are hypothesised to lead to negative and maladaptive outcomes (Elliot and Hulleman 2017: 44) such as helplessness and loss of effort after a setback (Grant and Dweck 2003: 541).

So in our example, Kari might have been motivated by having relevant proximal goals in addition to the long-term goal of becoming a surgeon, and she might predominantly have had mastery goals, that is, goals related to learning and growth, which has led to increased persistence of effort even when experiencing setbacks such as negative results and feedback.

Per might not have been able to set proximal goals, and lost motivation along the way towards the long-term goal. He might also have had predominantly performance goals, that is, goals related to results and external standards rather than learning, which has led to loss of effort and motivation after experiencing setbacks.

2.2.6   Summary

To summarise, we have presented five theories that according to Eccles and Wigfield (2002) deals with reasons for engagement.

Four of the theories; self-determination theory, flow theory, individual differences theories of intrinsic motivation and interest theory has a focus on intrinsic motivation in common. The

term intrinsic motivation seems to be quite similar in all four theories, the difference seams to lie in where it comes from, where it originates. Self-determination theory argues that intrinsic motivation comes from the satisfaction of three basic needs; in flow theory it comes from the experience, and expected experienced, of complete involvement which is associated with flow; in interest theory it comes from the interaction with a particular content or task of personal preference and interest; and in individual differences theories of intrinsic motivation an orientation towards intrinsic or extrinsic motivation is in part due to enduring individual differences or traitlike characteristics that are relatively stable across time and situations (Harackiewicz and Knogler 2017: 335, Eccles and Wigfield 2002: 112-117).

Self-determination theory is different from the other three theories as it has a more nuanced view of extrinsic motivation. In self-determination theory, extrinsic motivation is divided into four forms which are qualitatively different and has different consequences.

Lastly, goal theories describe the importance of having proximal goals in addition to the long-term goals, and two different types of achievement goals; mastery and performance goals. These two types of achievement goals describe different ways of looking at success, ability, effort and learning, and has different consequences for the type of behaviour people engage in.

3 Scientific method

In this chapter, the method for collecting and analysing data will be presented

3.1 Literature review

To investigate what research can tell us about long-term motivation, I have chosen to conduct a literature review. According to Hart, a literature review is "*the analysis, critical evaluation and synthesis of existing knowledge relevant to your research problem*" (Hart 2018: 3).

Analysing existing literature can have similar value as collecting first-hand data, and can lead to new insights through critical evaluation of existing research, and also identify gaps in existing research (Hart 2001: 2-3).Through searching for qualified sources and resources on the topic in a systematic way and evaluate existing work in an equally systematic fashion, this analysis will hopefully lead an improved understanding of the topic, a synthesis that has not been created before, and an overview of what has been done and what still needs to be done on the topic (Hart 2018: 2-4).

3.2 Planning and procedure

To be able to do this search and review in a systematic way so as to get relevant results, planning and diligence is important.

I followed a process inspired by Hart (Hart 2018: 3-4) and Cooper and Hedges (1993, in Hart 2018: 109-110):

1. Preparation and planning
    a. Formulate research questions
    b. Map out theoretical foundation and scope
    c. Develop search strategy
    d. Develop questionnaire and maps for analysis
2. Search
    a. Snowball search
    b. Structured search
3. Reading and analysing
    a. Analyse individual articles

   4. Extraction, mapping and organising
        a. Synthesise and organise findings
        b. Analyse the findings a whole
        c. Map out main findings
   5. Writing

The process has been iterative, where findings from the search and from an analysis has informed and developed the different phases and tools as the process has unfolded.

The research questions were already formulated, so the process started with familiarising myself with general motivational theory through textbooks, handbooks and review articles. Through this, I got an overview of the general field of motivation, and decided on the direction, scope and theoretical foundation for the thesis. I also created a first list of search terms and key words that could be used in the search.

Since strict management of the search is an essential part of the research project (Hart 2001: 36), I early on created a search log (*appendix 1*) to record the activities of the search and act as part of the data in the thesis (Hart 2001: 36). Also, as preparation for the search, I developed a first version of a questionnaire (*appendix 2*) and maps to make sure all the articles reviewed where analysed in systematic way.

After discussions with the University Library in Tromsø, I decided to use ProQuest as the main search engine. All searches were also replicated with Oria and Google Scholar. For practical reasons, only the 200 most relevant hits were screened in these additional searches. No further articles came out of these searches.

When screening the searches for relevant articles to include in the review, a three-level approach was implemented:
   1. Scan title and description in search results. If an article seems relevant, proceed to next level.
   2. Read abstract and methods chapter, skim read article if necessary. If an article is still deemed relevant, process to next level.
   3. Download for full read. If the article is still deemed relevant, add to the full review.

To ensure the relevance of the review, it is important to both cast the net wide enough to try to find all relevant articles, but at the same time be focused enough to make sure that the articles found are relevant for the research questions and that the search process is manageable.

Inclusion criteria was that it should be an electronically accessible publications in English, original research rather than review articles etc., long-term motivation or persistence should be the central component of the research, and the research should be longitudinal and be from work organisations. The criteria of peer-reviewed and in English was included already in the database search.

Different combinations resulted very different numbers of articles found, and to make the process manageable and limit the number of hits, I added some criteria to the search engine. In almost all searches the criteria that it should be peer-reviewed, in English and within the subject field of motivation was added. In searches that gave a large amount of very hits (more than 1,000), an additional criteria of publication date after 2010 was added. This because one of the articles found in the snowball search, published in 2012, pointed to the lack of research long-term motivation (Bateman and Barry 2012: 985).

To make sure I did not miss any relevant articles, I searched all selected articles for references to other articles that could be relevant. I also searched for relevant articles among articles that referenced the articles selected for the review.

3.3 Quick search

To get an overview of the more specialised field of long-term motivation, and to further develop my list of search words, the questionnaire and maps, I started with a quick search (Hart 2001: 8). In this phase, I tried out different search phrases in the ProQuest, searched the Internet and continued my reading of handbooks. Based on this, I ended up with a list of key words for the main search, as well as some articles to be screened for inclusion in the review (Hart 2001: 27-28).

3.4   Systematic search

3.4.1   Original search: Long-term motivation in work settings

I started out with a quite wide search, using different combinations of the keywords: *motivation, long-term and persistence.*

Since this gave many hits, but I struggled to find relevant articles, I added some search words to focus the search. The search words below were used in different combinations with the ones previously mentioned: *Longitudinal, prospective, leadership, management, business, organisation, work*

All in all, 3,097 articles were screened in this search, but it resulted in only three articles to be included in the review. This shows that it was a challenge with few relevant articles, but many hits in the searches. All in all, this search gave to few articles to create a meaningful review.

As a result of this, I contacted several researchers within the field of motivation who confirmed the scarcity of longitudinal research on the topic. I also found an additional article to the article from Bateman and Barry(2012) already quoted, which also states that longitudinal research on motivation is lacking (Wrzesniewski et. al. 2014: 10991)

Based on this, and on conversations with the University Library in Tromsø and my supervisor, I came to the conclusion that research on the subject is in fact scarce, and that I needed to widen the search. I decided to move on and search for other long-term consequences of motivation.

3.4.2   Other long-term consequences of motivation

In this second phase of the search, I considered different concept from literature on organisational behaviour that I thought would have long-term elements to them. I searched for the word *motivation*, in combination with *organisational change, burnout, turnover intentions, organisational commitment, strategy implementation and engagement.*

The inclusion criteria and screening process was still the same, except that the focus on long-term motivation as the central component of the research was changed. 1,277 articles were

screened in this part of the search, but it resulted in only two articles selected to be included in the review.

This resulted in two relevant articles, still too few for a meaningful review. Again, since the number of relevant articles was low, so I decided to widen the search yet again to two domains outside of work, education and sport.
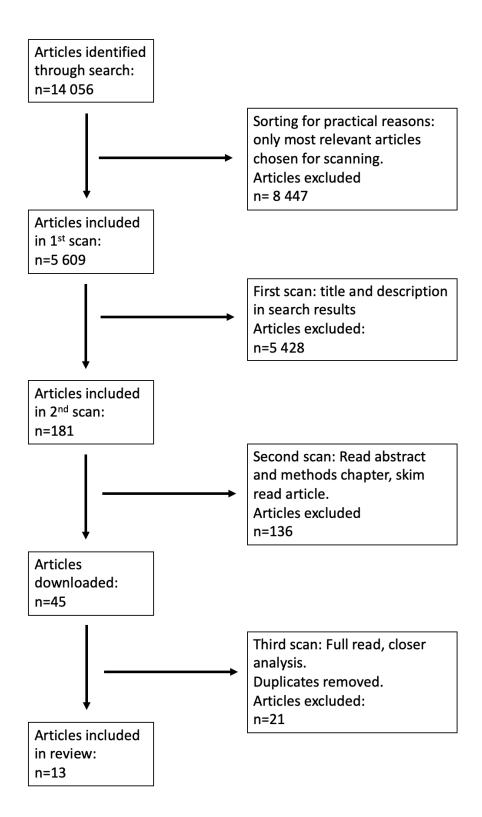
3.4.3   Long-term motivation in sport and education

Within these two domains, my previous snowball search and structured searches has provided some articles. In addition, I ran two new searches with the search words: *motivation, persistence, long-term, prospective, longitudinal combined with sport and education*

Inclusion criteria and screening process still the same, except that the focus on work organisation was changed to sport and education. 1,235 articles were screened as this part of the search process, which resulted in eight additional articles that I could include in the review.

3.4.4   Summary of search

Below you can see a flow diagram of the structured search process. In addition to this comes the quick search, and follow-up of references from selected articles and articles referenced by the selected articles. All in all, more than 5,600 articles were screened, ending up with 13 articles selected for the review.

Figure 2: Search process

Articles identified through search: n=14 056

Sorting for practical reasons: only most relevant articles chosen for scanning. Articles excluded n= 8 447

Articles included in 1st scan: n=5 609

First scan: title and description in search results Articles excluded: n=5 428

Articles included in 2nd scan: n=181

Second scan: Read abstract and methods chapter, skim read article. Articles excluded n=136

Articles downloaded: n=45

Third scan: Full read, closer analysis. Duplicates removed. Articles excluded: n=21

Articles included in review: n=13

3.5   Analysis procedure

After the literature search and screening, the 13 selected articles were subjected to a comprehensive analysis, using a questionnaire to interrogate the literature (Hart 2018: 238) and different maps to organise and bring coherence to the findings (Hart 2018: 232).

Both the questionnaire and the maps were created on the basis of the research questions and the theoretical foundation presented earlier, and both were used and further developed in an iterative process based on the findings from the articles.

When the individual articles were analysed with the questionnaire, I extracted data from the questionnaire to the map. I created three maps based on the research questions: one mapping the theoretical frameworks used in the selected articles, one mapping the types of motivation within each such framework and one mapping characteristics of the research that I found relevant to interpret the findings and discuss transfer of learning across domains. Again, this process was also iterative, as putting the individual articles into context with each other and analysing the findings as a whole made me go back several times to re-analyse the articles.

Finally, I used the maps to summarize the information into tables and overviews that be presented in the thesis (Hart 2018: 238).

3.6   Summary

The literature search was a comprehensive, time consuming, and sometimes frustrating process. The lack of relevant articles, and the extra time and work needed to conduct still new searches was challenging, but in the end, I believe I found enough articles to be able to conduct a meaningful review.

4 Findings

In this chapter, the findings from the literature search will be presented and discussed. The search resulted in 13 articles which can be seen in the overview below:

Table 1: Overview of articles found in the literature search

No.	Article	Authors	Year	Theoretical framework	Domain
1	Masters of the long haul: Pursuing long-term work goals	Bateman and Barry	2012	Goal theories, interest theory, intrinsic motivation	Work
2	Multiple types of motives don't multiply the motivation of West Point cadets	Wrzesniewski et al.	2014	Intrinsic motivation theories, Self-determination theory	Work
3	Do they intent to stay? An empirical study of commercial apprentices' motivation, satisfaction and intention to remain within the learned occupation	Forster-Heinzer et. al.	2016	Learning motivation	Work
4*	A Motivational Model of Work Turnover	Richer et. al.	2002	Self-Determination theory	Work
5*	Breaking through the loss cycle of burnout: The role of motivation	ten Brummelhuis et. al.	2011	Self-Determination theory	Work
6	Self-Determination and Persistence in a Real-Life Setting: Toward a Motivational Model of High School Dropout	Vallerand et. al.	1997	Self-Determination theory	Education
7	Intrinsic, Extrinsic and Amotivational Styles and Predictors of Behaviour: A Prospective Study	Vallerand and Bissonnette	1992	Self-Determination theory	Education
8	Associations Among Perceived Autonomy Support, Forms of Self-Regulation, and Persistence: A Prospective Study	Pelletier et. al.	2001	Self-Determination theory	Sport
9	Motivation and dropout in female handballers: A 21 month prospective study	Sarrazin et. al.	2002	Self-Determination theory	Sport
10	Peer influence on young athletes' need satisfaction, intrinsic motivation and persistence in sport: A 12-month prospective study	Joesar et. al.	2011	Self-Determination theory	Sport
11	Youth Athletes' Motivation, Perceived Competence, and Persistence in Organized Sports	Rottensteiner et. al.	2015	Self-Determination theory, achievement goal theory	Sport
12	Using Self-Determination Theory to Explain Sport Persistence and Dropout in Adolescent Athletes	Calvo et. al.	2010	Self-Determination theory	Sport
13	Youth sport dropout from the achievement goal theory	Cervelló et. al.	2007	Achievement goal theory	Sport

Article 4 and 5: Dependent variable not long-term motivation or persistence, but turnover intentions/behaviour and burnout respectively.

As you can see from table 1, there are five articles from the domain of work, two from education and six from sport. Two of the articles from the work domain had a different intention and dependent variable than long-term motivation and persistence, but were included due to the lack of articles on long-term motivation in the work place. I will start by describing the three first articles, which deals explicitly with long-term motivation and persistence. I will then describe the two next articles which deals with the long-term consequences of turnover and burnout. Lastly, I will describe the articles from the education and sport domains.

4.1 Overview and presentation of articles

4.1.1 Long-term motivation in work settings

As stated, three articles were found that focus explicitly on long-term motivation and persistence. The two first ones will be described in some more detail below. The last one, article no. 3 *"Do they intent to stay…"* will not be discussed further and also excluded from further analysis and discussion. The reason is that no significant causal influence was found from learning motivation to intention to remain. This again can be explained, and this is acknowledged by the authors themselves, by the fact that learning motivation was operationalises as a combination of intrinsic, instrumental and achievement-oriented motivation, as well as interest (Forster-Heinzer et. al. 2016: 22-23). This combination makes it impossible to investigate the separate dimensions and their influence on long-term motivation and persistence.

Table 2: Long-term motivation in work organisations

No.	Article	Authors	Year	Theoretical framework	Findings: Factors leading to long-term motivation
1	Masters of the long haul: Pursuing long-term work goals	Bateman and Barry	2012	Goal theories, interest theory, intrinsic motivation	Proximal goals (task interest and near term gratification), distal goals (possible selves and future), intrinsic motivation
2	Multiple types of motives don't multiply the motivation of West Point cadets	Wrzesniewski et al.	2014	Intrinsic motivation theories, Self-determination theory	Internal (intrinsic) motivation positively associated, instrumental (extrinsic) motivation negatively associated
3	Do they intent to stay? An empirical study of commercial apprentices' motivation, satisfaction and intention to remain within the learned occupation	Forster-Heinzer et. al.	2016	Learning motivation	No significant findings

4.1.1.1 Article1: Masters of the long haul: Pursuing long-term work goals

The first article I will describe is a qualitative, cross sectional study. Initially, I wanted to add only longitudinal studies to the review, but the scarcity of research articles and the design of the study made decide to add it anyway.

The interesting thing about the design is that the sample they have chosen all have jobs with very long time horizons. Their jobs and goals have three characteristics (Bateman and Barry 2004: 988):

1. Success (if it happens) could be from many years to even generations into the future.
2. Progress is slow (if it happens).
3. Failure is a significant possibility

The interviewees are from knowledge-based organisations in sectors like biomedical science, nanotechnology, astronomy etc., and are employed as e.g. scientists, technical specialists and administrators (Bateman and Barry 2004: 988). So these individuals, with highly complex jobs, work towards really long-term goals that may or may not be accomplished. The authors do not give this example, but I'm imagining working towards putting humans on Mars. It may not happen, or it might happen after the scientist is dead, but he or she is working towards it anyway. So then, what motivates them to work towards this goal?

The authors position the thesis within goal theory (Bateman and Barry 2004: 986), and conducts semi-structured interviews with 25 individuals, all from the United States (Bateman and Barry 2004: 988). The results from the interviews are aggregated into four dimensions leading to long-term motivation: possible futures, possible selves, task interest and near-term gratification (Bateman and Barry 2004: 992).

Possible futures is about the broader significance of the work, beyond personal benefits. *Possible selves* is about new states of personal or professional existence. *Task interest* is about the interest in the day-to-day tasks in themselves, and finally *near-term gratifications* is about the specific short-term outcomes that come along the way to the long-term goal (Bateman and Barry 2004: 992).

If we put this into a theoretical context, we see that the four aggregate dimensions can be divided into two types of goals that we recognise from goal theory, namely proximal and

distal goals. As I have described earlier in the thesis, motivation for long-term goal pursuit is helped by the existence of proximal goals. In this thesis, the authors found that the long-term goals pursuit towards possible futures and possible selves are motivated by the proximate goals of task-interest and near-term gratification (Bateman and Barry 2004: 998).

It is worth noting that extrinsic motivation in the form of financial rewards is hardly mentioned by the interviewees. In fact, it is indicated by interviewees that intrinsic rewards are more important than financial benefits, and overall, intrinsic rewards are more commonly invoked than extrinsic ones (Bateman and Barry 2004: 996).

Also, task interest as described in the article can be seen in the light of interest theory, in that an individual finding a task interesting can lead to intrinsic motivation and be a proximal motivator for persistence (Bateman and Barry 2004: 999).Since the engagement with the task is so long term in this case, we can maybe even describe it as traitlike interest.

To summarize, the authors found that motivation towards long-term work goals comes from the coexistence of the proximal goals of task interest and near team gratification, and the distal goals of possible future and possible selves. They also highlight the importance of intrinsic motivation. In light of the theoretical basis for the literature review, presented earlier, the contribution from this article is the importance of having both distal and proximal goal, the role of task interest and the role of intrinsic motivation.

4.1.1.2   Article 2: Multiple types of motives don't multiply the motivation of West Point cadets

The second article coming out of the original literature search is a study on officer cadets at West Point in the United States. Training at West Point is described as extremely physically and emotionally demanding, and one in five cadets drop out before graduation (Duckworth 2017: 3-4)

The authors collected data from 9 classes who started at West Point over a period from 1997 - 2006, with a total sample of 11,320 cadets. Motivation was measured at the start of the participants' first year through a quantitative survey. Persistence was measured on two points; first it was measured on whether or not the cadets completed the course and became commissioned officers after four years of training at West Point, and second on whether or not they remained military officers after the 5-year period of mandatory service after

completing the training. This means that for the first classes in the sample, it was up to 14 years from the first data point of measuring motivation to the last data point of measuring if they were still military officers (Wrzesniewski et. al. 2014: 10992-10993).

Theoretically, the authors build on and refers to theory on intrinsic motivation based on self-determination theory, but they use the terms internal and instrumental instead of intrinsic and extrinsic. The terms internal and instrumental are defined by the authors themselves, with no references to other literature other than self-determination theory. The terms are not used interchangeably, with internal motivation described as a broader category than intrinsic motivation (Wrzesniewski et. al. 2014: 10990-10992), but for the purpose of this thesis I will equate them with the terms intrinsic and extrinsic motivation.

The authors found that internal motivation had a positive and significant effect on both measures of persistence: graduating and becoming a commissioned officer, and extending the cadets service in the military beyond the mandatory period (Wrzesniewski et. al. 2014: 10994). They also found that cadets having strong internal motivation and simultaneously having strong instrumental motivation had a lower likelihood of graduating and becoming commissioned officers, and also a lower likelihood of continuing their military service beyond the mandatory period (Wrzesniewski et. al. 2014: 10994).

To summarise, the authors found that internal motivation had a positive effect on persistence, and that instrumental motivation can weaken this positive effect. The result also suggests that initial, individual motivation can have important outcomes and over long periods of time, which points to the importance of understanding it (Wrzesniewski et. al. 2014: 10994).

4.1.1.3 Preliminary summary and discussion

As you can see from table 2, the two articles come from two different theoretical starting points, and the only similarity is that they both point to the importance of intrinsic or internal motivation. Study 2 investigates this explicitly, in study 1 it emerges as a finding outside of the original theoretical framework.

With only two articles, the only conclusion we can make at this point is that there are two few studies for us to make any conclusions. The lack of research on this topic in highlighted in both the presented studies and others, represented with quotes such as: "*The motivational psychology behind long-term goal pursuits his markedly understudied*" Bateman and Barry

2012: 985), "*longitudinal field research on the…various kinds and levels of motives on meaningful outcomes over time has been relatively lacking*" (Wrzesniewski et. al. 2014: 10991) and "*there is a paucity of research on sustained motivation in complex, real-life activities*"(Brophy 1999, in Beltman and Volet 2007: 315)

This is further substantiated by replies I received when contacting motivation researchers asking if they knew of any studies about the topic. Two of the answers I got were: "*There is a lot of work on work motivation, but not many longitudinal studies*" (Professor Richard Ryan, email correspondence April 2019) and "*research on the topic remains scarce*" (Professor of Organisational Behaviour, email correspondence April 2019).

4.1.2 Other long-term consequences of motivation in the work domain: Turnover and burnout

With the lack of research found on long-term motivation and persistence, I chose to widen the search to other work-related areas where long-term consequences of motivation can be found. In this search, I found two articles which were investigated through longitudinal research from two different areas: turnover and burnout.

Turnover is about individuals leaving an organisation, and the cost that comes with this (Richer et. al. 2002: 2089). Persistence here will be staying in the organisation or *persisting with the organisation*. This is not persistence as we originally describe it, but I still think it has some relevance for the topic of this thesis.

Burnout is about stress and is characterised by emotional exhaustion and cynicism and is a condition that has considerable negative consequences for both employees and the organisations they work for (ten Brummelhuis et. al. 2011: 268). This is relevant for this review because burnout would almost certainly hinder a person's striving towards a long term goal.

Both studies (articles 4 and 5) were based on self-determination theory and found indirect associations between self-determined forms of motivation and the phenomena in question. More self-determined forms of motivation were found to be indirectly associated with lower turnover intentions and turnover behaviour, through work satisfaction and emotional exhaustion (Richer et. al. 2002). For burnout, intrinsic motivation was found to be indirectly

associated with less burnout and extrinsic motivation indirectly associated with increased burnout (ten Brummelhuis et. al. 2011).

Table 3: Other long-term consequences of motivation in work organisations

No.	Article	Authors	Year	Theoretical framework	Findings: Factors leading to long-term motivation
4	A Motivational Model of Work Turnover	Richer et. al.	2002	Self-Determination theory	More self-determined forms of motivation indirectly associated with lower turnover intentions and turnover behaviour, through work satisfaction and emotional exhaustion*
5	Breaking through the loss cycle of burnout: The role of motivation	ten Brummelhuis et. al.	2011	Self-Determination theory	Intrinsic motivation indirectly associated with less burnout, extrinsic motivation indirectly associated with increased burnout*

4.1.3 Long-term motivation in education and sport

Still finding relatively few articles on long-term motivation and other long-term consequences within the domain of work, I decided to broaden the search even more, and include the domains of education and sport. Here, I found eight articles, two from education and six from sport.

Table 4: Long-term motivation in education and sport

No.	Article	Authors	Year	Theoretical framework	Findings: Factors leading to long-term motivation
6	Self-Determination and Persistence in a Real-Life Setting: Toward a Motivational Model of High School Dropout	Vallerand et. al.	1997	Self-Determination theory	More self-determined forms of motivation positively associated, amotivation negatively associated
7	Intrinsic, Extrinsic and Amotivational Styles and Predictors of Behaviour: A Prospective Study	Vallerand and Bissonnette	1992	Self-Determination theory	More self-determined forms of motivation positively associated, amotivation negatively associated
8	Associations Among Perceived Autonomy Support, Forms of Self-Regulation, and Persistence: A Prospective Study	Pelletier et. al.	2001	Self-Determination theory	More self-determined forms of motivation positively associated, amotivation negatively associated
9	Motivation and dropout in female handballers: A 21 month prospective study	Sarrazin et. al.	2002	Self-Determination theory	More self-determined forms of motivation positively associated, amotivation negatively associated
10	Peer influence on young athletes' need satisfaction, intrinsic motivation and persistence in sport: A 12-month prospective study	Joesar et. al.	2011	Self-Determination theory	Intrinsic motivation positively associated
11	Youth Athletes' Motivation, Perceived Competence, and Persistence in Organized Sports	Rottensteiner et. al.	2015	Self-Determination theory, achievement goal	More self-determined forms of motivation positively associated; higher levels of mastery and performance goal orientation both positively associated
12	Using Self-Determination Theory to Explain Sport Persistence and Dropout in Adolescent Athletes	Calvo et. al.	2010	Self-Determination theory	Amotivation and less self-determined forms of motivation negatively associated
13	Youth sport dropout from the achievement goal theory	Cervelló et. al.	2007	Achievement goal theory	Lower levels of performance goal orientation associated with persistence

Self-determination theory was the most common theory used in these articles, with achievement goal theory being the only other theory applied. All articles based on self-determination theory (articles no. 6-12) found that more self-determined forms of motivation were positively associated with long-term motivation and persistence, and most found that amotivation and less self-determined forms of motivation was negatively associated with long-term motivation and persistence.

The two articles that use achievement goal theory (articles no. 11 and 13) did not give any consistent results, one article (no. 11) found that both performance goal and mastery goal orientations were positively associated with long-term motivation, the other article found that performance goal orientation was negatively associated with long-term motivation.

4.2   Research questions

4.2.1   Research question 1: Theoretical frameworks

Table 5: Theoretical frameworks used in research on long-term motivation

No.	Article	Authors	Year	Intrinsic motivation theories		Goal theories		Interest theories
				Self-determination theory	Intrinsic motivation	Goal setting theory	Achievement goal theory	
1	Masters of the long haul: Pursuing long-term work goals	Bateman and Barry	2012		X	X		X
2	Multiple types of motives don't multiply the motivation of West Point cadets	Wrzesniewski et al.	2014	X	X			
4	A Motivational Model of Work Turnover	Richer et. al.	2002	X				
5	Breaking through the loss cycle of burnout: The role of motivation	ten Brummelhuis et. al.	2011	X				
6	Self-Determination and Persistence in a Real-Life Setting: Toward a Motivational Model of High School Dropout	Vallerand et. al.	1997	X				
7	Intrinsic, Extrinsic and Amotivational Styles and Predictors of Behaviour: A Prospective Study	Vallerand and Bissonnette	1992	X				
8	Associations Among Perceived Autonomy Support, Forms of Self-Regulation, and Persistence: A Prospective Study	Pelletier et. al.	2001	X				
9	Motivation and dropout in female handballers: A 21 month prospective study	Sarrazin et. al.	2002	X				
10	Peer influence on young athletes' need satisfaction, intrinsic motivation and persistence in sport: A 12-month prospective study	Joesar et. al.	2011	X				
11	Youth Athletes' Motivation, Perceived Competence, and Persistence in Organized Sports	Rottensteiner et. al.	2015	X			X	
12	Using Self-Determination Theory to Explain Sport Persistence and Dropout in Adolescent Athletes	Calvo et. al.	2010	X				
13	Youth sport dropout from the achievement goal theory	Cervelló et. al.	2007				X	
	Number of studies			10	2	1	2	1

As we can see from table 5, self-determination theory is used in 10 articles, and is by far the most used theoretical framework among the research I have located. This is in line with a review article form 2016 that found that self-determination theory and achievement goal theory were the most common motivational theories within sport motivation research (Clancy et. al. 2016: 234).

Achievement goal theory appeared twice, and goal theories are used in three articles in total. The important of task interest is mentioned in one article, while two articles refer to intrinsic

motivation theory. None of the articles found refer to flow theory or individual differences theories of intrinsic motivation.

4.2.2   Research question 2: Types of motivation associated with long-term motivation

As we have seen, self-determination theory is the most used theory in the research reviewed, with goal theories, interest theories and intrinsic motivation theories also applied.

To start, Bateman and Barry (2012, article no. 1) based their research on goal-setting theory and found that the existence of both distal and proximal goals are important for long-term motivation. In addition, they point to the importance of intrinsic motivation and task interest. I will come back to intrinsic motivation later on, but for the three other factors I can only say that while they are certainly interesting for future exploration and research, no there are no other studies using these theories, which makes it hard to elaborate more on them.

Also within goal theories is the achievement goal theory. There are two articles using this framework and investigating the use of mastery and performance goals articles 11 and 13.

Table 6: Findings from achievement goal theory

| No. | Article | Authors | Year | Achievement goal orientation | |
				Mastery goals	Performance goals
11	Youth Athletes' Motivation, Perceived Competence, and Persistence in Organized Sports	Rottensteiner et. al.	2015		
13	Youth sport dropout from the achievement goal theory	Cervelló et. al.	2007	Not measured	

Green: Positively associated; red: negatively associated; yellow: not significant
This is an illustration of the findings, and it not meant as a statistical analysis.

As we can see from table 6, the findings in the two studies are contradicting each other. Article 11 finds that higher levels of both mastery and performance goal orientation are positively associated with long-term motivation, while article 13 finds that performance goals are negatively associated with long-term motivation and persistence. Again, this makes it hard to make any even preliminary conclusions.

It should be mentioned that three articles (no. 9, 10, 11) uses achievement goal theory in an indirect manner, where it is an antecedent to type of motivation which again leads to long-term motivation. Here, a performance or mastery oriented climate influences the type of motivation a person has. This is what Vallerand and Ratelle (2002: 37) calls social factors in their four-stage model, which is not within the scope of this review.

This brings us then to the most used theory in the research I have identified, self-determination theory. Both the number of articles and their findings makes this the most interesting body of research to elaborate further on.

Table 7: Findings from self-determination theory

Articles based on self-determination theory				Types of motivation					
				Amotivation	Extrinsic motivation				Intrinsic motivation
				Amotivation	Controlled motivation		Autonomous motivation		Intrinsic motivation
No.	Article	Authors	Year	Amotivation	External regulation	Introjected regulation	Identified regulation	Integrated regulation	Intrinsic motivation
2*	Multiple types of motives don't multiply the motivation of West Point cadets	Wrzesniewski et al.	2014	Not measured	(red)	(red)		(green)	(green)
4	A Motivational Model of Work Turnover	Richer et. al.	2002	(red)	(red)	(red)	(green)	(green)	(green)
5	Breaking through the loss cycle of burnout: The role of motivation	ten Brummelhuis et. al.	2011	Not measured	(red)	Not measured	Not measured	Not measured	(green)
6	Self-Determination and Persistence in a Real-Life Setting: Toward a Motivational Model of High School Dropout	Vallerand et. al.	1997	(red)	Not significant	(green)	(green)	Not measured	(green)
7	Intrinsic, Extrinsic and Amotivational Styles and Predictors of Behaviour: A Prospective Study	Vallerand and Bissonnette	1992	(red)	Not significant	Not significant	(green)	(green)	(green)
8	Associations Among Perceived Autonomy Support, Forms of Self-Regulation, and Persistence: A Prospective Study	Pelletier et. al.	2001	(red)	(red)	Not significant	(green)	Not measured	(green)
9	Motivation and dropout in female handballers: A 21 month prospective study	Sarrazin et. al.	2002	(red)	Not significant	Not significant	Not significant	(green)	(green)
10	Peer influence on young athletes' need satisfaction, intrinsic motivation and persistence in sport: A 12-month prospective study	Joesar et. al.	2011	Not measured	Not measured	Not measured	Not measured	Not measured	(green)
11	Youth Athletes' Motivation, Perceived Competence, and Persistence in Organized Sports	Rottensteiner et. al.	2015	Not measured	Not significant	Not significant	(green)	Not measured	(green)
12	Using Self-Determination Theory to Explain Sport Persistence and Dropout in Adolescent Athletes	Calvo et. al.	2010	(red)	(red)	(red)	Not significant	Not measured	Not significant

Green: Positively associated; red: negatively associated; yellow: not significant
This is an illustration of the findings, and it not meant as a statistical analysis.

*Article 2: The authors do not distinguish on types of extrinsic motivation and describes internal motivation as a broader category than intrinsic motivation.

The summary of findings in table 7 comprises studies in the domains of work, education and sport, and we will come back to the issue of transfer of learning from one domain to another later on. The studies use different operationalisations and measures of self-determination theory, so we should be careful as to which conclusion we draw, but there seems to be a

pattern here that shows that in the articles presented, there is an association between level of self-determined motivation and long-term motivation. The clearest findings are at both ends of the spectrum, where amotivation in negatively associated with long-term motivation in all studies where it is measured, and intrinsic is positively associated with long-term motivation in all but one study. The results for the different types of extrinsic motivation is a little bit more mixed, but positive association (green) is seen mostly to the right-hand side of the table, and negative association (red) is seen mostly to the left, both indicating an association between level of self-determined motivation and long-term motivation.

4.2.3   Research question 3: Conclusions and learning

As we have already discussed, research on long-term motivation within work settings is scarce, too scarce to draw any conclusions on the relationship between type of motivation and long-term motivation and persistence.

Based on this finding, I decided to widen the search and include other areas and domains. All in all, I found 13 articles that I have presented. Based on the lack of articles and coherent findings from the other theories, I will focus this next chapter the findings from self-determination theory.

Table 8 provides an overview of some of the characteristics of the research done, which points us to some issues that needs to be discussed.

Table 8: Characteristics of the research from self-determination theory

No.	Article	Domain	Country	Target group	Age group	n	Dependent variable (operationalisatio of persistence or long-term motivation)	Link between motivation and dependent variable	Time frame (t1...tn)
2	Multiple types of motives ...	Work	United States	Officer cadets, military	Adults	11 320	Complete studies and become commissioned officers; remain military officers beyond mandatory 5-year period	Direct	4-14 years
4	A Motivational Model of Work Turnover	Work	Canada	Managerial staff, proffesionals, in private and public sector	Adults	490	Turnover intentions (intention to leave the job); turnover behaviour (actually left job)	Indirect	1 year
5	Breaking through the loss cycle of burnout...	Work	Netherlands	Financial consultancy firm	Adults	352	Degree of burnout (emotional exhaustion and cynicism)	Indirect	2 years
6	Self-Determination and Persistence in a Real-Life Setting...	Education	Canada	High-school students	Adolescents	4 537	Persisters = Non-dropouts from high-school	Direct	1 year
7	Intrinsic, Extrinsic and Amotivational Styles and Predictors of ...	Education	Canada	Junior college students	Adolescents	1 062	Persisters = Non-dropouts from junior college	Direct	4 months
8	Associations Among Perceived Autonomy Support, ...	Sports	Canada	Competitive swimmers	Adolescents	369	Persisters = non-dropouts from swimming	Direct	22 months
9	Motivation and dropout in female handballers...	Sports	France	Female handballers	Adolescents	335	Persisters = Non-dropouts from handball	Direct	21 months
10	Peer influence on young athletes' need satisfaction...	Sports	Estonia	Team sport athetes	Adolescents	424	Persisters = Non-dropouts from sport	Direct	1 year
11	Youth Athletes' Motivation, Perceived Competence...	Sports	Finland	Team sport athetes	Adolescents	1 962	Persisters = Non-dropouts from sport	Direct	1 year
12	Using Self-Determination Theory to Explain Sport Persistence...	Sports	Spain	Male football players	Adolescents	492	Persisters = Non-dropouts from football	Direct	1 year

One issue that stands out for me from the overview in table 8 that is of real importance compared to the theme of this review is the time frame used in the research, meaning the actual longevity of the studies. 6 out of 10 studies are one year or less, and only one is more than two years.

Ericsson et. al. talks about 10 years or more of preparation to achieve expert performance (Ericsson et. al., 1993: 366), and while there might not be a universally agreed definition of long-term, I'm pretty sure that, as an example, a long-term strategy in an organisation is for more than one year. So, while these studies are about motivation over time, even considerable time, many of them are still shorter than I would have preferred based on the original theme of the review.

If we look further into the characteristics described in table 8, some of the things worth noticing are:

- Only three of the studies are done in work settings, the seven others are from education and sport.
- Two of the articles from work settings are about burnout and turnover.
  - Two articles investigate only indirect influence by SDT
- All the articles from outside of work settings are based on findings from adolescents.
- The research comes from seven countries in North-America and Europe
- Dependent variable is defined in different ways

As we have already seen, there seems to be a pattern in the findings within the articles based on self-determination theory that indicates an association between level of self-determined motivation and long-term motivation. But with the limited amount of research identified, and the fact that some of it is from domains outside of work, and some of it is oriented towards a different issue than long-term motivation, what can work organisations learn from this?

Regarding the research question about transfer of learning, a best-case scenario would be that we could generalise the findings to organisations in general, meaning that the findings about type of motivation leading to long-term motivation would be true in all organisations in all parts of the world.

This question of generalisability is a question of external validity: are the findings from these studies valid and transferable from the contexts they were found to other contexts and situations (Lund et al. 2002: 121)? External validity comes from the similarity between the study and the target population the generalisation is aimed at (Lund et al. 2002: 125-126).

All the issues just mentioned makes such a generalisation difficult. That only three of the studies using self-determination theory are from work settings, two of these are about burnout and turnover rather than long-term motivation, seven of the articles are about adolescents rather than adults and that the research is from only seven countries on two continents makes external validity questionable and in fact unfounded. Instead, I will look at arguments for transferring findings from education, school etc. to work organisations, and what work organisations can learn from this.

4.2.3.1   Can we transfer findings from sport and education settings to work?

Regarding the transfer of knowledge from sport to work, there is certainly no questions that people try to do this. You would have no problem locating former elite sports people selling presentations and speeches to work organisation. In their book on precisely this subject, transferring knowledge from sport to work organisations, Grøterud and Jordet (2005: V, XI) gives several examples of former athletes and coaches from elite sport that offers services within this field.

Their arguments around transferability is not research based, but one of the authors, Geir Jordet is a professor at the Norwegian School of Sport Sciences. While they acknowledge that sport and work are different, they also claim that they have similarities (Grøterud and Jordet: 2005: XII), and that many things from sport are transferable to work life (Grøterud and Jordet: 2005: 24). One of the things they mention is motivation (Grøterud and Jordet: 2005: 265), and that intrinsic rewards, as in intrinsic motivation, has been shown to be related to performance for both athletes and managers in work organisations (Grøterud and Jordet: 2005: 180),

Another book that focus explicitly on transferring knowledge from sport to work contexts is written by Bjørge Stensbøl, who has previously been Head of the Norwegian Elite Sport Program (Olympiatoppen) and also held senior leadership positions within work organisations (Stensbøl 2012). He claims that there are many similarities between high-performers in sports and work (Stensbøl 2012: 18,23), and highlights the importance of intrinsic motivation also in work organisations (Stensbøl 2012: 135).

Further anecdotal evidence comes from an article in the Norwegian business paper Dagens Næringsliv from 2014. The headline says "Business leaders has a lot to learn from elite sports" (Dagens Næringsliv 2014), and is based on an interview with professor Svein S. Andersen from BI Norwegian Business School. He also writes in another article that the business world can benefit from learning from elite sports, and that employees in work organisation can be motivated as in sport, if the circumstances are right (Andersen 2013/2014). None of this is directly research based, but ideas and opinions offered by people working in the intersection of the two fields that cannot be disregarded.

Another point to consider here is that self-determination theory has been shown to predict important work-related outcomes (Deci et. al. 2001), such as performance evaluations and

psychological adjustment (Baard et. al. 2004), lower levels of somatic symptom burden among employees (Williams et. al.2014), less burnout, more work satisfaction, better performance, more work commitment, less stress and better profitability (Deci et. al. 2017: 24-25).

This means that although there are definitive question marks around transferability of the findings, the theory itself has been shown to have relevance in the work domain, and several authorities on sport, business and organisational behaviour advocates the transferability of learning from sport to work organisations.

4.2.3.2   *Can we transfer findings from adolescents to adults?*

As for transferability from education and youth sport, let's look at transferability from adolescents to adults. While there are some differences in motivational patterns between adults and adolescents (Yeager et. al. 2017: 431), individuals develop moderately stable motivational orientations towards different contexts (Vallerand and Ratelle 2002: 44), and self-determination theory is found to be relevant also for adolescents (Yeager et. al. 2017: 437). Autonomy and relatedness are key components of self-determined motivation, and a long history of psychological research has documented that autonomy is a core need for human motivation irrespective of age, and among both adults and adolescents, autonomy has been shown to improve both well-being and academic performance (Yeager et. al. 2017: 437-438). Relatedness is also found to be fundamental to human motivation across age groups (Yeager et. al. 2017: 439).

One obvious difference between adolescents in sport and education and adults in work organisations is pay. In work life people get paid to do a job, in school not so at all and in youth sports mostly not. I'm not going discuss pay and motivation here, but some of the most controversial findings within self-determination theory has been around pay and rewards and its effect on intrinsic motivation (Deci et. al. 2017: 36). This is also the area where we find the main critique against self-determination theory (Deci et. al. 2017: 36).

The stability of motivational orientations and basic psychological needs of autonomy and relatedness across age points towards the possibility of transfer of learning from adolescents to adults, while differences in motivational patterns and the issue of pay goes against it. This means that we should be cautious in transferring the findings from adolescents to adults, but it does not render such a transfer impossible.

4.2.3.3 Can we transfer findings from turnover and burnout research to long-term motivation?

At first glance, long-term persistence and turnover intention might seem to point to the same phenomenon, namely committing or not committing to what you are doing. But there is a difference. In the article about turnover, (Richer et. al. 2002: 2089) commitment means staying in the organisation you are in. In the articles about sport, commitment means not quitting the sport that they are involved in, but they can change which club they compete for and still be persistent. This is different from turnover, which is about staying with or leaving the club. Still, I think you can argue that these two forms of persistence have something in common.

Burnout is about stress and has been characterised as a longitudinal process of resource loss and can lead to sickness and reduced well-being (ten Brummelhuis et. al. 2011: 268-269). This kind of process is not irrelevant for long-term motivation, as it is hard to imagine someone being highly motivated over time if they are simultaneously in a process of resource loss and ill-being.

Both these articles show that self-determination theory relevance for adults, has long-term consequences that can be measured longitudinally, and both relate to the idea of sticking to something over time.

4.2.3.4 Can we transfer findings across countries?

When discussing transferability across countries, self-determination theory argues that need by definition is universal and should apply in all cultures. Studies from several different countries in North-America, Europe and Asia support the cross-cultural validity of self-determination theory (Ryan and Deci 2002: 26, (Deci et. al. 2017: 29), and studies from Belgium, Bulgaria, China, USA, Peru, South Korea, Russia, and Turkey have found that self-determination theory is valid across cultures (Chen et. al. 2015, Chirkov 2003, in Deci et. al. 2017: 28).

Based on this, there is good reason to assume that the findings can be transferred across countries.

4.2.3.5 Can we transfer findings from organisation to organisation, or industry to industry?

The question here is if we can transfer findings from organisation A to organisation B, or from industry A to industry B. For instance, the study among the articles in this review with the largest sample is from the military. Can findings from the army be transferred to other work contexts?

As we have already seen, self-determination has been shown to have relevance in the work domain in many different organisations, industries and countries. It has also been shown to have relevance in school, sports and the military.

This points towards the possibility of transferring the findings, but with caution.

4.3   Summary and conclusions

Regarding the *research question 1*, I can make the first of two possible conclusions from the findings, and that is that self-determination theory is by far the most commonly used motivational theory used in research on long-term motivation.

As for *research question 2 and 3* I cannot make any conclusions, but I think the pattern within the findings from self-determination theory, and the arguments I have provided for transferability and the relevance of self-determination theory in work settings give enough basis to the hypothesis that more self-determined forms of motivation leads to long-term motivation and persistence.

So we might hypothesise that Kari, who became a surgeon perhaps had more self-determined, autonomous forms of motivation, and that this helped her stay on course and persist through many years of training, while Per's reasons for becoming a doctor, or wanting to become a surgeon, were more external and less autonomous.

For work organisations, the findings from this thesis might be worth testing out, with caution, not at least due to the lack of other relevant research. For academics, the findings of this thesis are an invitation to find out more.

When summarising the findings and discussions in this review, one thing that strikes me is that it is quite surprising to find out that we know next to nothing about long-term motivation in work life. And this leads me to the second of the two conclusions I can make: Research on long-term motivation within work settings is scarce, too scarce to draw any conclusions on the relationship between type of motivation and long-term motivation and persistence.

While it would have been satisfying to be able to end up with more solid conclusions to the research questions, literature reviews can be used to identify gaps in existing research and create an overview of what has been done and what still needs to be done on the topic (Hart 2018: 2-4). I think this review has succeeded in this and can form the basis for further research. Clearly, more studies on long-time motivation with longitudinal design is needed, something Deci et. al. (2017: 37) agrees with.

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6 Appendix

6.1 Search log

	No.	Search phrase	Scope	Hits	Articles screened	Abstracts etc.	Downloads	Selected
Original search: Long-term motivation	1	"long-term motivation"	Peer-reviewed, language: English	103	103	11	1	
	2	motivation AND persistence	Peer-reviewed, from 2010, subject: motivation, language: English	766	766	17	3	
	3	motivation AND (persistence OR "long-term") AND (prospective OR longitudinal) AND (leadership OR management OR business OR organi*ation* OR work)	Peer-reviewed, from 2010, subject: motivation, language: English	893	893	19	4	
	4	"long-term motivation" AND (leadership OR management OR business OR organi*ation* OR work)	Peer-reviewed, subject: motivation, language: English	15	15	2	1	
	5	motivation AND persistence AND (leadership OR management OR business OR organi*ation* OR work)	Peer-reviewed, from 2010, subject: motivation, language: English	683	683	17	3	
	6	"sustained motivation" AND (leadership OR management OR business OR organi*ation* OR work)	Peer-reviewed, subject: motivation, language: English	37	37	4	0	
	7	"long-term" AND "goal* AND motivation	Peer-reviewed, from 2010, subject: motivation, language: English	3 273	600	23	2	
Total				5 770	3 097	93	14	3
Search 2: Other long-term consequences	8	Motivat* AND "organi*ation* change"	Peer-reviewed, subject: motivation, language: English	175	175	7	1	
	9	motivat* AND burnout	Peer-reviewed, from 2010, subject: motivation, language: English	217	217	23	8	
	10	Motivat* AND "turnover intention*"	Peer-reviewed, from 2010, subject: motivation, language: English	91	91	4	1	
	11	Motivat* AND "organi*ational commitment"	Peer-reviewed, from 2010, subject: motivation, language: English	180	180	5	2	
	12	Motivat* AND "strateg* implementation"	Peer-reviewed, from 2010, subject: motivation, language: English	14	14	0	0	
	13	Motivation AND engagement AND (leadership OR management OR business OR organi*ation* OR work)	Peer-reviewed, from 2010, subject: motivation, language: English	4 644	600	16	3	
Total				5 321	1 277	55	15	2
Search 3: Sport and education	14	motivation AND (persistence OR "long-term") AND (retrospective OR prospective OR longitudinal) AND sport	Peer-reviewed, from 2010, subject: motivation, language: English	635	635	14	9	
	15	motivation AND (persistence OR "long-term") AND (retrospective OR prospective OR longitudinal) AND (education OR school)	Peer-reviewed, from 2010, subject: motivation, language: English	2 330	600	19	7	
Total				2 965	1 235	33	16	8
Sum total				14 056	5 609	181	45	13

6.2 Questionnaire

Background		Title	
		Authors	
		Year	
		Study focus	
		Theoretical framwork	
		Journal/book	
		Type of medium	
		Publisher	
		Findings	
Theoretical framework and types of motivation	**Theoretical framework**	*Self-determination theory*	
	Type of motivation	Intrinsic motivation	
		Integrated regulation	
		Identified regulation	
		Introjected regulation	
		External regulation	
		Amotivation	
	Theoretical framework	*Flow theory*	
	Type of motivation		
	Theoretical framework	*Ind. Diff. Theories of intrinsic mot.*	
	Type of motivation		
	Theoretical framework	*Interest theories*	
	Type of motivation		
	Theoretical framework	*Goal theories*	
	Type of motivation	Proximal goals	
		Distal goals	
		Task interest	
		Near-term gratification	
	Theoretical framework	**Achievement goal theory**	
	Type of motivation	Ego oriented	
		Task oriented	
	Theoretical framework	**Internal motivation**	
	Type of motivation	Internal	
		Instrumental	
Method and characteristics	Characteristics	Time frame	
		Domain	
		Target population	
		Geographic area	
		Sample (n)	
		Gender	
		Age	
	Method	Quantitative	
		Qualitative	
	Design	Questionnaire	
		Structured interviews	
		Semi structured interviews	
		Unstructured interviews	
		Cross sectional	
		Longitudinal	
		Prospective	
		Retrospective	
	Dependent variable	Operationalisation of long-term	
		Link to dependent variable	
Reference to similar, relevant research			