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An intervention to change and develop leaders' Implicit Person Theory

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Summary

This master thesis starts by presenting implicit person theories and discussing the differences between entity and incremental theories. Further, it demonstrates how IPT influences leaders' performance. As the purpose of this work is to design an intervention to change and develop leaders' endorsement of an incremental person theory, what previous research has achieved in the matter of changing IPT is also analyzed.

Since changing mindset implies changing attitudes, the methods to achieve attitudinal change, such as persuasion, cognitive dissonance, counterattitudinal advocacy, mastery modeling, and coaching are studied, and proposed instructional strategies are examined. Subsequently, examples of organizational measures are presented in order to investigate the methods that were applied and the results obtained.

The methodology used to write this thesis is divided into two parts: the first focuses on the study of mindsets and attitudinal change, in order to reveal the content of the intervention - the topics that should be covered and the methods that could be used; and the second focuses on revealing how an intervention research should be conducted.

The proposed intervention to change and develop leaders mindset consists of twenty-four weekly meetings divided into two modules. The first module aims to achieve attitudinal change, stimulating leaders with a fixed mindset to adopt growth mindset, and developing already existing incrementalism among leaders who already endorse a growth mindset. In turn, the second module focuses on helping participants sustain the change through coaching. It springs from the fact that it is considerably difficult for individuals to abandon their self-perceptions and replace them with a mindset that makes them embrace what they consider most threatening: challenge, struggle, criticism, and setbacks. Thus, the goal is to hinder participants to stop practicing what has led them to improve. The proposed intervention also applies Merrill's (in Mueller et. al, 2017) five principles for instructional strategies.

Keywords: *mindset; growth mindset; entity mindset; implicit person theories; incremental theory; entity theory; attitudinal change; intervention.*

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1. Introduction

In times of economic instability, it is increasingly important for organizations to achieve and maintain success. Crucial to organizations' prosperity are leaders and employees: they perceive threats and opportunities, and are able to identify when it is necessary to change; they suggest these changes, and they adapt to them.

In this sense, Daft (2011, p. 5) defines leadership as “an influence relationship among leaders and followers who intend real changes and outcomes that reflect their shared purposes”. Hence, *leadership occurs among people*, and an important aspect of leadership is influencing others to share a common vision. Effective leaders see the potential in their followers and find ways to get everyone in the organization engaged and committed. Furthermore, the learning leader emphasizes relationships and networks by influencing others to experiment, learn and change both in their personal and professional lives. In other words, *learning leaders encourage the development and growth of others* (Daft, 2011).

Thus, believing that people (the self and the others) can learn and develop is crucial for leaders. In this context emerges the subject to this master thesis: *implicit person theories*, or the personal beliefs regarding the malleability of personal qualities.

This study aims to develop a framework for an intervention aimed to change and develop leaders' implicit theory towards a more incremental one, so that they can become more resilient (Yeager and Dweck, 2012), and more inclined to coach employees (Heslin et. al, 2006), to manage setbacks and low performances (Wood and Bandura, 1989), to set themselves more challenging goals (Dweck and Leggett, 1988; Elliott and Dweck, 1988; Taberero and Wood, 1999), and to execute their managerial functions more resiliently and effectively, achieving higher levels of performance (Wood and Bandura, 1989). It is also important to note that developing positive workplaces by establishing positive leadership practices, ensuring work is meaningful, and building a positive organizational climate, may help prevent and even reduce work-related mental illnesses (LaMontagne et. al, 2014).

This master thesis will first present literature related to Implicit Person Theory, describing how it influences personal goals and patterns of behavior, and how individuals holding entity theory differ from those subscribing to an incremental theory. Existing

research relating IPT to leaders will also be introduced, as well as experiments that have been performed in order to change a person’s IPT.

Next, theories on attitudinal change will be described. The aim of this section is to identify how to create a situation that provides favourable conditions to change and develop leaders’ beliefs and attitudes towards the malleability of personal attributes.

Further, the literature related to individual and organizational interventions will be discussed. This is because this master thesis aims to develop an integrated framework which, through changing and developing leaders’ implicit person theory (individual intervention), can modify the organizational culture, increasing the focus on learning and development.

The methodology used for writing this master thesis is divided into “Methodology for the Intervention”, which describes the research performed in order to design intervention program, and “Methodology for Intervention Research”, which presents and discusses research design for how the intervention can be implemented, empirically tested and evaluated.

Finally, a framework for incremental induction intervention consisting of a 24-week program divided in two modules will be proposed.

The structure of this master thesis can be represented as follows:

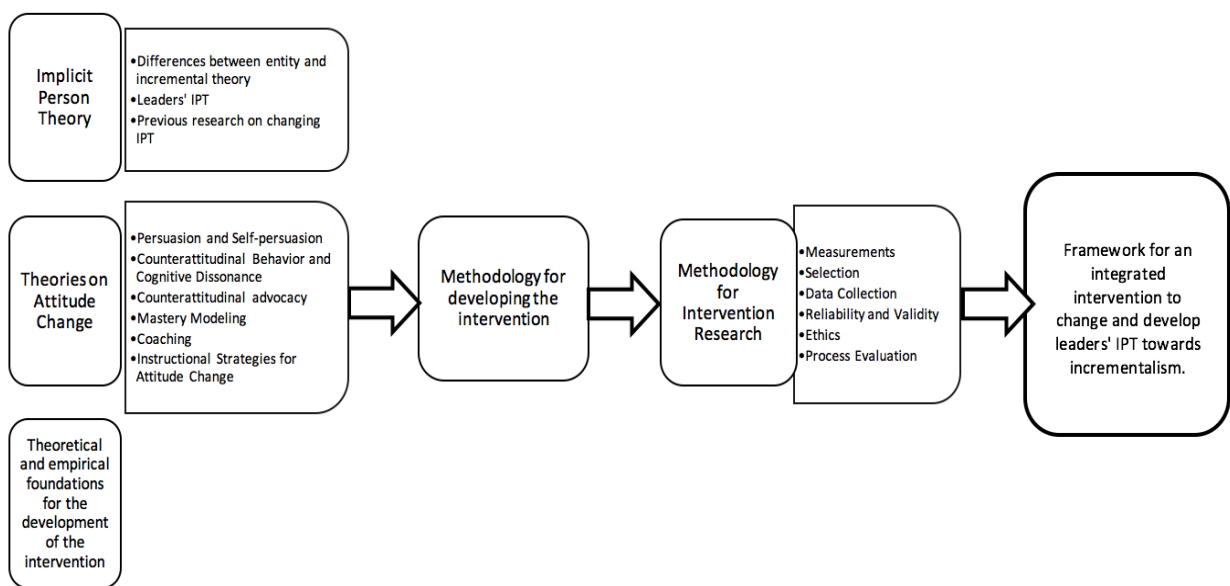


Figure 1: Structure of this master thesis

2. Theory on “Implicit Person Theories” (IPT)

The belief in fixed versus malleable human attributes can be viewed as an essence of an individual's worldview. It is analogous to a superordinate construct in Kelly's (1955) theory in that it is an assumption that defines the individual's reality and imparts meaning to events.

Implicit theories are defined as “core assumptions about the malleability of personal qualities” (Yeager and Dweck, 2012). They reflect an individual's implicit assumptions regarding the stability of the collection of personal attributes that determine the overall kind of person that someone is and how they tend to behave (Heslin et. al, 2006). They are called “implicit” because they are rarely made explicit, and they are “theories” because they create a framework for making predictions and judging the meaning of events in one's world (Yeager and Dweck, 2012). In addition, the theories are also called *mindsets*, as they present a mental framework that guide how people think, feel, and act in achievement context (Dweck, 1999).

Research shows that implicit theory affects an individual's self-regulation (i.e. achievement striving and resulting performance), and the willingness to help others to improve their performance. They also pose consequences for how teachers and leaders evaluate others, for example through performance appraisal, and for their willingness to teach, coach and support students and employees (Dweck et al., 1995a).

Moreover, Dweck and Leggett (1988) note that implicit theories create an analytic framework for interpreting and responding to the events that an individual experiences. According to the authors, there are two patterns of response (or cognition-affect behavior): the *helpless* or *maladaptive pattern*, characterized by an avoidance of challenge and a deterioration of performance in the face of obstacles, and the *mastery-oriented (adaptive)* pattern, which involves seeking challenging tasks and maintaining effective striving under failure. The authors were concerned about why individuals with the same capacity can perform differently when challenged. They observed that individuals pursue different goals that create a framework within which they interpret and respond to events (see also Elliot and Dweck, 1988). This way, individuals pursuing *performance goals* focus on gaining favorable judgements of their competence. These individuals may also perceive their level of ability as *high*, and may want to document their competence, or *low*, and will avoid

challenges in order to refrain from negative evaluations. Others may pursue *learning goals*, and will concentrate in increasing their competence. In other words, individuals who focus on performance goals (i.e. seek acknowledgement) are vulnerable to the helpless pattern, since they tend to avoid challenges that may undermine their results, whereas those pursuing learning goals tend to keep a mastery-oriented pattern, focusing in acquiring and developing their skills (Dweck and Leggett, 1988; Elliot and Dweck, 1988; Dweck, 2016).

Dweck and Leggett (1988) conclude that different theories about oneself (*mindsets*), by generating different concerns, may orient individuals toward different goals. For instance, conceiving one’s intelligence as a fixed entity may be associated with adopting the performance goal of documenting that entity. In turn, conceiving intelligence as malleable may be associated with the learning goal of developing that quality. Thus, incrementalists are less concerned about the evaluative implications of failure (see also Tabernero and Wood, 1999; Dweck 2016). Following, these goals may determine the patterns of cognition, affect and behavior (patterns for response).

Dweck and Leggett’s (1988) model can be summarized as follows:

Theory of Intelligence	Goal orientation	Perceived present ability	Behavior pattern
Entity (intelligence is fixed)	Performance (goal is to gain positive judgements/ avoid negative judgements of competence)	High	Mastery-oriented (seek challenge; high persistence)
		Low	Helpless (avoid challenge; low persistence)
Incremental (intelligence is malleable)	Learning (goal is to increase competence)	High or Low	Mastery-oriented (seek challenge that fosters learning; high persistence)

Table 1: Theories, Goals, and Behavior patterns in achievement situations.

This way, by affecting the goals individuals choose to pursue and, consequently, their response patterns, implicit theories have important motivational implications, allowing to anticipate whether individuals will be oriented toward developing their ability or toward documenting its adequacy.

Dweck and Leggett (1988) also sustained that implicit theories can provide a framework for anticipating behavior patterns in *social relationships*. The authors predict that individuals may respond mastery-oriented (resiliently) or helplessly (avoiding risks) to difficulties in social situations, such as rejection or conflict, depending on the social goal the individual is pursuing in that situation. Further, the goals pursued, which can be either gaining positive appraisals or developing social skills, are linked to the individual's beliefs about the malleability of traits. The model for implicit theories applied to social relationships can be represented as follows:

Theory	Goal orientation	Behavior pattern
Entity (social/ personality attributes are fixed traits)	Performance (goal is to gain positive judgements/ avoid negative judgements of social attributes)	Helpless (avoid risk; low persistence)
Incremental (social/ personality attributes are malleable qualities)	Learning (goal is to increase social competence, develop relationships)	Mastery-oriented (seek challenge; high persistence)

Table 2: Theories, Goals, and Behavior patterns related to social relationships.

Further, Dweck and Leggett (1988) observe that their model can be generalized *beyond the self*. Thereby, for an entity theorist, people, places, and things are what they are, and little can be done to alter them. In turn, for an incremental theorist, desirable qualities can be cultivated. The way something is categorized has important consequences for the way it is treated: fixed or uncontrollable things that are important will tend to be monitored, measured and judged whereas controllable things that are important will tend to be acted on and developed.

The generalized model can be illustrated this way:

Theory	Goal orientation	Predicted pattern
Entity (Attributes of people and world are fixed or uncontrollable)	Judgement (Goal is to make positive or negative judgement of attributes)	Behavior: Low initiation of and persistence toward change.
		Cognition: Rigid, over-simplified thinking.
		Affect: Evaluative affect such as contempt.

Incremental (Attributes of people and world are malleable)	Development (Goal is to understand and improve attributes)	Behavior: Mastery-oriented goal pursuit.
		Cognition: Process analysis.
		Affect: Empathy.

Table 3: Theories, Goals, and Predicted patterns beyond the self.

It is important to note that Tabernero and Wood (1999) argue that an individual's IPT is *not* a perfect predictor of their goal orientation, since they are also strongly influenced by situational determinants. The authors maintain that "the cognitive-emotional mediating processes of personal dispositions include interpretations of the situation, affective reactions, expectancies and beliefs about the self and likely outcomes, scripts and plans for behavior, plus values and more specific task goals" (p. 106). According to the *mediator hypothesis*, perceived level of ability affects performance directly and through its impact on self-set goals and affective reactions to performance (i.e. their satisfaction with the results). This way, since incrementalists view low attainments as a natural part of the learning process and an opportunity to enhance their competencies, they will exhibit more resiliency. On the other hand, the *moderator hypothesis* held by Dweck and Leggett (1988) sustains that fixed-entity theorists seek challenges when they have high perceived self-efficacy, whereas incremental-skill theorists are predicted to seek challenges regardless their level of perceived self-efficacy. Thus, conceptions of ability influence perceived self-efficacy through the differing interpretations of performance feedback produced by incremental-skill beliefs and fixed-entity beliefs. Tabernero and Wood (1999) tested the hypothesis that the impacts of conceptions of ability on performance is mediated by the self-regulatory processes of self-efficacy, self-set goals, and levels of dissatisfaction. Their study detected that the effects of implicit theories of ability were mediated by the motivational responses. Implicit theories showed significant effects on self-efficacy, self-satisfaction, and self-set goals. However, their findings did not support Dweck and Leggett's (1988) hypothesis that the goals set by entity theorists depend upon their perceived competence for the task: "self-efficacy beliefs were mediators but not moderators of the motivational responses by incremental and entity theorists" (Tabernero and Wood, 1999, p. 123). Also Wood and Bandura (1989) observe that since self-satisfaction is conditional to matching personal goals, individuals give direction to their

actions and create self-incentives to persist in their efforts until their performances match their goals. Hence, they are not motivated by the goals themselves, but rather from their own evaluations to their behavior.

Implicit theories can be domain specific, so that individuals may hold different implicit theories about the malleability of ability, personality and morality. In other words, at the assessment level, endorsing an entity theory of one attribute is statistically independent of endorsing an entity theory of a different attribute (Dweck, et al., 1995a).

Through over three decades of research and theory development, Carol Dweck and colleagues have spearheaded the study of numerous correlates and consequences of the extent to which personal or social attributes, such as ability, personality, relationships, and emotion regulation, are viewed as fixed or malleable (Dweck, 1986; Dweck and Leggett, 1988; Elliot and Dweck, 1988; Dweck et.al. 1995a; Dweck et.al. 1995b; Chiu et. al, 1997; Dweck, 1999; Dweck, 2012; Dweck, 2016). In the following, the differences between fixed and incremental theory will be explained more specifically.

2.1. Differences between Entity theory and Incremental theory

An **entity theory** - defined as a fixed mindset (Dweck, 2012) - reflects the underlying assumption that a personal attribute is largely static: a fixed entity that is not amenable to being significantly changed. Individuals who subscribe to this theory believe that although people can learn new things, their underlying intelligence remains the same (Dweck, et al., 1995a). Consequently, entity theorists view the behavior of others as reflective of their permanent, static personal qualities. They believe that human attributes are innate and unalterable, and as a consequence, they become disinclined to invest in helping others to develop and improve (Heslin et. al, 2006). With its emphasis on static traits, the entity theory represents a relatively predictable and knowable reality.

Entity theorists also tend to see their academic failures as indications of their intellectual ability, ascribing to themselves stable, negative ability traits on the basis of a limited number of failure experiences (Chiu et. al, 1997).

Dweck and Leggett (1988) underline that subscribing to an entity theory may make performance goals potentially maladaptive, since entity theorists are not judging a

momentary level of ability, but rather judging what they perceive to be an important and permanent personal attribute. This way, an entity theory about others' traits may generate stereotypes and prejudices (see also Chiu et. al, 1997).

In contrast, an **incremental theory** - also called growth mindset (Dweck, 2012) - embodies the assumption that attributes are malleable and can be cultivated through concerted effort. Hence, incrementalists view their intelligence as a malleable trait, and tend to place the emphasis on developing, instead of judging their ability (Dweck and Leggett, 1988).

According to Wood and Bandura (1989, p. 372), "those who view cognitive ability as an acquirable skill regard it as continually enhanceable through knowledge and the perfection of one's competencies". Therefore, they adopt an inquiring learning goal and seek challenges that provide opportunities to expand their abilities.

Conceiving personal attributes as dynamic, malleable qualities may lessen the importance of traits in understanding behavior and prime an analysis of more specific factors (e.g. needs, goals, intentions, emotional states, prior behaviors) that mediate behavior or outcomes (Dweck, et al., 1995a). When facing obstacles, incrementalists tend to focus on the factors that may improve performance and increase ability rather than on self-judgement (Chiu et. al, 1997). Moreover, they also pay more attention on reforming and educating, which is based on their mediational analysis and their theory about the malleability of attributes (Dweck, et al., 1995a).

This way, an incremental theory often fosters effective persistence in the face of obstacles, but the possibilities for change assumed in the theory also imply that the reality can never be known with any finality (Dweck et. al, 1995a). Consequently, incrementalists subscribe to a more complex and less knowable reality.

In order to study the relation of theory of intelligence to longer term achievements, Blackwell et. al (2007) followed students through junior high school, finding that adolescents who endorsed an incremental theory of intelligence also adopted stronger learning goals, held more positive beliefs about effort, and made fewer ability-based "helpless" attributions, choosing more positive, effort-based strategies in response to failure. Holding an incremental theory led to an improvement in mathematics

achievements, so that students who endorsed a strong incremental theory at the beginning of junior high school outperformed those who held entity theory after two years.

In turn, Keating and Heslin (2015) explain how mindsets may influence employees' engagement via their enthusiasm for development, construal of effort, focus of attention, perception of setbacks, and interpersonal interactions. According to the authors, a growth-oriented mindset increases *enthusiasm for development*, even if these developmental opportunities imply risk and potential failure. Differently, individuals with a fixed mindset believe that little can be done in order to improve current abilities, and often disengage from potentially enlightening challenges. Mindsets also affect individuals' *construal of effort*. This way, those who hold a fixed mindset believe that people either have high ability *or* need to exert considerable effort, reflecting an assumption that effort is only needed by those who are not innately talented in a particular domain. These individuals will focus on validating their ability. In contrary, those who maintain a growth mindset are more positive to making effort (see also Dweck, 2016). Keating and Heslin (2015) also note that mindsets influence individuals' *focus of attention*. In this sense, a growth mindset promotes alertness to new, useful information that characterizes the psychological availability associated with engagement, while those holding a fixed mindset focus on confirming their stereotypes. Attentiveness to what is occurring facilitates interpersonal relationships, as well as learning and performance on difficult and dynamic tasks. Mindsets also affect individuals' *perception of setbacks*. A growth mindset inclines people to perceive setbacks as an inherent part of the learning process that signals a need for more effective strategies. Consequently, responding to setbacks with growth mindset implies resolute task focus and methodical strategy refinement, enhancing learning and performance. This way, Keating and Heslin (2015) add that a growth mindset is likely to enhance engagement by prompting people to perceive setbacks as information about what to improve. Finally, mindsets also influence *interpersonal interactions*, by reducing negative reactions to social adversities. In this sense, Chiu et. al (1997) demonstrate how mindsets may underlie the use of traits as measure of analysis in social perception. The authors explain that for incremental theorists, who believe that traits can vary over time and perhaps across extents, person perception is about understanding the dynamics of behavior, rather than simply judging dispositional traits. Thus, they are more likely to account for the actor's conditions and relevant aspects of the situation. Consistent to the

previous research, Yeager and Dweck (2012) also provide evidence that holding an incremental theory reduces the occurrence of aggressive retaliation by creating a greater desire to understand transgressors' motives, and even to influence them.

Martocchio (1994) studied the impact of induced conceptions of ability on the acquisition of declarative knowledge in an introductory course on microcomputer usage. Recognizing that individuals' implicit theories of intelligence orient them toward particular goals and motivational patterns, the author hypothesized that individuals who learn that ability is an acquirable skill would experience reduced computer anxiety and increase their computer efficacy beliefs. The study demonstrated that trainees in the acquirable skill condition felt that they could learn from their mistakes, and that making mistakes did not reflect limits to their ability. Thus, the results provide support for the benefits of inducing conceptions of ability as an acquirable skill prior and during the course of training activities. Further, the findings provide additional evidence for conceptions of ability as a determinant of *self-efficacy*, defined as "judgements an individual makes about his capabilities to mobilize the motivation, cognitive resources, and courses of action needed to orchestrate future performance on a specific task" (p. 819). Martocchio (1994) also underlines that encouraging efficacy beliefs during training is consistent with emphasis on continuous learning in organizations.

As exposed, individuals who subscribe to an incremental theory are more likely to adopt learning goals (Dweck and Leggett, 1988), develop self-efficacy (Martocchio, 1994), and seek challenges (Wood and Bandura, 1989). Further, individuals who hold an incremental theory of others are more sensitive to situational factors that may explain a person's negative behavior. They are also more likely to take account for subsequent behavior that contradicts the initial negative behavior, and most importantly, they are more willing to engage in behavior that will facilitate desired change in the other person (Chiu et. al, 1997).

2.3. Can people hold both theories?

The entity and the incremental theories can be viewed as alternative ways of constructing reality, each with its potential advantages and disadvantages. That means none of the theories should be considered “the correct one” (Dweck et al. 1995a).

In a study concerning the role of implicit theories in judgements and reactions, Dweck et. al (1995b) emphasize that people need not have one sweeping theory that cuts across all human attributes. The research demonstrates that although some people hold one generalized theory, others have different theories for different attributes. For instance, an individual may believe that intelligence is fixed but moral character is malleable. In this case, according to Dweck et al. (1995b), the entity theory will provide the framework for thought and action in the intellectual domain, whereas the incremental theory will provide the framework that structures issues relating to moral character.

At the same time, both theories are *mutually exclusive alternatives*. Believing that a trait cannot be changed is the logical opposite to believing it can be changed. Nonetheless, *students of the human mind know that the fact that two beliefs are opposites does not prevent people from holding them both* (Dweck, et al. 1995b). This is because people generally do not tend to go through and “cleanse” their beliefs, eliminating every inconsistency and contradiction. Thus, individuals can perfectly hold both theories. However, this fact does not exclude a matter of dominance. According to Dweck et al. (1995b), although one theory may be more dominant and have stronger links to its allied structures in the model, the other may still be available and may become accessible under particular circumstances.

In turn, Leith et al. (2014) propose that people actively change and regulate their endorsement of implicit theories in motivated ways, such as to protect a favorable self-perception or to promote the safety of their families. When individuals face situations in which they make judgements about themselves or others, they take the information about behavior, attributes, and past performance into consideration. Next, they determine how relevant this information is to their present appraisals or expectations. Nevertheless, determining the relevance of past information to present or future judgments is often *ambiguous*, and people may not always be motivated only by accuracy goals. Hence, one may postulate that an individual might prefer to believe that a failure does not particularly

mean an absence of ability to perform a task. In this instance, *supporting an implicit theory of malleability helps to support individuals' desired conclusion*. Conversely, endorsing a theory of stability after success might be a good strategy, as it holds the promise of continued triumph in the future. Leith et al. (2014) argue that people might strategically gravitate toward the implicit theory that best suits their current goals, but at the same time they will not shift their theories in the absence of such goals. Across seven studies, the authors tested the hypothesis that individuals change their implicit theories in ways that allow them to support motivated directional conclusions about themselves, as well as about liked and disliked others. The findings demonstrate a dynamic account of the strategic fluidity of implicit theories of change and stability, showing that *people actively regulate and shift their endorsement of implicit theories in subtle yet meaningful ways*. Specifically, *individuals prefer to hold an incremental theory when faced with negative information or failure*. Moreover, participants rejected arguments in favor of entity theory when doing the opposite would imply that their current failures in intelligence were permanent. In addition, the study was the first to exhibit how fast and systematically individual's implicit theory may shift when it can help them reach a desired conclusion (Leith, et al. 2014).

Next, since the aim of this work is to change and develop leaders' implicit theory in order to endorse a more incremental one, it is imperative to describe the studies already done demonstrating how IPT affects leaders' performance, and why holding an incremental theory is preferable.

2.4. Leaders' implicit person theory

As it was stated earlier, implicit theories represent a special structure for thinking, which in turn defines the way individuals predict, explain and respond to their own and others behavior. In this sense, extensive research has demonstrated the importance of leaders adopting an incremental IPT.

In order to study how leaders' implicit person theories affect their inclination to help others improve their performance, Heslin et. al (2006) tested whether managers' incrementalism is positively related to the extent to which they coach their employees. The authors found significantly greater differences in subordinates' perceptions of behavior

between managers than within managers. After controlling for participants' age and management experience, managers' implicit theory predicted a considerable amount of the variance in the extent of their employee coaching, supporting the hypothesis. Thus, managers are unlikely to take actions, including those that involve coaching employees, unless they appreciate the benefits in doing so. In other words, believing that people do not change could prevent entity theorists from helping employees to improve their performance.

Taberero and Wood (1999) examined the impacts of implicit theories of ability on the mediating processes of self-efficacy, self-satisfaction, goals and performance on a complex task. Their experiment consisted on a computer management simulation, where participants arranged in groups had to allocate workers to the different production jobs in a furniture factory. By correctly matching employees to job requirements and completing the work assignment within an optimal period, participants could obtain higher levels of work-performance. First, participants' implicit theories of ability were measured, providing evidence that incremental theorists may adopt a performance goal orientation as well as a learning goal orientation, but entity theorists are less inclined to adopt a learning goal orientation. Then, participants were randomly selected from each of the fixed and incremental implicit theory groups, and randomly assigned to conditions where managerial decision-making ability was considered as either a fixed entity or an incremental skill. In the incremental-skill condition, participants were told that the decision-making skills required to manage work groups are developed through practice, and in the fixed-entity condition, participants were told that decision making reflects the individual's basic cognitive ability. Participants' perceived self-efficacy, their self-set goals, self-evaluative reactions and organizational performance were also measured. The results demonstrated that implicit personal theories had a significant effect on participants' response patterns. Those who held an incremental theory showed stronger perceived self-efficacy, were less dissatisfied with their performance, and set themselves more challenging goals than those holding an entity theory. Further, incrementalists managed setbacks and low performances, especially when supported in their view that task ability can be developed through practice and experience. On the contrary, entity theorists approached new tasks believing that performance reflects ability, and as a consequence, interpreted setbacks and feedback on their low performances as evidence of their lack of ability. They performed less effectively

on complex tasks and tried to avoid challenges, becoming discouraged, self-doubting, and dissatisfied. *Implicit theories also had a significant effect on organizational performance*: incrementalists executed their managerial functions more effectively and achieved higher levels of performance than those with an entity theory. The impact of affective reactions on performance reveals the vulnerability of those who understand performance as indicative of ability when they fail to achieve performance standards on complex tasks. Self-evaluative reactions are critical to performance on complex tasks that require strategic thinking (Taberner and Wood, 1999).

Contributing to the literature, Wood and Bandura (1989) studied how self-regulatory factors influence managerial decision processes, by conducting an experiment to investigate how conceptions of ability (*mindsets*) affect managerial performance. According to the authors, behavior, cognitive and other personal factors, and the environment affect organizational management. Two aspects to the exercise of control are relevant to organizational management: the level of personal efficacy needed to achieve changes, and how changeable or controllable the environment actually is. Since behavior is governed by people's perception of self-efficacy, individuals who believe themselves to be inefficacious tend to achieve limited change, even when the environment provides great opportunities. On the contrary, those who believe in their efficacy will exhibit resilience in order to control constrained environments. Resiliency is important because major accomplishments are rarely achieved through quick successes, but rather realized "by self-efficacious people who persevere in the face of failures and setbacks, who learn from their mistakes and who construe obstacles as challenges, rather than as reflections of their deficiencies" (p. 375). The authors induced a group of business students - group 1 - to believe that complex decision making reflects an acquirable skill, and that the simulation aimed to develop decision-making capabilities. A second group was told that complex decision making is an inherent talent, and that the simulation would measure their aptitude. Participants who were induced to believe in the incremental theory - group 1 - exhibited a highly resilient sense of personal efficacy. However, those who were told that decision making is an inherent aptitude became increasingly unpredictable as they encountered problems. They lowered their organizational goals, and achieved steadily less success with their organizations.

Further, Heslin et. al (2005) studied the potential role of IPT in the revision of a manager's performance appraisal judgments. They note that it is essential to investigate manager's ability to recognize the occurrence of ineffective performance in order to guide employees on how to improve their knowledge and skills. Their findings indicate that implicit person theories appear to explain why some managers acknowledge an improvement in an employee's performance more than others. Moreover, the results show that IPT affects assessment of others, even when the assessments are made by managers performing the role-salient task of appraising observed job behaviors. Specifically, the studies demonstrate that IPT affects acknowledgment of changes in employee performance by reducing anchoring effects, meaning that a negative prior-performance information does not affect incremental theorists significantly. By contrast, the evaluation of a good performance made by entity theorists was characterized by background information about events occurred prior to the performance. Hence, IPT influences managers' acknowledgement of a change in performance after an initial impression of an employee has been formed.

Extending implicit self-theories to a leadership context, Burnette et al. (2010) examined how individual differences in belief about the malleability of leadership ability influenced responses to *stereotype threat*. Stereotype threat occurs when an individual finds himself in a position to potentially confirm a negative stereotype that belittles the ability of members of his own social group. Such a threat may result in a significant decline in performance of individuals belonging to a range of negatively stereotyped groups; for example, women on math tasks. Most stereotypes are pervasive and are difficult to change. Those suffering from stereotype threat may experience self-blame and loss of self-esteem, which, in turn, may lead to an increase in anxiety, depression and, consequently, underperformance. Burnette et al. (2010) focus on individual differences in implicit theories and self-efficacy for leadership in order to understand who overcomes the stereotype threat. The results demonstrated that entity theorists struggle in challenging times, while incremental theorists respond with more mastery-oriented coping. Specifically, the findings suggested that incremental beliefs about leadership ability predicted greater self-esteem after a stereotype threat relative to entity beliefs. The results are consistent with previous research emphasizing the importance of leaders' self-efficacy in helping leaders meet their challenges. High initial leadership self-efficacy attenuated the

negative effects of stereotype threat on self-esteem and post-threat efficacy. In addition, for individuals who held incremental-oriented theories, initial self-efficacy had no effect on subsequent self-esteem and a limited effect on post-threat self-efficacy. The opposite was demonstrated with the individuals who held entity-oriented theories with low self-efficacy. For them, the leadership stereotype threat resulted in lower self-esteem and significantly reduced post-threat self-efficacy (Burnette et al., 2010).

Hence, it is essential that leaders hold incremental theories, since incrementalists are more inclined to coach employees (Heslin et. al, 2006) and to manage setbacks and low performances (Taberero and Wood, 1999). They set themselves more challenging goals (Taberero and Wood, 1999), and execute their managerial functions more resiliently and effectively, achieving higher levels of performance (Wood and Bandura, 1989). They are also more able to recognize performance improvements (Heslin et. al, 2005) and to keep their self-esteem after a stereotype threat (Burnette et. al, 2010).

To better understand the changes in IPT, research conducted with this purpose will be presented in the next section.

2.5. Changing IPT

“You don’t get a growth mindset by proclamation. You move toward it by taking a journey” (Dweck, 2016, p. 217).

As discussed, the malleability of intelligence refers to beliefs about the flexibility of intelligence. Past research shows that implicit theories can change in response to external situational forces.

Blackwell et. al (2007) performed an intervention to teach incremental theory to junior high school students at a public school in New York. Through eight 25-min periods, one per week, students in both the experimental and control groups participated in similarly structured workshops which included instruction in the psychology of the brain, study skills, and antistereotypic thinking. In addition, through research-based readings, activities, and discussions, students in the experimental group were taught that intelligence is malleable and can be developed. The key message was that learning changes the brain

by forming new connections, and that students are in charge of this process. The experimental group experienced a change in theory of intelligence such that they endorsed an incremental theory more strongly after participating in the intervention. They also experienced a positive change in classroom motivation, compared with the control group: students in the experimental group, specially those who endorsed more of an entity theory at the beginning of junior high school, reversed their decline grade trajectory, while the grades of students in the control group continued to fall. Since teaching a malleable theory of intelligence was successful in enhancing students' motivation in their mathematics class, it can be concluded that students' theory of intelligence is a key factor in their achievement motivation.

Heslin et. al (2006), who studied the relationship between managers' IPT and their willingness to coach employees, also tested whether an *incremental induction* could lead managers who subscribe to entity theory to indicate more willingness to coach, and to provide more - and higher quality - performance improvement suggestions. They found that *induced incrementalism* increased entity managers' coaching intentions, as well as the quantity and the quality of improvement suggestions provided. Consequently, the variance in the extent and helpfulness of managers' coaching is explained by their IPTs. The authors conclude that "IPT appears to constitute a useful theory for guiding the development of organizational initiatives aimed at increasing managers' motivation to coach their employees" (p. 897). Heslin et. al (2006) suggest two potential *incrementalism-building routes*. First, by self-persuading managers who hold an entity theory that they are personally capable of changing their managerial style and behavior. Second, by self-persuading such managers that their employees are also potentially capable of substantial positive change and improvement, given the appropriate coaching and support through their developmental process.

In the matter of changing IPT, Keating and Heslin (2015) suggest a growth mindset development procedure, adapted from Heslin (2005). They propose that, in order to motivate and engage employees to develop, the brain's growth potential should be highlighted. Further, managers should elicit *counter-attitudinal reflection* amongst employees, by showing them tasks which they initially struggled with but learned how to perform well, and then pointing out the steps employees took along their developmental path. Employees should also analyze why similar initiatives might not work just as well in

the areas they doubt whether they have any ability to develop. Next, employees identify someone who is currently struggling to believe that his ability to do something can be developed, and write an encouraging letter in which they outline the reasons why it is important to not give up (*counter-attitudinal advocacy*). Continuing the process, employees should observe someone learning to do something they thought this person could never do. Then they should reflect on the reasons why they were in doubt. Leading people to reflect upon potential consequences of a fixed mindset - in terms of constraining themselves or other people from realizing their potential - is a compelling way to foster a growth mindset (induced *cognitive dissonance*). Finally, employees with fixed mindsets should engage in role-playing in order to practice growth mindset. Peer coaching following the role playing can also yield powerful insights about the scope for liberating oneself from an oppressive tendency to respond to setbacks with a fixed mindset (Keating and Heslin, 2015; see also Dweck, 2016).

Keating and Heslin (2015) also suggest certain initiatives that can be taken in order to *sustain* a growth mindset. For instance, whenever fixed mindset leads to doubts among employees regarding their ability to succeed, they should immediately reflect to a part of growth mindset which helps them stay engaged with identifying how to strive towards their objectives. It is important to think of challenging tasks as an exciting opportunity to learn, rather than as a measure of natural ability. It is also essential to recognize that successes and failures reflect the quality of the effort, strategies and choices, rather than being indicators of lack of innate talent. Further, it is crucial to remember that few worthwhile capabilities are acquired without persistent effort and frustrating setbacks along the way. These setbacks should be considered as opportunities to learn, instead of defining performance capabilities, since thinking of oneself as a learner can enhance engagement and enjoyment of challenges. In addition, believing and proclaiming a desire to change in a certain area may reinforce growth mindset and facilitate engagement. One can also investigate the background of a successful person, in order to disclose whether success stems from innate talent, or is a result of sustained effort. If there is something one wishes to learn, but believe it is difficult, it is essential to make a concrete learning plan and execute it. Also, the process of developing individuals skills should be pondered and relished, including the mistakes that are made. When fostering growth mindset, the focus should lie on being proud of learning from mistakes, rather than falling into the fixed

mindset trap of feeling judged by them. One of the most significant steps is to strive toward valuing and feeling genuinely proud of learning and growth, as well as performance attainments. Finally, it is necessary to be surrounded by people who challenge one to grow.

In turn, Taberero and Wood (1999) call for less evaluative, more developmental approach to training, urging to adopt a learning orientation and not to interpret feedback as indicative of ability. The authors recommend the use of targeted error management training techniques, which encourage trainees to make mistakes and minimize critical evaluation during the development of skills.

Previously, the concept of implicit person theory was introduced, highlighting the differences between entity theorists and incrementalists. The importance of leaders maintaining incremental theory has been emphasized in order to demonstrate why an intervention to change and develop entity theorists is needed. Past research on how to change IPT was also presented. Next, theories on attitudinal change will be discussed.

3. Theories on attitudinal change

An **attitude** can be referred to as “an overall evaluation of a stimulus object” (Hewstone et. al, 2015, p. 173). In addition, Thomas and Znaniecki (in Simonson, 1979, p. 16) define attitude as:

a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects and situations with which it is related.

Attitudes, although not directly observable, appear to organize and direct actions and behaviors that are observable. Additionally, attitudes are considered to include three main components: *affective*, *cognitive*, and *behavioral*. The *affective component* of attitude can be described as the emotional evaluation of an object; *the cognitive component*, as thoughts, beliefs or the degree of knowledge about the object; and the *behavior component*, as individual’s past or future behaviour toward the object (Simonson, 1979). In turn, Hewstone et. al (2015, p. 173) note that “attitudes can be *based* on beliefs, feelings and behaviors, while also *shaping* beliefs, feelings and behaviors”.

Bohner and Dieckel (2011) note that attitude objects consist of anything a person may hold in mind, including things, people, groups and ideas. They add that attitude definitions vary depending on whether attitudes are seen as stable entities stored in memory (called file-drawer perspective) or temporary judgements constructed on the spot from the information at hand (constructionist perspective). These differences on attitude conceptualization affect the theoretical understanding of attitude change. From a constructionist perspective, attitude change results from a different set of information being activated and considered at the time an attitude judgement is made. On the other hand, from the file-drawer viewpoint, attitude change reflects a change in the underlying memory representation of the attitude in question. Integrating these views, Bohner and Dieckel (2011) assume that attitude change involves both the retrieval of stored evaluations and the consideration of new evaluative information to varying extents. Hence, attitude change takes place whenever people process information with the result of forming an evaluation of an object of thought.

Regardless of whether the configuration is presented from an educational, business or organizational perspective, and since attitude change takes place within the complex interactions of affective, cognitive, and psychomotor components, the design of attitude change instruction is crucial (Mueller et. al, 2017). There are several methods to achieve attitudinal change, such as by means of persuasion, cognitive dissonance, counter-attitudinal advocacy, and mastery modeling.

3.1. Persuasion

Persuasion is defined as “the formation or change of attitudes through information processing in response to a message about the attitude object” (Bohner and Dickel, 2011, p. 403). Hewstone et. al (2015, p. 203) add that “persuasion involves the use of communications to change beliefs, attitudes and behaviors of others”.

Persuasion research is guided by systematic processing and dual-process models. *Systematic processing* includes *information processing model* and the *cognitive response model*, and claims that attitude change is a result of processing the message of persuasive arguments. This kind of processing relies on ability and effort (Hewstone et. al, 2015; Bohner and Dieckel, 2011). The *information processing model* provides a framework for thinking about the stages involved in the processing of persuasive communication. According to this model, in order for the message to achieve persuasive effect, it must succeed in five steps: (1) the target needs to receive the message (*attention*); (2) the message should be understood (*comprehension*); (3) message’s receiver must agree with communicator’s conclusions (*yielding*); (4) the audience must retain the attitudinal change (*retention*); and (5) the attitudinal change must be reflected in actions (*behavior*). This framework may explain why it is difficult to induce behavior change through information campaigns (Hewstone et. al, 2015). In turn, the *cognitive response model* assumes that attitude change is not a consequence of reception of arguments, but it is rather mediated by the thoughts (cognitive responses) stimulated in the recipient by those arguments. In other words, according to the cognitive response approach, when a person receives a persuasive message, an attempt is made to relate the information in the message to the preexisting knowledge that the person has about the issue. When doing so, the person will generate a variety of issue-relevant beliefs that may support or oppose the advocated position. Hence,

messages persuade if they evoke predominantly favourable thoughts, and they fail to convince if they stimulate essentially unfavourable thoughts. In addition, strong and well-argued communications, especially those from high expert sources, are likely to elicit predominantly favourable thoughts which should enhance persuasion. It is also proposed that the persistence of persuasion depends on the extent to which the thoughts elicited by the message remain noticeable over time. Research in this field also contributed by providing a measure of cognitive responses called thought-listing. It consists in asking message recipients to list all the thoughts that occur to them while being exposed to a persuasive message. This enables researchers to assess the processes assumed to mediate attitude change (Hewstone et. al, 2015; Cialdini et. al, 1981).

Theories on single-processing models are challenged by *dual-process theories of persuasion*, which acknowledge that attitude change is not always a result of systematic processing of persuasive arguments, but can happen through two routes: 1) a central route which occurs when the person is motivated and able to think about the issue; and 2) a peripheral route, which occurs when either motivation or ability is low. Thus, dual-process theories recognize that recipients may take shortcuts and accept or reject an advocated message without scrutinizing the arguments presented (Hewstone et. al, 2015; Cialdini et. al, 1981).

One of the dual-process theories of persuasion is the *heuristic-systematic model (HSM)*. According to this model, attitude change through persuasive communications is mediated by systematic processing when motivation and ability are high: since systematic processing involves careful consideration of arguments, motivation is necessary because prudent analysis requires time and effort; in turn, processing ability is crucial because individuals need issue-relevant knowledge in order to critically evaluate the message. In contrary, when motivation and ability are low, message receivers will rely on heuristic cues, failing to consider the arguments used, and focusing on simple decision rules. It is crucial to note that individuals do not necessarily disregard the informational value of heuristic cues when they engage in systematic processing, as heuristic cues may provide valuable information (Hewstone et. al, 2015).

Hewstone et. al (2015) underline that the most influential determinant of a person's motivation to consider the arguments in a persuasive message is the perceived *personal relevance* of the communication. Moreover, attitude change in individuals with a high need

for cognition is found to be more persistent over time and more resistant against counter-argumentation than in individuals with low need for cognition. Hence, persuasion induced by systematic processing is more persistent over time than persuasion induced by heuristic processing. Intense issue-relevant cognitive activity is likely to require frequent accessing of the attitude and the related knowledge structure. This activity should increase the number of connections between structural elements, making the attitude schema more internally consistent and more resistant to counterarguments. Attitude change that is based on systematic processing should therefore result in stronger attitudes, which are more persistent over time, more resistant to counterattitudinal appeal, more likely to influence information processing, and more likely to guide behavior (Hewstone et. al, 2015; Cialdini et. al, 1981).

In turn, Bohner and Dieckel focus on the common aspects of systematic processing and dual-process models and suggest that the two approaches can be integrated in a sequential process. The models share the idea that early information can bias the processing of following information when the individual is motivated and able to process the latter after processing the former. This way, processing sequence matters more than the type of information in determining persuasion outcomes. Further, according to the *additivity hypothesis*, heuristic cues and message arguments exert independent main effects on attitude judgements if their implications do not contradict each other. In turn, the *contrast hypothesis* maintains that arguments may be interpreted in the opposite direction of cue-based expectancies if such expectancies are clearly contradicted (see also Cialdini et. al, 1981). Hence, Bohner and Dieckel (2011) suggest that any interactive effects of the bias or contrast type require that early information is somehow related to subsequent information, whereas additive effects would be the rule whenever there is no relation between pieces of information. Relatedness is present when early information evaluations serve as input to judging the quality of subsequent information. The sequence in which information is presented would thus affect persuasion outcomes only in the case of related information. Another way in which early information may be related to subsequent information is by eliciting a favourable or unfavourable first impression about the quality of a message (Bohner and Dieckel, 2011).

3.1.1. *Self Persuasion*

Self-persuasion is indirect and entails placing people in situations where they are motivated to persuade themselves to change their own attitudes or behavior. This strategy is found to have more powerful effects than persuasion because in the latter, the audience is constantly aware of the fact that someone is influencing them. In turn, where self-persuasion occurs, people are convinced that the motivation for change has come from within (Aronson, 1999).

In this sense, Cialdini et. al (1981) argue that the information people generate themselves is a more important determinant of the direction and amount of persuasion than is information provided by others. The authors also point out that when a person agrees to defend a discrepant position (counter-attitudinal advocacy), a “biased scanning” of the arguments on the issue takes place. That is, the person becomes temporarily motivated to formulate favourable information about the side to be advocated and withhold thoughts unfavourable to the issue. This biased information search seemingly increases the likelihood of attitude change.

Most associated with the phenomenon of self-persuasion is the theory of cognitive dissonance, which will be studied below.

3.2. Counterattitudinal behavior and Cognitive Dissonance

Another way of achieving attitudinal change is by means of counterattitudinal behavior that may generate cognitive dissonance. According to Hewstone et. al (2015, p. 7), “cognitive processes occur when our thoughts, emotions, and goals guide our understanding of the world around us and our actions”. However, an individual may act inconsistently to his own attitude or beliefs, which is called *counterattitudinal behavior*. In order for counterattitudinal behavior to generate attitude change, individuals should find performing that behavior less aversive than they had anticipated. Further, what was originally a conscious action, requiring cognitive efforts and often performed to avoid sanctions, may turn into effortless and automatic behaviour through habit formation. However, if performing the behaviour is unpleasant, cognitive dissonance may lead people

to change their attitude in order to achieve greater consistency with their behavior (Hewstone et. al, 2015).

In this matter, Festinger (1957) proposes that the individual strives towards consistency within himself - his attitudes, opinions, values and beliefs about the environment, about themselves, or about the others. If, when considering a pair of elements, one seems to follow from the other (i.e. an action follows from a belief), then the relation between them is said to be consonant. On the contrary, when inconsistencies arise, a *state of dissonance* (imbalance) which is psychologically uncomfortable, is created, motivating the person to try to reduce it and achieve consonance. The person may also actively avoid situations and information which are likely to increase the dissonance. Dissonance often occurs when new events happen or when a person acquires new information which is in conflict with the existing knowledge. Moreover, few situations are perfectly clear, so opinions or behaviors are, in a way, a mixture of contradictions. When an opinion must be formed or a decision must be made, some dissonance is practically inevitable between the cognition of the action taken and those opinions or cognitions that point to an alternative action or decision.

One way of reducing dissonance is by changing the behavioral cognitive element in such a way that it becomes consonant with the environmental element, that is, by changing the actions or feelings which the behavioral element represents. For instance, a smoker who learns that smoking is harmful experiences dissonance and responds by quitting it. Additionally, in order to reduce cognitive dissonance, it is possible to change an environmental cognitive element by changing the situation to which that element corresponds. However, this is more difficult, since it requires some degree of control over the environment. In the smoker's case, he cannot change the effects of smoking on the health. Finally, it is possible to reduce the magnitude of the dissonance by adding new cognitive elements. This way, the smoker would search for information pointing to possible "benefits" of smoking, such as "it is relaxing", and at the same time, avoid new information that might increase the existing dissonance. The smoker can also learn about car accidents and death rates to convince himself that the danger of smoking is negligible compared to the dangers of driving a car. Hence, the total dissonance is reduced by diminishing the importance of the existing discrepancy (Festinger, 1957).

Further, whenever an individual chooses between alternative courses of action, he must have reasons to justify choosing *that* particular action. However, there are often also arguments in favour of the rejected alternative. Thus, making a decision implies creating dissonance. The more arguments favouring the rejected alternative, and the more important they are, the greater the dissonance and the pressure to reduce it will be (Festinger, 1957).

Hewstone et. al (2015) note that, for counter-attitudinal behavior to arouse dissonance, freedom of choice and adverse consequences are required. In turn, Carlsmith et. al (in Sherman, 1970), specify two conditions necessary to elicit cognitive dissonance: first, counterattitudinal behavior should not be anonymous; second, counterattitudinal behavior must have significant consequences.

In short, cognitive dissonance theory is based on the assumption that humans are sensitive to inconsistencies between actions and beliefs. The recognition of an inconsistency will cause *dissonance*, which will motivate the individual to resolve it. Finally, the dissonance can be resolved by (a) changing the action, (b) changing the environment; or (c) adding information that may reduce the magnitude of the dissonance.

Further, Sherman (1970) sheds light to the lack of consensus in the literature regarding the relation between incentive for counterattitudinal behavior and attitudinal change. The author provides evidence that in a forced-compliance situation and holding the timing of the incentive manipulation constant, monetary reward is inversely related to attitude change when there is initial behavioral commitment to the discrepant act (high choice), but positively related in the absence of such commitment (no choice). This is because in a high-choice situation, subjects use the money primarily to understand and justify the counterattitudinal behavior, whereas in the no choice situation, subjects have all the information needed to understand the discrepant behavior (they did it because they had to) and money serves as a reinforcer.

The dissonance theory provoked controversy, being specially challenged by the self-perception theory. *Self-perception theory* assumes that people are often unaware of their own attitudes and, when questioned about them, take the position as an outside observer. Individuals usually infer attitudes from past behavior, and attitude change will occur if the behavioral advocacy does not refer to the person's *preferred* position. On the other hand, dissonance theory predicts attitude change only if the behavior performed is

discrepant with the attitude. An attitude-congruent behavior can be defined as any position that is still acceptable to an individual, even though it may not be in accordance with his actual attitude (Hewstone et. al, 2015; Fazio et. al, 1977). The range of acceptable positions is called the latitude of acceptance. In turn, the range of objectionable positions is called the latitude of rejection (Fazio et. al, 1977). Thus, an attitude-discrepant behavior is defined as the endorsement of any position within an individual's latitude of rejection.

Fazio et al. (1977) claim that cognitive dissonance and self-perception theories are complementary to each other: while dissonance theory postulates the existence of a motivation to maintain consistency among relevant cognitions and is not applicable to situations in which pro-attitudinal advocacy occurs, self-perception theory involves the passive inference of attitude from behavior. The authors provide evidence for the view that self-perception theory applies within the latitude of acceptance, while dissonance theory is applicable within the latitude of rejection. This way, writing an essay in support of a statement within one's latitude of rejection may lead to dissonance arousal and subsequent attitude change. Further, the authors argue that when an individual has little information about an attitude object, he is likely to hold a wider latitude of acceptance. On the other hand, well-established attitudes are likely to be characterized by the acceptability of few positions, and hence, by a wide latitude of rejection. Thus, self-perception seems to be more applicable to the early stages of attitude development, while dissonance theory seems to be most relevant when an individual is more certain towards an attitude object.

Based on evidence that dissonance-related interventions can produce enduring behavior change, Dickerson et. al (1992) performed a field experiment on water conservation to arouse dissonance in female swimmers by making them feel hypocritical about their showering habits. Subjects induced to encourage others to engage in positive behaviors that are not consistent with their own, that is, to preach something positive that they do not practice themselves, experience feelings of hypocrisy that should lead to dissonance. In the present study, participants in the "hypocrisy" condition were first reminded about their past bathing habits, then made a commitment to take shorter showers. These subjects took significantly shorter showers than comparison groups (those only reminded of past behavior, those who only made a commitment, and a non-treatment group). The results provide evidence that hypocrisy manipulation (*pro-attitudinal*

advocacy paradigm) may prove successful in motivating people to act in accordance with their already favorable attitudes toward a desired goal.

In line with this reasoning, Stone et. al (1994) induced hypocrisy in heterosexual college students aged between 18 and 25 years. Subjects in the “hypocrisy” treatment were first asked to publicly advocate the importance of safe sex, then were reminded of their past failures to use condoms. The induction of hypocrisy motivated more subjects to reduce dissonance by purchasing condoms at the completion of the experiment, and they also bought more condoms on average than subjects in the control conditions. When subjects felt that their behavior was inconsistent with their public commitment about the importance of safe sex, which was consistent with their beliefs, cognitive dissonance arose. This contradiction between beliefs and behavior caused subjects to examine a firmly held belief about themselves (their self-view as competent and moral people). Thus, the induction of hypocrisy motivated subjects to buy condoms because this behavior was the most efficient way to reduce the discrepancy between a positive self-concept and the standards of behavioral conduct. The hypocrisy paradigm suggests that any action that violates an important self-view has the potential to cause feelings of dissonance, even if no aversive consequences are engendered.

Festinger's Cognitive Dissonance Theory serves as a foundation for counter-attitudinal advocacy as a means to achieve attitude change.

3.3. Counter attitudinal advocacy

According to Aronson, et. al 2005, counter attitudinal advocacy consists in inducing people to state publicly an opinion or attitude that runs counter to their own attitudes. When this is accomplished with some external justification, people's private attitude is changed in the direction of the public statement.

Miller and Wozniak (2001) note that writing an essay holding an opinion contrary to an individual's own position creates a state of cognitive dissonance, and when the subject cannot deny writing the essay, their dissonance-reducing option is to change the original opinion. The authors asked a group of psychology students to write an assignment regarding subliminal persuasion. The results showed that counter-attitudinal advocacy in

the form of writing an essay was effective in changing students beliefs. Further, self-generation of arguments proved more effective in changing attitudes and behavior, reaching the core of the dissonance motivation.

Following the same reasoning, Anderson and Sechler (1986) asked participants to explain why the opposite of their own beliefs might be true. Their study indicates that creating hypothetical causal explanations lead to changes in beliefs even in the absence of data, and eliminates explanation bias, which results from a failure to consider alternative theories. Nevertheless, the effects of explanation are weaker when the theory domain evokes extreme initial theories and when the difference in the ease of explaining the opposite theories is large. This way, counterexplanation procedure provides a useful tool for helping decision makers to avoid errors produced by overconfidence in an explanation-induced theory.

Attitudinal change can also be achieved through mastery modeling, as will be presented below.

3.4. Mastery Modeling

People not only learn from their own actions, but also from information obtained by modeling influences, that is, by observing people's behavior and its consequences. This observational learning is driven by four processes. *First*, attentional processes determine what people selectively observe, and what information they extract from their observations. *Then*, cognitive representational processes dictate what information people retain, how they transform and restructure information in the form of rules and conceptions. *Next*, behavioral production processes translate symbolic conceptions into appropriate courses of action. This is achieved when people compare the adequacy of their actions against their conceptual model, using their patterns of behavior. Individuals may alter their behavior based on comparative information in pursuance of closer correspondence between their conceptions and their action. *Finally*, motivational processes imply that people are more likely to adopt modeled strategies if these strategies produce valued outcomes. They are also motivated by the successes of others and are discouraged to repeat behaviors that they have seen often result in unfortunate consequences. Self-

evaluations about own behavior also regulate which observationally learned activities people are most likely to practice (Wood and Bandura, 1989).

Modeling effects also unveil rules for original behavior. In this form of modeling, observers learn the rules guiding judgements or actions of others, and then use these rules to assess events and generate own courses of action that outclass what they have witnessed (Wood and Bandura, 1989).

Mastery modeling can be used to develop intellectual, social, and behavioral consequences. In order to achieve best results, three elements should be present in the method. First, the *appropriate skills should be modeled* to demonstrate basic competencies. Effective modeling teaches people general methods for dealing with different situations, rather than specific responses. After individuals understand the new skills, they need *guidance in order to improve them*. Initially, they may test those newly acquired skills in simulated situations in which they do not need to worry about making mistakes. For instance, individuals can practice handling situations they must manage in their work environment by role-playing. It is further important that they receive instructive feedback, based on corrective modeling. Finally, a transfer program should aim at *providing self-directed success*. People must experience success when using what they have learned in order to increase their perceived self-efficacy and the value of these new abilities. Hence, the newly acquired skills should be tried in job situations. As individuals gain skills and confidence in handling easier situations, they gradually take on more challenging problems (Wood and Bandura, 1989).

Further, mastery modeling programs have proven to produce lasting improvements in supervisors' skills. For instance, Latham and Saari (1979) examined how a behavioral modeling program can help increase the effectiveness of first-line supervisors in dealing with their employees. The experiment consisted in training sessions, which included attentional processes, retention processes, motor reproduction processes, and motivational processes. More specifically, supervisors were randomly assigned either to training or to a control group. The training focused on matters related to human resource management, such as giving feedback, motivating employees, and reducing turnover. Each training session consisted of an introduction of the topic (attentional processes), presentation of a film that portrays a supervisor effectively handling a situation (retention processes), group discussion of the effectiveness of the model in demonstrating the desired behaviors

(retention processes), practice in role playing the desired behaviors (retention processes, motor reproduction processes), and feedback from the class on the effectiveness of each trainee in demonstrating the desired behaviors (motivational processes). At the end of each session, in order to facilitate transfer of learning from the classroom to the job, supervisors were instructed to use the supervisory skills they had learned in class with their employees on the job within a week. The study provides evidence that supervisors who received training performed more effectively on the job than those in the control group.

Another possible way of changing implicit person theory is through coaching, concept that will be explained in the next section.

3.5. Coaching

Individuals, teams and organizations must be helped to clarify what they want and then realize their goals. In this sense, coaching can be defined as

a learning process that, through active listening, questions, feedback and good dialogue, challenges and supports an individual or team to develop thoughts and behaviors, as well as good feelings, to achieve important personal goals and/or organizational goals (Berg and Ribe, 2013, p. 13).

Hence, coaching implies developing a good relationship to help an individual, team or organization succeed. It is used when a situation is characterized by paradoxes, dilemmas and contradictions. Further, coaching is based on a positive human perception, assuming that the person often has enough resources to cope with his own challenges. Thus, the individual should reflect on his situation, clarify goals, try out strategies and constantly learn from the process (Berg and Ribe, 2013).

Coaching is about change and transformation - about the human ability to grow, to alter maladaptive behaviors and to generate new, adaptive and successful actions. Since changing old patterns can be difficult, a coach observes these habits, opens up new possibilities and supports the process of change. This way, a critical role of the coach is to provide a safe, nurturing environment for the individual to grow and develop own strategies and solutions. Coaching it is said to be influenced by constructivist learning theory because it considers learners as active organisms, engaging them to make sense of

the situation and *encouraging knowledge to be generated internally* (Zeus and Skiffinton, 2001).

According to Berg and Ribe (2013), most important in coaching is to ask relevant questions, listen actively and provide feedback. Additionally, tools such as emotional intelligence, self-efficacy and enjoyment are used. All tools can help develop positive thoughts, feelings and behaviors.

As discussed in the theory section 1, individuals interpret reality differently: their interpretation of reality (*cognition*) is influenced by their perceptions of self-efficacy. Their emotions (*affect*) and reactions to events (*response*) are influenced by the mental filters they see the world through. Coaching may thus help individuals change their perceptions by rethinking the situation, reformulating goals, trying new instruments and reflecting on achieved results. The purpose is to inspire processes where individuals learn from their own thinking and their own actions (Berg and Ribe, 2013).

Even though individuals have talents and resources, they do not always develop their potential. Their self-conceptions may lead to helpless response patterns, deterring them from confronting obstacles, and ultimately limiting their attainments (Dweck and Leggett, 1988). Since coaching is a personal method of learning, it may help individuals to increase their self-esteem, discover new and better solutions, make better decisions and realize their goals. *Coaching can be used to encourage individuals to adopt a learning-oriented mindset rather than a fixed-entity mindset* (Berg and Ribe, 2013).

Berg and Ribe (2013) identify five basic elements for good coaching: (1) a person who wants to develop (called the “coachi”); (2) a person who can contribute in such a learning process (the coach); (3) the relationship between the two persons; (4) the results to be achieved (goals); and (5) barriers that may possibly hinder the coach and coachi in achieving their goals. These barriers can be internal (such as negative thoughts, anxiety, stress, low self-esteem) or external (such as time pressure, difficult employees, demanding customers, a negative organizational culture), and they may affect each other.

In order to overcome barriers and achieve the desired results, coaching works with thoughts, feelings and behaviors.

One coaching specialization is executive coaching, which can be described as a collaborative, individualised relationship between an executive and a coach, aiming to achieve sustained behavioral change and to transform the quality of the executive's working and personal life. Executive coaching focuses on the individual's working life, but it also includes interpersonal development, personal change and transformation (Zeus and Skiffinton, 2001). Executive coaching increases awareness that learning can bring competitive advantage for the organization. As a consequence, organizations benefit from employees exchanging knowledge and skills with each other, since problems are solved faster and efficiency is increased. Teams become more complex and coordinated, and expertise is exchanged (Berg and Ribe, 2013).

Berg and Ribe (2013) point out that there are a number of reasons why leaders may seek coaching, such as to become skilled in making decisions and acting, rather than spending too much time on planning; reduce anxiety and stress; become more aware of own strengths, talents and potential; and become proficient in using management tools such as delegation, targeting, feedback, conflict management and emotional intelligence.

In turn, Heslin et. al (2006) note that coaching, compared to generic training programs, typically focuses more on employees' specific workplace challenges. Coaching can facilitate learning to master altered job roles, such as job promotion or organizational change. As coaching is provided on the job and is tailored to the employee being coached, it is less susceptible to the transfer-of-training issues that typically weaken the utility of most off-site developmental initiatives. According to Heslin and his associates, employee coaching increases productivity over and above the effects of a managerial training program. Additionally, employee coaching entails managers providing one-on-one feedback and insights aimed at guiding and inspiring improvements in an employee's work performance.

Berg and Ribe (2013) believe that the value of executive coaching increases the higher the level of management being coached. Even small positive behavioral changes of a leader can have major effects on the organization.

Considering coaching as a systematic approach to clarify the present situation, set goals, and define strategies to achieve these goals considering the barriers that may hinder success, Berg and Ribe (2013) built a seven-phase coaching method. *First*, coach and

coachi should develop trust and partnership to the learning process (build relationship). *Second*, they should understand the situation (recognition). *Third*, they should set goals, using performance and behavioral criteria. *Fourth*, they should find alternatives (opportunities). *Fifth*, they should access and prioritize these alternatives. *Sixth*, the new behavior should be put in practice. *Finally*, in a follow-up phase, they should evaluate, give feedback, reward and learn. The evaluation can be conducted on a response level (how satisfied is the coachi with the coaching process?); learning level (what has the coachi learned?); behavioral level (to what extent has the coachi changed his or her behavior?); and performance level (to what extent has the organization improved in terms of achieving overall goals?).

These phases are not necessarily sequential. Several phases may occur at the same time, and it is possible to skip phases back and forth. The coach should present his method, so that the coachi may understand the procedure. Then, the coachi's task is to find answers to the questions asked, and try out the answers in practice to gain experiences. The experiences are shared with the coach and may provide the basis for new questions. Hence, coaching is a continuous process until the goals are reached, and the coachi is able to work independently.

Nevertheless, coaching is not always the right tool: if the coachi regularly behaves in a way that adversely affects the environment, and this behavior is due to trait or personality, coaching is unlikely to have an effect. Further, coaching must not cover too many topics at the same time.

Finally, coaching may focus on behavior (behavioral coaching), thoughts (cognitive coaching), feelings and individuals' potential to develop (humanistic coaching) and meaning (existential coaching) (Berg and Ribe, 2013).

This master thesis aims to design a framework for an intervention to change and develop leaders' incremental person theory, in order to change their patterns for responding (cognition, affect and behavior) (Dweck and Leggett, 1988). The goal is to achieve transformation management, where leaders are concerned with learning and change, working largely as mentors and coaches, and taking into account employees' needs, abilities and aspirations (Berg and Ribe, 2013).

Next, instructional strategies for attitudinal change will be discussed.

3.6. Instructional Strategies for Attitudinal Change

When a certain attitudinal change is desirable, Simonson (1979) recommends the instructional developer to consider six guidelines. *First*, learners react favorably to mediated instruction that is realistic, relevant to them, and technically stimulating. *Second*, learners are persuaded and react favorably when mediated instruction includes the presentation of new information about the topic. Simonson (1979) mentions evidence provided by Jouko that the less previous knowledge students had about a topic the more attitude change was produced after a persuasive lesson. In addition, it is noted that knowledge about a topic is often necessary for a learner to hold a positive attitude toward the idea. Hence, the cognitive component of attitude should be considered when designing a persuasive attitudinal instruction. *Third*, learners are positively affected when persuasive messages are presented in as credible manner as possible. In this sense, Simonson (1979) observes that credibility can be induced by the way the material is presented. *Forth*, learners who are involved in the planning, production or delivery of the instruction are likely to react favorably (exhibit positive affect) to the instructional activity and to the message delivered. *Fifth*, learners who participate in postinstruction discussions and critiques are likely to develop favorable attitudes toward delivery method and content. *Lastly*, learners who experience a purposeful emotional involvement or moderate arousal during instruction are likely to change their attitudes in the direction advocated. It is important to note that the arousal should be moderate: if exaggerated, subjects may be motivated to ignore the importance of the message in order to reduce the tension they feel.

With regards to the design of an effective attitudinal instruction, Mueller et. al (2017) present and discuss Merrill's first principles of instruction, one of the most representative theoretical frameworks. These principles are relevant for this study, as they are common for various instructional theories and can be applied to all instructional contexts. According to Mueller et. al (2017), Merrill suggested that learning is promoted through: (a) activating appropriate prior knowledge; (b) observing a demonstration of the knowledge or skills; (c) applying newly acquired knowledge into specific and real situations; (d) experiencing solving practical and authentic tasks; and (e) integrating new knowledge or skills into learners' everyday life.

Mueller et. al (2017) then integrated these principles in order to design a systematic framework of instruction for attitudinal change as follows.

3.6.1. Activation Principle

The first step for attitudinal change is the activation of learners' existing attitudes, through recollecting prior knowledge and experience. According to Mueller et. al (2017), Merrill suggests that learning is stimulated by the activation of current knowledge as a basis for new knowledge, since prior knowledge provides learners with a familiar structure to organize the new information acquired during instruction.

Further, instructors can activate attitude change by having learners confront their current and targeted attitudes and consider adopting a new attitude. Attitudes can also be activated through role-playing and simulation, or while learners practice the targeted attitude in real situations, connecting the activation principle with the application principle (Mueller et. al, 2017).

Creating a situation where learners are slightly uncomfortable performing a requested action gives them the opportunity to try out a new attitude. Following this, it is arguable that if the learner agrees to perform a particular task without any protest, then the action is too close to his or her current attitude. In contrast, if the learner refuses to perform the requested action, this action is distant from his or her current attitude. In addition, learners who experience a purposeful emotional involvement or arousal during the learning process are more likely to change their attitudes in the advocated direction (Mueller et. al, 2017).

However, the lack of prior knowledge may hinder the cognitive processing of the new information. Therefore, preparing and supporting structures for learners with different attitudes through demonstration is critical (Mueller et. al, 2017).

3.6.2. Demonstration Principle

In order to facilitate learning, instructors should provide a demonstration of the skill that is to be learned and then give learners the opportunity to apply this skill in different situations. Demonstration can be classified in two categories, according to its purpose on attitudinal change: a) to evoke awareness about the importance of the targeted attitude; and b) to provide examples for the targeted attitude. Since awareness can enhance interest and motivate learners to change their attitude, the attitudinal change instruction

should start by urging learners to recognize a need to move towards the targeted attitude and take ownership of this need. Hence, modeling and persuasion are effective strategies for changing attitude. In addition, active learning creates the opportunity for a close interaction between learners, thus increasing their willingness to change (Mueller et. al, 2017).

3.6.3. Application Principle

This principle can be described as a process of using skills and knowledge in a new and real situation. The application principle consists in: (a) providing multiple opportunities for learners to use their new skills and knowledge within new situations; (b) gradually reducing learners dependency on instructional assistance; and (c) giving “corrective feedback” along the way. These strategies can be an effective and powerful tool to changing learners’ attitude. Moreover, application involves practicing a targeted attitude in a practical situation. This can be achieved through simulation and empathy. Simulation allows players to experience various aspects of other people's lives, by placing them in a virtual world which poses new challenges and triggers different emotions. In turn, empathy is defined as an understanding of others emotions and experiences. Research suggests that learners change their attitude when they put themselves in an authentic and real situation and feel empathy toward the objects or people which are related to the attitude (Mueller et. al, 2017).

Further, creating a supportive learning climate is crucial to encourage learners to incorporate the target attitudes.

3.6.4. Integration Principle

Integration describes the process of incorporating learners’ new knowledge and experiences into their own life. Further, integration can be deepened by providing opportunities for learners to receive “peer critiques”, to find “personal ways” to utilize the new knowledge or skill, and to demonstrate this “publicly”. Effective strategies to developing integration are reflection and discussion. Reflection is defined as analyzing

experiences and observations cognitively and affectively. In turn, discussion may be a critical approach toward attitudinal change and perception (Mueller et. al, 2017).

In addition, social consensus plays an important role in enhancing learners’ confidence about their perceptions and attitude. In this sense, social consensus can be achieved through social discussion. Hence, for attitudinal change, a full integration means learners’ adoption of a new attitude (Mueller et. al, 2017).

3.6.5. Task-Centered Principle

The last principle concerns to how instructors systematically introduce new tasks or materials. Hence, the task-centered learning principle overlaps with the other principles and connects all of the principles to each other. It is based on the assumption that learning should be promoted from easy tasks to more complex, and difficult problems should be solved step by step. There are not separate, task-centered strategies aimed to improve attitudinal change. In contrast, this principle is rather a cohesive one, combining all other principles (Mueller, et al., 2017).

Mueller and colleagues (2017) summarize Merrill’s principles in the following figure:

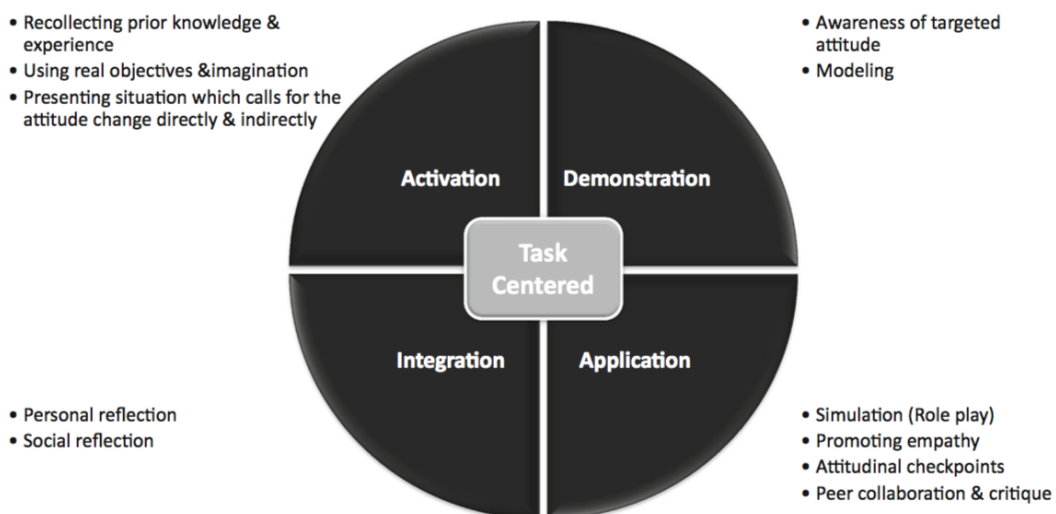


Figure 2: First Principles for attitudinal change (Mueller et. al, 2017)

4. Theoretical and empirical foundations for the development of the intervention

In this chapter, we will analyze how other researchers developed interventions, what methods they applied, and the results they obtained. The literature provides examples for the design of the intervention in this master thesis, whose objective is to change and develop leaders' IPT from entity to an incremental one.

Eden and Aviram (1993) designed a workshop using behavioral modeling to boost self-efficacy among unemployed workers in order to increase their job-search activities and to speed their reemployment. They screened videoclips showing models successfully performing job-search behaviors which were then discussed. Following, they used role-playing in small groups, in which each participant rehearsed the modeled behavior and received feedback from peers. Participants were also encouraged by verbal persuasion, and each session was concluded with a summary of what was learned that day. The intervention consisted in eight sessions every other day. After the workshop, experimental participants engaged in three times more job-search activity than those in the control group. As a consequence, the workshop also increased reemployment, "helping the participants to help themselves" (p. 358).

La Montagne et al. (2014) describe workplace interventions aimed to address mental health problems commonly faced by the employees. The authors propose to combine three main threads: risk reduction, mental health promotion, and mental health awareness, underlining the importance of an *integrated approach when designing an intervention*. This study is relevant to the intervention designed in this master thesis, since it emphasizes the possibility of combining different knowledge bases and educational fields.

Additionally, Mikkelsen, Saksvik and Landsbergis (2000) investigated the effect of a short-term participatory organizational intervention, which focused on problems in existing practice. The intervention was process oriented and was carried out jointly by researchers and participants. The overall aim was to set into motion a learning process on how to identify and solve work problems in order to improve workplace health and organizational performance continuously, on a long-term basis. According to the authors,

successful interventions are expected to work in two ways: (1) by modifying objective conditions in the social and/or technical environment; and (2) through the active learning that workers experience in direct participation and successfully affecting positive change. This is due to enhanced perceptions of control and influence, development of skills, self-esteem and social support. The intervention process started with a 6-hour seminar designed like a *search conference* - a participative event that enables a large group to collectively create a plan that the members themselves will implement. The aim was to improve the openness of group processes, enhance communication and create greater intra-group trust. Further, a combination of individual-level work, small group activity and plenary sessions helped to identify the seven most important elements of the workplace setting that needed improvement. Then, supervisors and employees allocated themselves in seven work units. After the initial orientation seminar, the work units had nine individual group meetings lasting for 2 hours each. The work groups discussed their respective topics, the stressors connected to these concerns, their likely causes, and the possible measures for overcome them. After the work group meetings, each group prepared a report about the discussions held and the suggestions for interventions. This report was sent to a steering committee including the consultant, the manager, the supervisor, the union representative and the employee safety representative. Then, concrete action plans for the work groups and for the work units affected were developed. In the fifth session, a summary of the principal results of the baseline survey was given to the participants. In the final session, the groups developed an overview of the results of the process, and formulated suggestions to the steering committee on how the improvement process should be sustained after the 12-week intervention. The method used for problem solving and dialogue introduced by the intervention was seen as a tool that employees and management could use in order to get to meet and to introduce a continuous problem-solving process. The employees interpreted the intervention as an opportunity to gain influence on their work conditions. When they noticed that their complaints were taken seriously, workers became more motivated to participate, contributing with concrete solutions to problems (Mikkelsen, Saksvik and Landsbergis, 2000).

Moreover, Storm et al. (2011) used a quasi-experimental design to study the effects of an intervention designed to increase (1) attention to user involvement, and (2) user involvement at the inpatient department level. The study provides an example of an

intervention program based on organizational learning theory and literature on organizational interventions emphasizing learning, dialogue, and participation. First, in order to get an overview of inpatients' perceptions of user involvement, a researcher conducted interviews with inpatients. Then, service providers were asked to respond to a questionnaire at the pre-measurement period (T1), in order to survey providers' perceptions of current user involvement practices. Following, a 6-hour dialogue seminar including providers, inpatients, family members and service user representatives discussed user involvement and its implications for the individual participant, their respective department and the Community Mental Care Center, identifying improvement areas. At the seminar, a summary containing the major themes from patient interviews was provided. The action plan on the most important areas for work with service user involvement during the intervention was established through a combination of individual work, group work activity and plenary sessions. In the implementation phase, planned activities were carried out, and providers used monthly staff meetings with a facilitator in order to share and discuss their experiences and their attempts to strengthen user involvement in their departments. Alongside this, an educational program with five 1-hour sessions addressed topics such as user involvement and its content domain, legal aspects of user involvement, user experiences with mental health services, and family involvement. In the educational program, user representatives played a key role telling their stories about being inpatients, being family members to persons with a mental disorder, and being a user representative, giving staff and inpatients the opportunity to learn from their experiences. Nine months after the pre-measurement period (T1), those who responded the first questionnaire were provided with a second questionnaire (T2) to measure intervention effects. The results indicated that the intervention led to improvements in providers' reports on the three dependent variables: organizational user involvement, patient collaboration, and career involvement. These factors are the core aspects in user involvement practices in health department.

Although the literature referred above focuses primarily on interventions in healthcare system and stress reduction, their designs and evaluation methods may be applicable to the intervention in this master thesis.

5. Methodology for developing the intervention to change leaders' Implicit Person Theory

The design of the intervention aimed to change and develop leaders' Implicit Person Theory for this master thesis is based on a systematic search and evaluation of relevant literature.

According to Lapan and Quartaroli (2009), "a literature review is a systematic synthesis and evaluation of a body of information that can provide an efficient overview of the information on a particular topic" (p. 20). Hence, this master thesis aims to contribute to the literature by providing an integrated discussion of relevant previous work, and synthesising it in the form of a proposal of intervention to change and develop leaders' mindset.

In this sense, the extensive research work of Carol Dweck and her colleagues (Dweck, 1986; Dweck, 2012; Dweck, 2016; Chiu et. al, 1997; Dweck and Leggett, 1988; Elliot and Dweck, 1988; Dweck et. al, 1995a; Dweck et. al, 1995b; Yeager and Dweck, 2012;) identifies the psychological processes affecting patterns of behavior, revealing the consequences of individuals' implicit person theory on their attitude. Their research has been the foundation for the topic Implicit Person Theory. Additionally, attention has been put on leaders' implicit theory, showing how beliefs on the malleability of ability can affect their performance, and why holding an incremental theory is favorable.

Since the aim of this master thesis is to propose an intervention framework to change and develop leaders' IPT, it was crucial to investigate what previous research has achieved on that matter. Further, in order to draw the intervention, it was essential to study theories regarding attitudinal change.

The literature research was conducted at *Oria.no*, which provides access to the most relevant databases, such as Elsevier, Web of Science, PsycInfo and PsycNET, and at Google Scholar. The following parameters were used: *implicit person theory*, *mindset*, *attitudinal change*, *persuasion*, *counterattitudinal behavior*, *cognitive dissonance*, *counterattitudinal advocacy*, *mastery modeling*, *coaching*, *organizational interventions*, and *integrated interventions*. Further, time range limitations were not used in order to gain access to relevant literature that has been developed for more than fifty years.

In addition to database search, branching bibliographies was extensively used. It is an important means of collecting research, which consists in inspecting the list of references cited in relevant articles, and studying their citations as well. This is an effective way to compile a list of the most relevant research (Lapan and Quartaroli, 2009).

The literature consulted in order to write this master thesis consists of 17 articles on Implicit Person Theory and 18 articles on Attitude Change. A summary is presented in the following table:

Implicit Person Theories		
Author (s)	Article	Highlights
Blackwell et. al (2007)	Implicit Theories of Intelligence Predict Achievement Across an Adolescent Transition: A Longitudinal Study and Intervention	The article examines the relation between theory of intelligence and achievement. First, the authors followed students through junior high school to study the relation of theory of intelligence to longer term achievements, finding that an incremental theory of intelligence was positively associated with effort beliefs, learning goals, low helpless attributions, and positive strategies. This way, students who endorsed a strong incremental theory at the beginning of junior high school were outperforming those who held entity theory after two years. In addition, an intervention teaching an incremental theory to junior high school students promoted positive change in classroom motivation, compared with a control group. Students in the experimental group, specially those who endorsed more of an entity theory at the beginning of junior high school, reversed their decline grade trajectory. In turn, the grades of students in the control group continued to decline.
Burnette et. al (2010)	Individual differences in Implicit Theories of Leadership Ability and Self-efficacy: Predicting Responses to Stereotype Threat	Incremental beliefs about leadership ability predicted greater self-esteem after a stereotype threat relative to entity beliefs. The results highlights the important role of leadership self-efficacy in helping people successfully navigate leadership challenges.
Chiu et. al (1997)	Lay Dispositionism and Implicit Theories of Personality	This research provides evidence that IPT can partially explain the tendency to subscribe to lay dispositionism. For entity theorists more than fore incremental theorists, traits are used to assess social events. Entity theorists are more confident that trait-relevant behaviors will be consistent across situations.
Dweck et. al (1995a)	Implicit Theories and Their Role in Judgements and Reactions: A world from two perspectives	Neither implicit nor entity theory is the “correct” one. Individuals can simultaneously hold both theories. Individuals holding an entity person theory tend to have a close correspondence between traits and actions. In contrast, incremental theories see human

		attributes as dynamic properties that can be developed.
Dweck et. al (1995b)	Implicit Theories: Elaboration and Extension of the Model	Implicit theories may cognitively orient individuals toward different ways of understanding their experiences and the ways in which these different interpretations of experience can guide different reactions.
Dweck and Leggett (1988)	A Social Cognitive Approach to Motivation and Personality	IPT orient individuals toward particular goals, and these goals affect their response patterns (cognition, affect and behavior). This way, incremental theorists tend to pursue development (learning) goals, through adaptive patterns of behavior. Their cognitions are characterized by process analysis, and they tend to show empathy.
Elliot and Dweck (1988)	Goals: an Approach to Motivation and Achievement	The study tests the hypothesis that different goals (learning goals vs. performance goals) set up mastery-oriented or helpless response patterns. The results of the study suggest that children's achievement goals are critical determinants for behavioral, cognitive and affective patterns: (1) when <i>performance goal</i> was highlighted and children believed they had <i>low ability</i> , they responded to feedback about mistakes in a helpless manner (claiming that mistakes reflected lack of ability, responding to them with negative affect, and giving up attempts to find effective ways of overcoming those mistakes despite ability to learn); (2) when <i>performance goal</i> was highlighted and children believed they had <i>high levels of ability</i> , they responded in a mastery-oriented manner in the face of obstacles (attempting to find solutions, and not making attributions for failure or expressing negative affect), but they also passed up the opportunity to increase their skills on a task that entailed public mistakes; (3) when the <i>learning goal</i> was salient, children's beliefs about their skills were irrelevant in determining their achievement behavior (they sought to increase competence, opted for challenging tasks, and did not avoid opportunities to learn new skills, even with public errors, that is, they responded to failure in a mastery-oriented manner, and their problem-solving strategies became more sophisticated).
Heslin et. al (2005)	The Effect of Implicit Person Theory on Performance Appraisals	The series of 4 studies indicates that: 1) IPT do appear to explain why some managers acknowledge an improvement in an employee's performance more than others; 2) some managers recognize a change in performance more than others; 3) incremental theorists are relatively unaffected by negative prior-performance information, in contrast to entity theorists, whose evaluation of good performance was deflated by information about the past events; 4) entity theorists can be trained to adopt an incremental IPT through self-persuasion. Although IPT is a relatively stable difference that predicts an array of judgements about others, an entity IPT can be systematically modified in a manner that endures over a 6-week period.

Heslin et. al(2006)	Keen to Help? Manager's implicit person theory and their subsequent employee coaching	IPT affects one's willingness to help others. Managers holding an incremental theory believe that personal attributes can be developed, and are therefore more inclined to coach their employees.
Heslin and Vandewalle (2011)	Performance Appraisal Procedural Justice: The Role of a Manager's Implicit Person Theory	A manager's implicit person theory predicted employees' perceptions of the procedural justice of their last performance appraisal. This perceived procedural justice, in turn, predicted employees' engagement. An incremental IPT was related to managers providing consistent, unbiased, accurate and correctable performance appraisals.
Keating and Heslin (2015)	The potential role of mindsets in unleashing employee engagement	Mindsets may influence employees engagement through enthusiasm for development, construal of effort, focus of attention, perception of setbacks and interpersonal interactions. The article also suggests how organizations can foster growth mindset.
Leith et. al (2014)	Changing Theories of Change: Strategic Shifting in Implicit Theory Endorsement	The study demonstrates a dynamic account of the strategic fluidity of implicit theories of change and stability, showing that people actively regulate and shift their endorsement of implicit theories in subtle, yet meaningful ways.
Martocchio (1994)	Effects of conceptions of ability on anxiety, self-efficacy, and learning in training.	The article draws from social cognitive theory to study the effects of induced conceptions of ability as either an acquirable skill or fixed entity on computer anxiety and computer efficacy beliefs. The results showed that trainees in the acquirable skill condition experienced an increase in computer efficacy beliefs, reducing their computer anxiety. The findings provide support for the benefits of inducing conceptions of ability as an acquirable skill prior to the start and during the course of training.
Taberero and Wood (1999)	Implicit Theories versus the Social Construal of Ability in Self-Regulation and Performance on a Complex Task	Implicit theories affect self-efficacy, affective reactions, self-set goals and performance on a complex group-management task. Those who held an incremental IPT developed stronger self-efficacy, maintained positive affect, set themselves more challenging goals and performed better than entity theorists.
Wood and Bandura (1989)	Social Cognitive Theory of Organizational Management	Mindset affects self-regulatory determinants and managerial performance. Induced incrementalism led to a highly resilient sense of personal efficacy. Managers in the incremental group continued to set themselves challenging goals, and they used analytic strategy in order to discover optimal managerial decision rules. As a consequence, they achieved higher organizational performance.
Yeager and Dweck (2012)	Mindsets that Promote Resilience: When students believe that Personal Characteristics can be Developed	Students' mindsets can be changed, and doing so can promote resilience (positive response to challenges). Students' IPT can predict their academic performance over time. For incrementalists, challenges, effort and setbacks are seen as opportunities to grow and learn. Those who adopt an incremental theory are also less

		likely to endorse aggressive retaliatory responses.
Dweck, C. (2012)	Mindsets and Human Nature: Promoting Change in the Middle East, the Schoolyard, the Racial Divide, and Willpower	The studies indicate that students' mindsets play several roles of cause and mediator in academic achievement. Mindset can also be an outcome of students' academic achievement. Furthermore, in some studies, the relationship between mindset and achievement is non-correlational. Meanwhile, teachers' mindsets play the role of cause or mediator in students' academic achievement, but no role of outcome.

Table 4: Consulted literature related to Implicit Person Theory

Attitudinal Change		
Author (s)	Article	Highlights
Anderson and Sechler (1986)	Effects of Explanation and Counterexplanation on the Development and Use of Social Theories	<p>Creating hypothetical causal explanations led to attitudinal changes even in the absence of data. It also eliminated explanation bias, confirming that it results from a failure to consider alternative theories.</p> <p>However, the effects of explanation are weaker when the theory domain evokes extreme initial theories, and when opposite theories are easy to explain.</p> <p>Counterexplanation can be used to help decision makers avoid errors produced by overconfidence in an explanation-induced theory.</p>
Aronson (1999)	The Power of Self-Persuasion	<p>The author reviews a range of his research on self-persuasion and emphasizes its relevance to current societal problems. Self-persuasion involves placing people in situations where they are motivated to convince themselves to change their own attitudes or behavior. Self-persuasion strategies produce more powerful and long-lasting effects than do direct techniques of persuasion, since the audience is no longer aware that someone is trying to convince them of something, but rather feel that the motivation for change comes from within. The theory most associated with self-persuasion is cognitive dissonance, specially if generated by counter attitudinal advocacy or through hypocrisy interventions (Stone et. al, 1994; Dickerson et. al, 1992).</p>

Aronson et. al (2002)	Reducing the Effects of Stereotype Threat on African American College Students by Shaping Theories of Intelligence	An experiment was performed to test a method of helping students resist these responses to stereotype threat. Students in the experimental condition of the experiment were encouraged to see intelligence—the object of the stereotype—as a malleable rather than fixed capacity. Results were consistent with predictions. The African American students encouraged to view intelligence as malleable reported greater enjoyment of the academic process, greater academic engagement, and obtained higher grade point averages than their counterparts in two control groups.
Bem (1967)	Self-perception: an Alternative Interpretation of Cognitive Dissonance Phenomena	Provides evidence that attitude statements - the major dependent variables in dissonance experiments - may be regarded as interpersonal judgements in which the observer and the observed are the same person, and that it is unnecessary to theorize an aversive motivational drive toward consistency to account for the attitude change phenomena observed.
Bohner and Dickel (2011)	Attitudes and attitude change	Attitude definitions characterize attitudes as either constructed on the spot (constructionist perspective) or as stable entities that are stored in memory (file-drawer perspective). The different conceptualizations of attitude affect the understanding of attitudinal change. New developments in persuasion research suggest that dual- and single-process models of persuasion may be integrated into a general model of persuasion as a sequential process. Meta-cognitions may moderate the impact of other persuasion variables. Attitudes affect information processing.
Cialdini et. al (1981)	Attitude and Attitude Change	The article highlights the two persuasion processes: the one via the central route, involving the cognitive assessment of the information related to the attitude at hand; the other via the peripheral route, incorporating the action of factors extrinsic to the issue-related information (e.g. habits, self-presentation). Affective changes (e.g. persuasion produced by role-playing) are relatively enduring and consistent within the affective, cognitive and behavioral domains. A crucial variable in determining whether an instance of attitude change is likely to occur through the central or peripheral route is the personal relevance of the issue under consideration: when an individual's personal concerns are closely related to the attitude issue, change on the issue will most likely happen via the central route. Personal importance also appears relevant to attitude-behavior prediction: when issues are personally relevant, attitudes are better predictors of behaviors.
Dickerson et. al (1992)	Using Cognitive Dissonance to Encourage Water Conservation	The study used a field experiment on water conservation to arouse dissonance in female swimmers by making them feel hypocritical about their showering habits. Subjects induced to

		encourage others to engage in positive behaviors that are not consistent with their own experience feelings of hypocrisy that should lead to dissonance. Participants in the "hypocrisy" condition were first reminded about their past bathing habits, then made a commitment to take shorter showers. These subjects took significantly shorter showers than comparison groups. The results provide evidence that hypocrisy manipulation (<i>pro-attitudinal advocacy paradigm</i>) may prove successful in motivating people to act in accordance with their already favorable attitudes toward a desired goal.
Eiser and Ross (1977)	Partisan language, immediacy and attitude change	The authors examine how individuals employ biased language which is consistent or inconsistent with their initial attitudes on an issue, and what effect the use of such language has on their subsequent attitudes. The results show that individuals use constructs that are compatible with their evaluations with greater frequency and immediacy.
Fazio et. al (1977)	Dissonance and Self-perception: An integrative view of each theory's proper domain of application	The authors argue that Dissonance theory and Self-perception theory are complementary to each other: self-perception theory characterizes attitude change in the context of attitude-congruent behavior (within an individual's latitude of acceptance), and dissonance theory attitude change in the context of attitude-discrepant behavior (within an individual's latitude of rejection).
Latham and Saari (1979)	Application of Social-Learning Theory to Training Supervisors Through Behavioral Modeling	The study provides evidence that behavioral modeling training program provides lasting improvements in supervisory skills.
Michie et. al (2011)	The behaviour change wheel: A new method for characterising and designing behaviour change interventions	Proposes a model for behaviour change intervention in which the components of the behavioral system (capability, opportunity and motivation) interact with each other, as do the intervention functions and the policy categories.
Miller and Wozniak (2001)	Counter-attitudinal Advocacy: Effort vs. Self-generation of arguments	Counter-attitudinal advocacy generated cognitive dissonance, which resulted in students' attitude change. Self-generation of arguments proved more effective in changing attitudes and behavior, reaching the core of the dissonance motivation.
Mueller et. al (2017)	First Principles of Attitudinal Change: a Review of Principles, Methods and Strategies	Presents five instructional principles for attitudinal change: activation principle, demonstration principle, application principle, integration principle, and task-centered principle.
Sherman (1970)	Effects of Choice and Incentive on Attitude Change in a Discrepant Behavior Situation	The study shows that when the timing of the incentive manipulation is held constant, the relationship between incentive magnitude and attitude change will be inverse if there has been initial behavioral commitment, and direct in the absence of commitment to the discrepant behavior.
Simonson (1979)	Designing Instruction for Attitudinal Outcomes	Describes procedures that were successful in experimental situations in producing desired attitudinal positions, and that may be useful for the instructional developer.

Stone et. al (1994)	Inducing Hypocrisy as a Means of Encouraging Young Adults to use Condoms	In this study, subjects in the “hypocrisy” treatment were first asked to publicly advocate the importance of safe sex, then were reminded of their past failures to use condoms. The induction of hypocrisy motivated more subjects to reduce dissonance by purchasing condoms at the completion of the experiment, and they also bought more condoms on average than subjects in the control conditions. When subjects felt that their behavior was inconsistent with their public commitment about the importance of safe sex, which was consistent with their beliefs, cognitive dissonance arose, causing subjects to examine their self-view as competent and moral people. The hypocrisy paradigm suggests that any action that violates an important self-view has the potential to cause feelings of dissonance, even if no aversive consequences are engendered.
Plaks and Stecher (2007)	Unexpected Improvement, Decline, and Stasis: A Prediction Confidence Perspective on Achievement Success and Failure	In the present studies, participants exhibited a motivation to confirm their working lay theory and even reacted in potentially self-defeating ways after experiencing an outcome that violated that theory. This work highlights an important, largely overlooked, metacognitive component of the psychology of hardiness in the face of unexpected success and failure.
Wood and Bandura (1989)	Social Cognitive Theory of Organizational Management	People can learn (and consequently change attitude) through guided mastery modeling.

Table 5: Consulted literature related to Attitudinal Change

6. Methodology for Intervention Research

In recent years there has been an increasing interest in the use and implementation of interventions. Companies, managers, and researchers, in their attempt to increase productivity, well-being, and effectiveness, are constantly trying to design, apply and evaluate interventions and their impact on the overall performance of the company.

In this sense, *research design* helps to structure and organize a study process aimed to control the factors that may contradict with the validity of the findings. Polit et al (2001, p. 167) define research design as “the researcher’s overall for answering the research question or testing the research hypothesis”.

Central for *intervention* research design is to recognize and promote informants’ interests instead of excluding it as a source of bias. In intervention research, in addition to maximizing the extent of informants’ control over the research process, the relationship between researchers and informants should be enhanced as means of information enrichment, rather than minimized as a source of data contamination. Intervention techniques are intended to recognize and foster control, autonomy and agency in informants via the research process. Although the use of such techniques is not clearly appropriate for all research questions, it can provide important insights which are difficult to obtain by the use of other techniques (Fryer and Feather, 1994).

Organizational interventions are often recommended when firms are seeking to improve employee psychological health and well-being, achieve a particular goal, or solve a problem. Thus, organizational interventions can be defined as “planned, behavioural, theory-based actions that aim to improve employee health and wellbeing through changing the way work is designed, organized and managed” (Nielsen et. al, 2014, p. 1538).

Intervention research includes the development of the intervention, implementation and the measurement of its effectiveness. *Developmental research* concerns developing *what to do* and *how*, whereas *implementation research* informs policy and practice: what factors facilitate or hinder implementation; what levels of support do different types and sizes of organizations need to implement integrated approaches; and what is practically achievable for organizations implementing their own programs. In turn, *effectiveness*

studies are needed to demonstrate that the intervention works. Further, *economic studies* can be performed to reveal the cost-benefit of the program (LaMontagne et. al, 2014).

In the following, we will present and discuss a research design for how an intervention to change leaders' implicit person theory can be developed, empirically tested and evaluated.

6.1. Measurements (Baseline and Outcome)

Researchers are concerned to use methods that are appropriate to the particular research question and to the nature of the subject matter being investigated. In organizational research, quantitative techniques using standardized procedures, large numbers of subjects, validated questionnaire measures and powerful computer packages, may be preferable for research questions that aim to establish the statistical significance of associations between variables in controlled environments. For other questions, however, qualitative techniques using flexible, individually tailored procedures with smaller number of informants and interpretative analysis are preferable to describe and make sense of the meanings to particular persons of phenomena occurring in their social contexts (Fryer and Feather, 1994).

For evaluating organizational interventions, positivism has been the dominant paradigm, holding the randomized control trial as the methodological gold standard. The objective is to evaluate whether the intervention fulfilled its stated goals. In turn, realistic evaluation shifts the focus from the research question of “what works?” to “what works for whom in which circumstances and why?”. Realistic evaluation suggests that the main purpose of evaluation research is to gain insight about the causal mechanisms underlying change in order to identify which processes may improve the successful implementation of the intervention (Nielsen et.al, 2014).

In this section, the objective is to identify the work environment factors that may be affected by leaders' IPT, and therefore need to be screened in order to measure the outcomes of the intervention designed for this master thesis. Nielsen et. al, 2014, also note that screening may facilitate the development and implementation of action plans.

The main dependent variable in this project is leaders' implicit person theory, but we also hypothesize that the intervention will have an impact on organizational learning (Heslin et. al, 2006; Berg and Ribe, 2013; Storm et. al, 2011), leadership practices (Dweck and Leggett, 1988; Taberner and Wood, 1999; Wood and Bandura, 1989; Heslin et. al, 2005), employee motivation and satisfaction (Keating and Heslin, 2015), and organization's overall performance (Berg and Ribe, 2013). Further, it is crucial to analyse the extent to which employee development programs and coaching activities are applied.

The Norwegian Work-Environment Law requires employers to systematically act to ensure a healthy and safe work environment at all levels in the business. This should be done in cooperation with the employees and their representatives. The employers must: (a) set goals for health, safety and the environment; (b) have an overview of the organization's structure, including how responsibilities, duties and authority for the work on health, safety and the environment are distributed; (c) identify hazards and problems and assess the risk conditions in the business, prepare plans and take measures to reduce the risk; (d) during the planning and implementation of changes in the business, assess whether the working environment will comply with the requirements of the law and take the necessary measures; (e) implement procedures to detect, rectify and prevent violations of the law; (f) provide systematic work on the prevention and follow-up of sickness absence; (g) provide continuous monitoring of the working environment and employee health; and (h) systematically monitor and review health, environmental and safety work to ensure that it functions as intended (Arbeidsmiljøloven, §3-1). Further, all personal injuries that arise during the performance of work, and illnesses that are believed to be due to work or workplace conditions must be registered. The employees must be kept regularly informed and be given the necessary training to get involved and be helped to design their working systems. The law also requires that the design of the work must facilitate the employee's professional and personal development (Arbeidsmiljøloven, §4-2). In this sense, organizations employing more than fifty employees shall inform and discuss matters of importance to the employees' working conditions, such as the current and expected development of the business activities and financial situation, the team situation in the business, and other decisions that can lead to a significant change in work organization or employment situation (Arbeidsmiljøloven, §8-1 and §8-2). Hence, the intervention may

use data already collected in compliance with the law, such as information on the company's economic and financial situation, and major events.

In order to collect the quantitative data necessary to measure the intervention's outcomes, a questionnaire should be applied. According to Robson (1993) survey strategy has been extensively used by social researchers in order to ask standardized questions to a chosen set of people. The questionnaire should include data on the gender of employees, their age, educational background, current position in the company, and tenure. This information provides a general overview of the organizational context, which in turn may have a significant impact on intervention effects. Additionally, we suggest using the following validated instruments: (a) implicit theory measures (Levy and Dweck, 1997); (b) task perceptions, using Job Diagnostic Survey (Hackman and Oldham, 1975), which measures task variety, autonomy, feedback, significance and identity; (c) internal and external motivation (Ryan and Deci, 2000); (d) organizational commitment (Meyer et. al, 1993); (e) turnover propensity (Seashore et. al, 1982); (f) mastery, or self-perceived performance, using the Nordic Questionnaire for Psychological and Social Factors at Work - QPS Nordic (Dallner et. al, 2000); (g) learning activities, using the Learning Climate Questionnaire (Bartram et. al, 1993); (h) leadership practices, using the Multifactor Leadership Questionnaire (Bass and Avolio, 1990); (i) perceived coaching (Grant, 2012); (j) autonomy, competence and community (Ryan and Deci, 2000); and (k) job satisfaction, using the Copenhagen Psychosocial Questionnaire (Kristensen et. al, 2005)

Once the questionnaire has been designed, the length should be considered. According to Sarantakos (2005), the key rule is that the questionnaire should contain as many questions as necessary and as few as possible. The length should be proportional to the time participants are willing to spend answering all the questions. That is why the purpose with each question should be distinct and well-defined.

Looking at patterns of change over extended periods of time and obtaining multiple measures of key variables is critical. In this matter, Griffin (1991) investigated the long-term effects of work redesign on employees' task perceptions, job satisfaction, organizational commitment, performance, rates of absenteeism, and propensity to quit. Measurements were performed before the intervention (T1), six-months (T2), twenty-four months (T3), and forty-eight months (T4) after the intervention. The findings suggest that researchers should be more sensitive to the nature of perceptual, attitudinal, and behavioral

variables, and incorporate time into causal models and theories, since *patterns of change may vary across time periods*. Hence, we suggest the questionnaire to be repeated first 3 months after the treatment (T2), and then 12 months after the treatment (T3).

6.2. Selection

The goal of every research is to provide understanding and shed the light on the question being addressed. To accomplish this goal, researchers focus on criteria-based sampling techniques aimed to reach their target group. A desired target group may be presented in form of a specific type of individuals, processes, or events.

According to Cook and Campbell (1979), experiment denotes a test, which is usually of a causal proposition. The possible causes are referred to as treatments, or independent variables. Further, in order to infer treatment effects, one needs a comparison. This way, all experiments involve at least a treatment, an outcome measure, units of assignment and some comparison point from which change can be observed and hopefully attributed to the treatment. When constructing an *experimental design*, researchers allocate participants into *treatment* and *control* groups. Control groups (placebo or no treatment), which should consist of elements that present exactly the same characteristics of the experimental groups, contribute to ruling out alternative interpretations. In contrast, the treatment group consists of participants who receive the experimental treatment whose effects are being studied. In turn, *quasi-experimental designs* identify a *comparison group* that is as similar as possible to the treatment group in terms of pre-intervention measurement characteristics (see also Lapan and Quartaroli, 2009). White and Sabarwal (2014) note that the comparison group captures what would have been the outcomes if the programme had not been implemented. Hence, when conducting quasi-experimentation, the intervention program can be said to have caused any difference in outcomes between the treatment and comparison groups.

There are two major categories of sampling methods: 1) random selection and 2) non-probability sampling method. Since quasi-experiments are a major focus in designing the intervention in this master thesis, implying absence of random selection, great attention will be put on a non-probability sampling method.

According to Guo and Hussey (2004), *non-probability sampling method* refers to procedures in which researchers select their sample elements not based on a predetermined probability, but based on research purpose, availability of subjects, subjective judgment, or variety of other non-statistical criteria. Non-probability sampling methods include convenience (or accidental) sampling, purposeful sampling, quota sampling, and snowball sampling. Non-probability sampling is often expedient to implement but does not allow calculation of the probability of sample selection from among possible samples of a population (Larsen in Salkind, 2007; Lapan and Quartaroli, 2009). A good deal of research is based on *convenience sampling*, a form of non-probability sampling in which the primary consideration is the ease with which potential participants can be located or recruited (Baker et al., 2013). As the name implies, the selection of participants is based on their convenience (for the researchers) rather on any other formal sample factor.

Since quasi-experimental design lacks random assignment, allocation to treatment or control/comparison conditions is done by means of self-selection (participants choose treatment themselves), administrator selection (e.g., by policymakers, teachers, and officials), or through both of these routes (White and Sabarwal, 2014). The administrator selection conducted by mediators is applicable for the intervention proposed in this master thesis.

A potential concern arising from quasi-experimentation is the “selection” bias: the possibility that those who are eligible or choose to participate in the intervention are systematically different from those who cannot or are not willing to participate. As a result, observed differences between the two groups may therefore be due - fully or partly - to an imperfect match, rather than caused by the intervention (White and Sabarwal, 2014).

Making decision on how to construct treatment and comparison groups when conducting the intervention can be a rather challenging task for several reasons. First, it may be difficult to conduct an intervention in several regions when the organization is geographically dispersed. Further, the possibility of running the intervention program in only one or two units in one city may not seem reasonable as sampling of the treatment group compared to comparison group can be too small. Choosing several stores in the same city may also be unrealistic when there is high propensity for interaction between employees.

Thus, the convenience sampling should be performed in a way that reduces the likelihood of interaction between employees, and at the same time broadens the scope of the research.

Based on that, and taking a grocery chain as an example, we suggest it would be reasonable to select all leaders from all retail stores in one region, such as Rogaland, to take part of the treatment group, and compare them to a control group including all leaders of all retail stores in another region, such as Vest-Agder. The control group should receive a placebo treatment, covering topics that are unrelated to mindset. Motivational talks can also be used. In addition, since individuals gravitate between implicit theories (Leith et. al, 2014), we suggest including all the leaders of the chosen region, even those whose measurements indicate an endorsement of a growth mindset, in order to motivate and develop their incrementalism. This form of convenience sampling would reduce the likelihood of interaction between employees, and at the same time broaden the scope of the research.

6.3. Data Collection

For the intervention project proposed, the quantitative data will primarily be collected electronically, through questionnaire. The qualitative data for the evaluation of the process will be gathered through interview.

The decision on the delivery mode relies on factors such as sample size and distribution, survey topic, types of questions, time constraints, and costs. In the research for this master thesis the quantitative data will be collected through self-administered questionnaires sent electronically (Bulmer, 2004; Lapan and Quartaroli, 2009). This delivery mode has several advantages, such as cost efficiency, greater coverage area, strong response rate, and flexibility in terms of physical participant's presence. There are no costs associated with paper, printing, mailing, and transferring the data from paper to electronic form. Further, Web-based surveys can be designed in ways that are more aesthetically appealing to respondents, motivating them to respond. Also, the programs used to construct such surveys may allow for automated coding of the data, and some of them even provide descriptive statistics to assist in measuring results (Lapan and

Quartaroli, 2009). However, the method is not free from drawbacks: researchers have no control on who actually completes the survey, and the questions cannot be adapted. Lack of computer literacy is not expected to be an issue amongst leaders.

6.4. Reliability and Validity

All measurements, especially measurements of behaviors, attitudes, and opinions, are subject to fluctuations (errors). Researchers strive to measure whether changes in an outcome (dependent variable) can be attributed to a specified cause (independent variable). This way, they need to rule out rival causes affecting the outcome by controlling exogenous variables that make it difficult to isolate the independent variable as the cause of the changes in the dependent variable. It is crucial that techniques measure the dependent variable well (*validity*) and consistently (*reliability*) (Lapan and Quartaroli, 2009).

Organizational research can be performed through laboratory experiments, true field experiments, and quasi-experimentation. *Experiments* make it possible for organizational scholars to determine causal relationships, identify active ingredients, and rule out alternative explanations. They involve an independent variable manipulated by the researcher, random assignment of participants to the conditions of the independent variable including a comparison group, and the accurate measurement of the outcome to determine whether changes to the dependent variable have occurred. However, because they often take place in a laboratory, experiments may lack *external validity*, or the ability of a presumed cause or effect to be generalized to and across alternate measures of the cause and effect and across different types of persons, settings and times. External validity is achieved by defining a target population, settings or times, and then drawing samples to represent these populations. When target populations are specified, the research samples must be representative (Cook and Campbell, 1979; Lapan and Quartaroli, 2009).

In turn, *field experiments*, or experiments in the “real world”, may overcome the issue of external validity by maintaining fidelity to the employees and organizational phenomena of interest. Nevertheless, true field experiments often involve tradeoffs between internal and external validity. *Internal validity* refers to the approximate validity

with which we infer that a relationship between two variables is causal or that the absence of a relationship implies the absence of cause (Cook and Campbell, 1979). In other words, a study is said to have internal validity “when extraneous variables have been controlled and the observed effect can be attributed to the independent variable” (Lapan and Quartaroli, 2009, p. 47). To maximize internal validity, researchers carry out random assignment and deliberate manipulation of variables, which may change the nature of the phenomenon and thereby undermine external validity. Hence, true field experiments are not always feasible due to two primary obstacles: lack of opportunity for experimenters to control random assignment to treatment conditions, and lack of experimenter control over key variables, which cannot be manipulated or influenced by an experimenter, such as human resource practices, team diversity and board composition (Grant and Wall, 2009; Robson, 1993).

One of the challenges about carrying out investigations in the real world is in trying to say something sensible about a complex and relatively poorly controlled situation. It may also be difficult to achieve either representative sampling from a known population or random allocation to different experimental conditions in real world experiments (Robson, 1993). In this context, *quasi-experimentation* aims to strengthen causal inference while maintaining internal and external validity without interrupting “real life” through an intervention. Grant and Wall (2009, p. 655) define quasi-experiment as:

a study that takes place in a field setting and involves a change in a key independent variable of interest but relaxes one or both of the defining criteria of laboratory and field experiments: random assignment to treatment conditions and controlled manipulation of the independent variable.

Hence, quasi-experiments include experimenter-controlled and manager-controlled interventions when random assignment is not feasible. Further, quasi-experiments comprise changes to an independent variable that are naturally occurring rather than manipulated (Grant and Wall, 2009). Thus, quasi-experiments have treatments, outcome measures, and experimental units, but do not use random assignment to create the comparisons from which treatment-caused change is inferred. Instead, the comparison depends on nonequivalent groups that differ from each other in other ways than the presence of a treatment whose effects are being tested (Cook and Campbell, 1979; Lapan and Quartaroli, 2009).

Grant and Wall (2009) identify five benefits of quasi-experimentation. *First*, it strengthens causal inferences when random assignment and controlled manipulation are not possible or ethical, such as macroscopic variables (i.e. organizational size, founder successions, political events and weather), negative events that may harm employees and would thus be unethical to manipulate (i.e. involuntary job transfers, layoffs and demotions, procedurally unjust performance appraisal systems, unfavourable contract changes and salary negotiations, and impoverished jobs), unfair distribution of beneficial treatments (i.e. promotions, vacations, participative decision making, and flexible working hours). When random assignment to controlled treatment conditions is not feasible, carefully designed quasi-experiments allow researchers to strengthen causal inferences by ruling out alternative explanations through comparison groups and time. *Second*, quasi-experimentation encourages researchers to build better theories of time and temporal progression. In laboratory experiments, researchers often have access to participants for a short period of time, making it difficult to assess temporal patterns. In true field experiments, researchers often lack the opportunity to sustain a change or intervention over time, making it difficult to assess temporally extended effects of the variables of interest. In contrast, quasi-experiments based on naturally occurring change facilitate the assessment of temporal patterns. When changes are initiated exogenously or through managerial decisions, they are more likely to persist over time. As a result, researchers can often conduct temporally extended evaluations in quasi-experiments that are not possible in laboratory or true field experiments. Grant and Wall (2009) also emphasize the value of quasi-experiments in identifying sleeper effects, which occur when the true impact of a change, intervention or manipulation only emerges after some period of time. Hence, by using quasi-experiments to build, elaborate, and refine knowledge about temporal patterns, researchers can advance toward deeper theoretical understandings of time. *Third*, quasi-experimentation offers the additional benefit of minimizing ethical dilemmas, such as harm (the risk of taking actions that cause physical or psychological pain to participants), inequity (providing differential benefits to different groups of employees), paternalism (concerns the role of the researcher in manipulating, controlling, influencing, and intervening in organizational life), and deception (misleading participants about the true nature of a field experiment). *Fourth*, quasi-experimentation allows, and even requires, researchers to bridge the scholar-practitioner divide, shifting the researcher's role from attempting to control and manipulate organizations to serving as sensemakers responsible

for observing and assessing a change that is naturally occurring or being implemented. Quasi-experimentation also provides researchers and practitioners with the opportunity to collaborate in investigating issues of mutual interest, creating task and goal interdependence between researchers and practitioners. *Fifth*, quasi-experimentation allows the use of context to explain conflicting findings. In situations when random assignment to control treatments is infeasible, researchers can utilize quasi-experiments to assess whether a naturally occurring change in a key contextual variable affects the magnitude or direction of a relationship of interest. Context is often difficult to simulate in laboratory experiments, and manipulate in true field experiments (Grant and Wall, 2009).

Nevertheless, researchers who try to interpret the results from quasi-experiments face the challenge to separate them from the effects of a treatment. The reason for that lies in the initial non comparability between the average units in each treatment group, since only the effects of the treatment are of interest. As a result, the irrelevant causal forces hidden within the *ceteris paribus* of random assignment must be clearly defined. In this sense, control involves ruling out threats to a valid inference, such as: 1) *History*, when an observed effect might be due to an event which takes place between the pretest and the posttest, and this event is not the treatment of research interest; 2) *Maturation*, when an observed effect might be due to the respondent's growing older, wiser, stronger, more experienced, and the like between pretest and posttest and this maturation is not the treatment of research interest; 3) *Testing*, when an effect might be due to the number of times particular responses are measured (in particular, familiarity with a test can sometimes enhance performance because items and error responses are more likely to be remembered at later testing sessions); 4) *Instrumentation*, when an effect might be due to a change in the measuring instrument between pretest and posttest; 5) *Statistical regression*, when an effect might be due to respondents' being classified into experimental groups at the pretest on the basis of pretest scores or correlates of pretest scores (when this happens and measures are unreliable, high pretest scorers will score relatively lower at the posttest and low posttests will score higher); 6) *Selection*, when an effect may be due to the difference between the kinds of people in one experimental group as opposed to another (selection is therefore ubiquitous in quasi-experimental research, which is defined in terms of different groups receiving different treatments); 7) *Mortality*, when an effect may be due to the different kinds of persons who dropped out of a particular treatment group during the

course of an experiment; 8) *Interactions with selection*, for example when experimental groups are maturing at different speeds, or when the various treatment groups come from different settings so that each group could experience a unique local history that might affect outcome variables, or even when different groups score at different mean positions on a test whose intervals are not equal; 9) *Ambiguity about the direction of causal influence*; 10) *Diffusion or imitation of treatments*, when respondents in one group may learn the information intended for others and there are no planned differences between experimental and control groups; 11) *Compensatory equalization of treatments*, when the experimental treatment provides goods or services generally believed to be desirable, there may emerge administrative and constituency reluctance to tolerate the focused inequality that results; 12) *Compensatory rivalry by respondents* receiving less desirable treatments, where the assignment of persons or organizational units to experimental or control conditions is made public, conditions of social competition may be generated; and 13) *Resentful demoralization of respondents* receiving less desirable treatments, when an experiment is obtrusive, the reaction of a no-treatment control group receiving less desirable treatments can be associated with resentment and demoralization, as well as with compensatory rivalry (Cook and Campbell, 1979; Lapan and Quartaroli, 2009).

Estimating the internal validity of a relationship is a deductive process in which the investigator has to systematically think through how each of the internal validity threats may have influenced the data. Cook and Campbell (1979) note that with quasi-experimental groups, instead of relying on randomization to rule out most internal validity threats, the investigator has to make all the threats explicit and then rule them out one by one. When applying the proposed intervention framework for inducing incremental IPT on leaders, the threats to internal validity should be explicitly ruled out.

Since questions and their answers are the key to measuring outcomes, validity and reliability should be ensured when developing the questionnaires. Questionnaires are a well established tool within social science research for acquiring information on participant social characteristics, present and past behaviour, standards of behaviour or attitudes and their beliefs and reasons for action with respect to the topic under investigation (Bulmer, 2004). Validity implies accuracy, which means that respondents' answers should correctly indicate what the question is set out to measure. Accuracy, and thus validity, is reduced

when respondents do not understand the question, do not know the answer, do not recall the answer, or do not want to share the answer (Lapan and Quartaroli, 2009).

According to Sarantakos (2005), the main requirement of questionnaire is that questions are sequenced in a logical order, allowing a smooth transition from one topic to the next. Such structure enables participants to understand the purpose of the conducted research, as well as ensures clear answers. This can be achieved by grouping related questions under a short heading describing the section's topic.

In addition to questions sequence, it is crucial to consider wording, structure, length, and output. Negative phrases, specially double-negatives, should be avoided when writing survey questions. Further, bias should be minimized by choosing words and phrases that are neutral. Respondents should also be able to skip questions, remain neutral, for instance by choosing a "don't know" response option, and provide "no" answers without feeling that they have chosen a politically or socially incorrect reply (Lapan and Quartaroli, 2009).

The research format must be considered when opting between open or closed questions, or both. *Closed questions* are typically more difficult to construct but easier to analyse than open questions (Sarantakos, 2005). Additionally, since closed questions are easier to code and administer, they are more likely to provide fully completed questionnaires. Nonetheless, this type of questions limits the possible range of responses. This can be solved by asking participants to specify their answers when appropriate. *Open-ended questions*, in turn, contribute to variety of participants' responses. By allowing free-form answers, open-ended questions invite participants to share their understandings, experiences, opinions and interpretations, as well as their reactions to social processes and situations. (McGuirk and O'Neill, 2005).

Considering the complexity and variety of advantages and disadvantages of both question types, a combination of closed and open questions will be used in the questionnaires for the proposed intervention. Closed questions produce results that are easily summarised and clearly presented in quick-look summaries while open questions produce verbatim comments adding depth and meaning (Bird, 2009).

Finally, to ensure reliability, it is necessary that different respondents understand the questions likewise.

6.5. Ethics

Ethical issues and dilemmas arise in all forms of professional practice, including academic research. For this reason, it is crucial to conduct studies in a way that protects confidentiality and ensures minimization of potential physical and psychological harm to participants.

According to Reynolds (in Robson, 1993, p. 29), ethics refers to “rules of conduct, typically to conformity to a code or a set of principles”. Hence, ethics usually refers to general principles of what to do. Ethical research practices should balance the rights of the research participant and the benefits of the research (Lapan and Quartaroli, 2009). In this sense, “ethical standards are guidelines that attempt to provide direction for the decision-making processes and actions involved in conducting research” (p. 3). Lapan and Quartaroli (2009) note that following ethical standards related to informed consent, deception, debriefing, confidentiality, and anonymity can help researchers to minimize potential risks for participants.

The need for ethical guidelines in research was recognized after the biomedical experiments conducted on prisoners in Germany during World War II, resulting in the Nuremberg Code, which emphasized the urgency for researchers to have informed consent from participants. Several professional organizations have developed ethical codes to guide research in social sciences. However, these codes only provide minimal guidance in the decision-making (Lapan and Quartaroli, 2009). For instance, the American Psychological Association’s (APA) Ethical Principles of Psychologists and Code of Conduct (2002) states that researchers must inform participants about:

- (1) the purpose of the research, expected duration, and procedures;
- (2) their right to decline to participate and to withdraw from the research once participation has begun;
- (3) the foreseeable consequences of declining or withdrawing;
- (4) reasonably foreseeable factors that may be expected to influence their willingness to participate such as potential risks, discomfort, or adverse effects;
- (5) any prospective research benefits;
- (6) limits of confidentiality;
- (7) incentives for participation; and
- (8) whom to contact for questions about the research and research participants' rights. They provide opportunity for the prospective participants to ask questions and receive answers (APA, 2002, paragraph 8.02).

The research may be exempted from informed consent when it is not expected to create distress or harm, and when it involves only anonymous questionnaires, naturalistic observations, or archival research for which participants do not risk criminal or civil liability or damage to their financial standing, employability, or reputation. Further, consent may not be necessary when confidentiality is protected, or the study of factors related to job or organization effectiveness conducted in organizational settings do not compromise participants' employability. Informed consent can also be dispensed where otherwise permitted by law or institutional regulations (APA, 2002, paragraph 8.05).

Robson (1993) notes that observational studies of naturally occurring behavior are less ethically questionable than field experiments, where the researcher devises something which would not otherwise happen. Reasonable issues to take into account are the degree of inconvenience and of likely emotional involvement to participants.

Intervention researchers are concerned with further ethical dilemmas relating to the nature of the research process. For instance, it is important to avoid research relationships which cause distress, alienation or further disadvantage to participants. Hence, an empathetic, respectful, trusting and supportive investigator-informant relationship is crucial for intervention research, and researchers should attempt to use non-threatening, non-judgemental, non-invasive methods whose purposes are clear to participants. Research subjects should also be given as much control over the research process as possible, especially by means of their participation. Participation in the research is seen as a collaborative effort between researcher and subjects. In this matter, Robson (1993) recommends the researcher, among others, to 1) obtain the necessary permissions; 2) involve participants; 3) negotiate with those affected and take account of the responsibilities and wishes of others; 4) report progress, keeping the work visible; 5) accept responsibility for maintaining confidentiality; and 5) make the procedure known. Finally, intervention researchers should intervene in participants' circumstances in ways which increase their opportunities to gain both personally and collectively (Fryer and Feather, 1994; Robson, 1993).

Finally, Lapan and Quartaroli (2009) note that the consequences of unethical research extend beyond mistreated participants, diminishing the willingness of potential volunteers to participate, casting doubt on serious research results, and undermining trust

in the research community. It is therefore essential to maintain good relationships with participants to ensure security and continued research.

6.6. Process Evaluation

After conducting an intervention, it is important to identify which of its components were effective, for whom, and under what conditions the intervention was effective. In other words, it is important to analyse *why* and *how* certain outcomes were achieved.

In this sense, Murta et al. (2007) note that *process evaluation* “involves systematic measurement to determine the extent to which a particular program is implemented” (p. 248). The authors emphasize that intervention research should not only focus on the analysis of the outcomes, but also consider other variables that might help explain the relationship between an intervention and the outcomes achieved, such as the extent to which (1) the intervention was delivered as planned; (2) participants were exposed to the intervention; (3) the program reached the target group; (4) participants were satisfied with the program; (5) all activities of the program were implemented, and (6) all materials of the program achieved an acceptable standard and quality.

Steckler and Linnan (2002) note that process evaluation also provides important links to understanding and improving theory-informed interventions, in addition to help understand the relationships among selected intervention components. In a multi-method intervention, process evaluation can help unravel the effects of each method individually, and clarify the possible interactions that can occur to produce a synergistic effect. Further, process evaluation can be used to assess the quality and accuracy of the intervention, which is of interest for funders and participants. The authors suggest that process evaluation should include the following components: (1) *Context* - refers to the environmental factors might influence program implementation; (2) *Reach* - measures the proportion of the target audience that attends a given intervention (since effective intervention programs aim to reach as many participants as possible, measurement of reach is critical for estimating total program implementation); (3) *Dose delivered* - refers to the proportion of the intended intervention that is actually delivered to the program

participants; (4) *Dose received* - measures the extent to which participants receive and use educational materials or other recommended resources; (5) *Fidelity* - refers to the quality of the implementation of an intervention, or to the extent to which the intervention is carried out according to a pre-specified plan and in the manner it was intended; (6) *Program implementation* - a composite score including a combination of reach, dose delivered, dose received, and fidelity, that indicates the extent to which the intervention has been implemented and received by the intended audience; (7) *Recruitment* - refers to the procedures used to approach and attract program participants.

In addition, Murta et al. (2007) conducted a systematic review of workplace stress management intervention studies that have incorporated process evaluation, concluding that the most commonly described components of process evaluation are recruitment, dose received, participants' attitudes toward intervention and reach. Further, some noticeable trends were identified: (1) increasing involvement and support from leaders is linked to better intervention implementation and outcomes achieved; (2) delivering smaller intervention doses reduces the chances of altering organizational climate; (3) participants' positive evaluations of sessions and the perception of warmth and safe climate increases the likelihood of altering job-related stress; and (4) increasing monitoring frequency of participants' attitudes toward intervention and its effects boosts awareness about personal stress.

Following the same reasoning, Nielsen and Abildgaard (2013) developed an intervention evaluation framework focusing on organizations as "continuous collective of processes" (p. 279) that connect various actors. Applying this perspective to intervention evaluation involves considering the process aspects of change, and adapting organizational interventions to the organization's context and routines. The authors emphasize that there is a need to understand organizational interventions as collective initiatives and change activities *competing with a variety of concurrent events*. According to Nielsen and Abildgaard (2013), in order to evaluate interventions aiming to achieve planned change, evaluation frameworks should be attentive to *how* change programmes affect the organization. This can be done by such frameworks providing an opportunity for action, but at the same time taking into account how intervention activities are transformed and adapted to the contextual events and local culture in the organization. The link between the planned change of an organizational intervention and concurrent changes within the

context of the organization imply that an evaluation framework should not focus on the activities set in motion by the intervention as isolated events, but rather see them as situated in an environment containing forces for both change and continuity. Nielsen and Abildgaard's (2013) framework is structured around four interlinked categories that are relevant to evaluation. First, the *organizational actors* include employees and managers who may drive change. Second, the *mental models of those actors*, that is, their cognitions about the organization, the working conditions and the intervention's purpose, programme, and likely outcomes may drive their behavior, influencing the level of change achieved. Third, the *organizational context*, or the "situational opportunities and constraints that affect the occurrence and meaning of organizational behavior" (Johns, in Nielsen and Abildgaard, 2013, p. 285) may also influence intervention outcomes. Fourth, the *intervention design and process*, which is divided in initiation (defining the intervention's strategy), screening (forms the basis for developing intervention activities, and serves as the baseline measurement for intervention outcomes), action planning (describing and documenting in detail planned intervention activities, their purpose, the expected working mechanism and the process of action plan development), and implementation. This way, Nielsen and Abildgaard (2013) propose that the impact of interventions must be evaluated following a line of progression to determine the chain of effects in organizational intervention. This involves measuring changes in attitudes, values and knowledge (actors must unlearn old mental models and learn new ones), development of individual resources (increased employee participation, and consequently, their self-efficacy), changes in organizational procedures (the way work is organized, planned and managed), changes in working conditions (whether changes in perceptions of working conditions can be observed), changes in employee psychological health and wellbeing (for instance, in terms of reductions of stress symptoms), changes in productivity and quality (the economic benefits of the intervention, such as reduced turnover and absenteeism, lower healthcare costs and fewer accidents), and changes in occupational safety and management procedures.

In addition, Nytrø et. al. (2000) examined the importance of the social and cognitive processes influencing the implementation of an intervention. By "process" the authors mean "individual, collective or managerial perceptions and actions in implementing any intervention and their influence on the overall result of the intervention"

(Nytrø et. al., 2000, p. 214). The researchers argue that in order to achieve experiential learning, it is imperative for organizations that failed put effort into analysing and documenting the reasons for failure, so that future change projects can profit from past experience. Further, efforts to change work behavior and attitudes, as well as organizational climate and structure, involve negotiations and informal dialogue about the adequacy of the intervention's possible outcomes. In order to realize the full potential of an intervention, an organization must be capable to manage the change process. If the organization is culturally immature and unprepared for the desired change, it may be appropriate to empower employees so that they can adopt the role of change agents. Moreover, the dissemination of information is necessary for successful change projects. Opportunities for exchanging opinions and explaining project intentions are important for establishing understanding, commitment and participation. Nytrø et. al. (2000) also note that lack of trust can create conflicts, aggression and anxiety, thereby undermining well-intended developmental efforts. Therefore, it is wise to monitor employee attitudes towards the intervention. Hence, in order to competently manage change, it is important to (1) create a social climate for learning from failure, (2) provide opportunities for multi-level participation and negotiation in the design of interventions, (3) be aware of tacit behaviors that possibly undermine the objectives of interventions, and (4) define roles and responsibilities before and during the intervention period (Nytrø et. al., 2000).

Based on the evaluation frameworks analysed, we suggest that the process evaluation for the intervention framework to change leaders' IPT to include the following components:

Context. The intervention designed for this master thesis requires data reflecting the current organizational context, in order to differentiate treatment effects from other organizational processes that may affect the results. Environmental factors such as organizational changes, recruitments of new employees and leaders, and other events influencing employee involvement and participation occurring parallel to the intervention may exaggerate or undermine the outcomes of the intervention at the organizational level. Specifically, if the organization hires a large number of employees with an incremental mindset, the learning culture may be enhanced regardless of the effectiveness of the intervention. Further, independently of the intervention, changes in organizational procedures and in working conditions may also alter the levels of employee satisfaction

and motivation. Hence, data on employees and organizational changes should be collected and analysed.

Reach. The proportion of the leaders selected who actually attended and participated in the intervention activities should be considered.

Intervention delivery. The evaluators should also analyse the extent to which all activities in the program were implemented, and whether their implementation occurred according to the plan.

Dose received. Participants' receptivity can be measured by their participation in the activities, such as discussion sessions and feedbacks, as well as by their inputs related to the individual practices. Therefore, we suggest individual participation to be carefully kept track of.

Recruitment. The procedures used to approach and attract program participants should be evaluated in order to find out if the appropriate audience has been reached. This assessment may reveal whether or not those who needed intervention were reached, and what could have been done differently to attract those who were not.

Participants attitudes toward the intervention. Finally, participants' cognitions about the intervention's purpose, program design and process may influence intervention's effects. Likewise, the relationship established with the mediator and the climate of trust, respect and learning can impact the results. Thus, in order to capture participants' opinions, they should be interviewed.

In the following, an interview guide will be proposed.

6.6.1. Interview guide for process evaluation

Interviews are widely used in order to collect qualitative data, that is, to capture subjects' meanings (Kvale, 1996).

Lapan and Quartaroli (2009) observe that face-to-face interviews are an effective method for gathering high-quality information, since the interviewer has the opportunity to clarify confusing questions and to encourage respondents to elaborate or clarify answers.

Further, the interviewer is able to ensure that the questions are being answered by the target person.

The interview guide is intended to make sure that the same aspects of information have been collected from each interviewee. In this sense, for the process evaluation, we suggest covering the following themes in order to reveal leaders' experiences with the intervention and its processes:

1. *Context.* Examples of questions that can be asked are: "To your knowledge, which organizational changes have occurred since you began to participate in the intervention program? Has there been changes in organizational procedures and/or working conditions since the intervention started?"; "Which other major events that have occurred since the intervention started?"
2. *Reach.* "Do you think the intervention reached the appropriate persons in the organization? Why?"
3. *Intervention delivery.* "To which extent do you consider the intervention to be delivered as planned?"
4. *Dose received.* "How would you classify your participation in the activities?"; "How did you experience the frequency of sessions?"; "What could have been done differently to increase your participation?"
5. *Recruitment.* "What is your opinion about the procedures used to approach and attract program participants?"
6. *Participants attitudes towards the intervention.* "To which extent was the purpose of the intervention relevant for you? Why?"; "How satisfied were you with the program?"; "What is your opinion about the presented materials' standard and quality?"; "What is your opinion about the mediator?"; "How would you describe the climate of the sessions?"

6.7. Intervention design

The design for the intervention research can be illustrated as follows in figure 3:

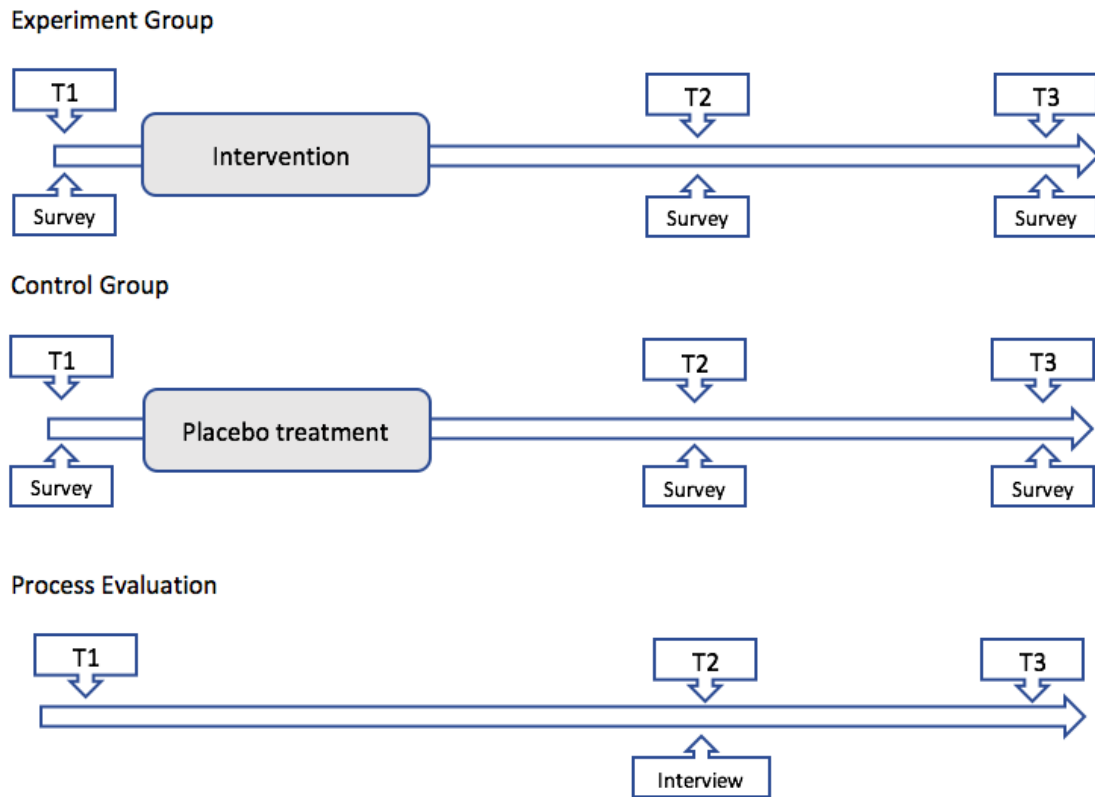


Figure 3: Intervention Research Design

In order to design the intervention in this master thesis, the following literature related to organizational interventions was consulted:

Research Design for Interventions		
Author (s)	Article	Highlights
Eden and Aviram (1993)	Self-Efficacy Training to speed Reemployment	Presents a behavioral-modeling workshop in order to raise self-efficacy amongst unemployed persons, increasing their job-search behavior and speeding their reemployment.
Grant and Wall (2009)	The Neglected Science and Art of Quasi Experimentation: Why-to, When-to, and How-to for Organizational Researchers	Highlights 5 benefits of quasi-experimentation: (1) strengthening causal inference when random assignment and controlled manipulation are not possible or ethical; (2) building better theories of time and temporal progression; (3) minimizing ethical dilemmas; (4) facilitating collaboration with practitioners; (5) using context to explain conflicting findings.

Griffin (1991)	Effects of Work Redesign on Employee Perceptions, Attitudes, and Behaviors: a Long-term Investigation	The author investigated the long-term effects of work redesign on employees' task perceptions, job satisfaction, organizational commitment, performance, rates of absenteeism, and propensity to quit. Measurements were performed before the intervention, six-months (T2), twenty-four months (T3), and forty-eight months (T4) after the intervention. The findings suggest that researchers should be more sensitive to the nature of perceptual, attitudinal, and behavioral variables, and incorporate time into causal models and theories, since patterns of change may vary across time periods.
LaMontagne et. al (2014)	Workplace mental health: developing an integrated intervention approach	The article describes workplace interventions aimed to address common mental health problems the employees face. By proposing to combine three main threads together: risk reduction, mental health promotion, and mental health awareness, the authors underline the importance of an <i>integrated approach when designing an intervention</i> . The results from this study are relevant to the intervention designed in this master thesis, since they emphasize the possibility of combining different aspects of knowledge bases and educational fields.
Mikkelsen et.al (2000)	The impact of a participatory organizational intervention on job stress in community health care institutions	Investigates the effects of a short-term participatory organizational intervention. The authors argue that organizational interventions may be a potential training ground for acquiring participatory skills and resources, and if sustained after the intervention period, they can have long-term effects. The study also provides an example of an intervention program.
Murta et. al (2007)	Process Evaluation in Occupational Stress Management Programs: A Systematic Review.	The literature review concluded that the most commonly described components of process evaluation are recruitment, dose received, participants' attitudes toward intervention and reach. Further, some noticeable trends were identified: (1) greater involvement and support from leaders is linked to better intervention implementation and outcomes achieved; (2) delivering smaller intervention doses reduces the chances of altering organizational climate; (3) participants' positive evaluations of sessions and the perception of warmth and safe climate increases the likelihood of altering job-related stress; and (4) increasing monitoring frequency of participants' attitudes toward intervention and its effects boosts awareness about personal stress.
Nielsen and Abildgaard (2013)	Organizational interventions: A research-based framework for the evaluation of both process and effects	Suggests an evaluation framework including four elements: (1) actors, (2) their mental models, (3) the context, (4) intervention design and process. The article also suggests following a line of progression to determine the chain effects in organizational interventions, which involves monitoring changes in attitudes, values and knowledge, development of individual resources, changes in procedures, changes in working conditions, changes in employee health

		and well-being, changes in quality and productivity and changes in occupational safety and health practices.
Nielsen et. al (2014)	Putting context into organizational intervention design: using tailored questionnaires to measure initiatives for worker well-being	Develops a tailored questionnaire to measure employees' appraisals of their specific work conditions. Tailored questionnaires may be appropriate for use in organizational intervention research.
Nytrø et. al (2000)	An appraisal of key factors in the implementation of occupational stress interventions	Examines the importance of the social and cognitive processes influencing the implementation of any intervention. The authors argue that if change is to be managed skilfully, it is important (1) to create a social climate for learning from failure; (2) to provide opportunities for multi-level participation and negotiation in the design of interventions; (3) to be aware of tacit behaviors that possibly undermine the objectives of interventions; and (4) to define roles and responsibilities before and during the intervention period.
Saksvik et. al (2002)	A process evaluation of individual and organizational occupational stress and health interventions	The results indicate that the participation process had a positive impact on well-being and on reducing job stress, and a modifying effect on health hazards in the work environment. Employees reported that the methods introduced were useful problem-solving techniques. The most positive feedback lied in the employees appreciation to participate in identifying and solving problems.
Steckler and Linnan (2002)	Process Evaluation for Public Health Interventions and Research. An Overview.	The authors suggest that process evaluation should include the following components: (1) <i>Context</i> ; (2) <i>Reach</i> ; (3) <i>Dose delivered</i> ; (4) <i>Dose received</i> ; (5) <i>Fidelity</i> ; (6) <i>Program implementation</i> ; and (7) <i>Recruitment</i> .
Storm et. al (2011)	Service user involvement in practice: The evaluation of an intervention program for service providers and inpatients in Norwegian Community Mental Health Centers	This article used a quasi-experimental design to study the effects of an intervention designed to increase user involvement at the inpatient department level. The study provides an example of an intervention program.
Olsen et. al (2015)	Redefining clinical leadership for team-course development	Developing a set of tools and reflective practice to understand the inter-relationship between values and how they can conflict or reinforce each other, contributes to improved quality of service, patient-centred care and workforce satisfaction.
Wensing et. al (2006)	Organizational interventions to implement improvements in patient care: a structured review of reviews.	Professional performance was generally improved by revision of professional roles and computer systems for knowledge management. There is a growing evidence base of rigorous evaluations of organizational strategies, but the evidence underlying some strategies is limited and for no strategy can the effects be predicted with high certainty.

Table 6: Overview over articles consulted in order to design the intervention

7. Intervention

“The most dangerous leadership myth is that leaders are born—that there is a genetic factor to leadership. This myth asserts that people simply either have certain charismatic qualities or not. That’s nonsense; in fact, the opposite is true. Leaders are made rather than born” (Warren G. Bennis, in Burnette et. al, 2010, p. 46)

In this final chapter, the actual framework for the intervention aimed to induce incremental implicit person theory on leaders will be presented. The framework is based on theoretical background of implicit person theories and attitude change, empirical foundations for intervention development, and methodology for intervention research discussed. The designed intervention is practice-oriented and targeted at all leaders, independently what mindset they tend to endorse. In other words, the proposed intervention is aimed to both change the attitude of individuals holding a fixed mindset, and to develop and motivate individuals who already subscribe to an incremental person theory. Further, the intervention is directed to coaches and human resources workers, who primarily focus on improving organizational climate and culture.

Intervention structure

When designing an intervention framework, it is crucial to remember that the intensity with which participants can engage in the proposed activities depends on their ability to be absent from work. As a result, the intervention designed in this master thesis, consists of twenty-four weekly meetings of two hours each, including both theoretical and practical learning. This method allows participants to fully engage to the learning process, without forcing them to be absent from work for a long time, which reduces overall costs for the company.

The intervention’s 24 weekly meetings are divided into two modules. The first Module I includes the first twelve meetings, and is designed to induce incremental theory on leaders using the techniques presented in chapter 2. The first meeting consists in the presentation of the program and its overall objective. The main focus is to start building a relationship of trust between the mediator and other participants. Meetings two to eleven

are planned to start with experience exchange through discussion of the observations made for the individual practice assignments. Next, a combination of theoretical and practical activities will boost learning and provide more interacting environment, which is significant for long-term successful outcomes. At the end of each meeting, participants will receive an individual practice activity, which they are expected to complete during the week that follows. This is because when given enough time for completing the assignments, they will feel more relaxed and motivated to think, reflect and fulfill the task. Moreover, by continuously introducing new assignments and increasing their complexity, learning is promoted, increasing the final outcome (Mueller et. al, 2017). The twelfth meeting is planned to consist of a summary of the activities performed, and a partial evaluation of the intervention.

Module II includes meetings thirteen to twenty-four, which should focus on sustaining the attitudinal change. Hence, Module II will consist of executive coaching, emphasizing participants' experiences and questions connected to the learned material. The idea is to prepare them to keep developing on their own. The duration of the meetings in this module will be reduced to one hour. With intensive coaching sessions, a more effective and active learning process is expected (Berg and Ribe, 2013). In addition, since the duration of intervention is long (24 weeks), it is essential to keep participants engaged at all times. Since Module I consists of twelve meetings including a great variety of activities, the intensity of Module II should be reduced, giving the participants time to reflect on the learned material and their own behaviour.

The structure of the intervention is represented in the figure on the next page:

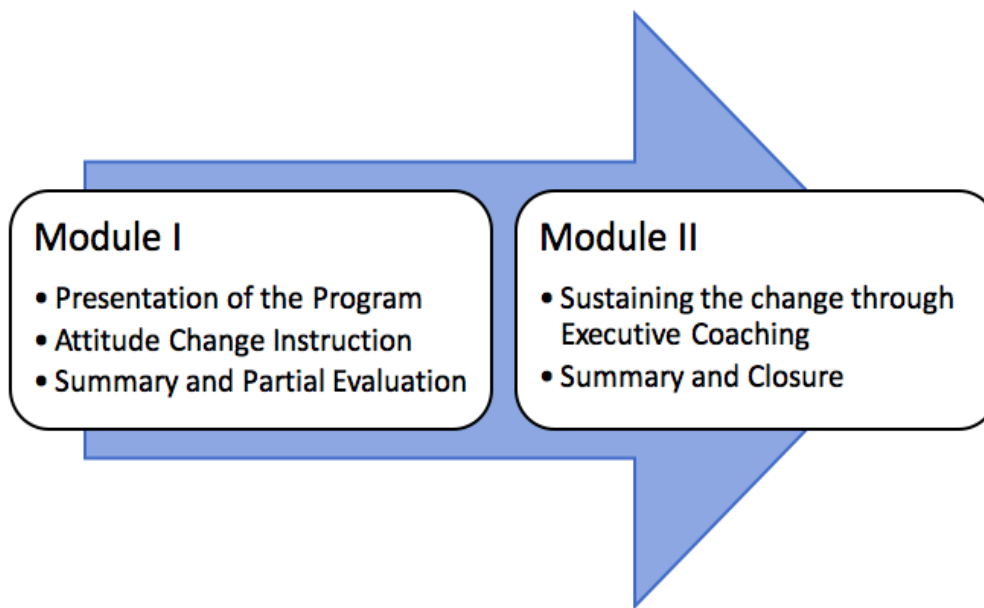


Figure 4: Structure of the intervention.

Intervention content

Since the proposed intervention aims to change and develop leader's Implicit Person Theory, the program should include discussions that address the definition of IPT; differences between entity theory (fixed mindset) and incremental theory (growth mindset); and consequences of holding fixed or growth mindset for leaders, employees, and the organization.

Persuasion and self-persuasion, cognitive dissonance, counterattitudinal advocacy, and mastery modeling are the methods used for attitudinal change, and a coaching approach should be applied whenever possible. Thus, the activity program will include educational sessions, incremental induction workshops, observational learning, group activities, individual assignments, discussions, behavioral modeling training and feedback.

Intervention strategy

The intervention will focus on effective learning through active participation, coaching, high level of engagement, motivation and persistence.

Intervention goals

In the short-run, the intervention aims to change and develop leaders' IPT towards incrementalism, so that they become more resilient (Yeager and Dweck, 2012), more inclined to coach (Heslin et. al, 2006), to manage setbacks and low performances (Wood and Bandura, 1989), adopt more challenging goals (Dweck and Leggett, 1988; Tabernero and Wood, 1999), and improve their leading performance (Tabernero and Wood, 1999).

In the long-run, the intervention intends to increase the overall performance of the organization, stimulating its learning culture and fostering climate for innovation. This, in turn, enables organization to keep and attract valuable employees (Dweck, 2016).

Practical information

Based on the dynamics of the group and the individual needs of the group, the mediator should adjust breaks and decide which tools to use, for example board or powerpoint presentation. In addition, the suggested duration of the proposed activities should be adapted to participants' ease of learning and other needs. This is because the mediator is in the position to identify these needs and adapt the activities to them. Further, the mediator should have a background related to social sciences, such as human resources management or organizational psychology.

Module I: Attitudinal Change

The main objective of the first period of the intervention is to help leaders change and develop a growth mindset, embracing challenges, understanding effort as the path to mastery, persisting in the face of setbacks, learning from criticism and finding inspiration in the success of others (Dweck, 2016). In other words, the proposed intervention is aimed to both foster incremental person theory among individuals with fixed mindset, and evolve already existing incrementalism among individuals demonstrating growth mindset.

According to Mueller et. al (2017), attitudinal change is a long process, and the instruction should start by raising awareness of individuals' own attitudes, thoughts and reactions (activation principle). This can be accomplished through discussion sessions and individual practice activities, where leaders are encouraged to think through and reflect upon their own behaviour and attitude. In other words, by performing evaluations of their own challenges, fears, desires, and failures, leaders become more conscious about their actions, which in turn increases the tendency towards attitudinal change.

Another crucial step towards attitudinal change is to make leaders act inconsistently to their beliefs and attitudes, performing counterattitudinal behaviour. Also, throughout the first module, a great deal of attention will be put on creating cognitive dissonance. Since a process of creating cognitive dissonance and developing attitudinal change implies a continuous movement of mental work, all principles of effective attitudinal instruction are applied (Mueller et. al, 2017). This way, meetings in module I consist of persuasion sessions which carry a function of demonstration principle. By providing empirical evidence, showing the importance of holding incremental person theory in terms of resilience (Yeager and Dweck, 2012), higher inclination to employee coaching (Heslin et. al, 2006), better management of setbacks and low performances (Wood and Bandura, 1989), setting more challenging goals (Dweck and Leggett, 1988; Elliott and Dweck, 1988; Taberero and Wood, 1999), and efficient execution of managerial functions (Wood and Bandura, 1989), the mediator manifests the significance of this program. Furthermore, the demonstration principle in the proposed intervention also includes mastery modeling (Wood and Bandura, 1989), aiming to develop intellectual, social, and behavioral consequences. In order to achieve that, every meeting is constructed in the following way:

first, the mediator models the set of appropriate skills through a persuasion session; then the mediator guides the participants through simulation, observational learning, and group work ensuring a continuous quality improvement of the necessary skills; finally, the mediator encourages leaders to apply material learned to real-life working context, and analyze its effects on the outcome. This is accomplished through individual practice.

Since the application principle involves practicing targeted attitudes in real-life situations (Mueller et. al, 2017), most of the meetings in Module I will involve simulation and observational learning activities, where leaders get opportunity to apply new knowledge to well-known work conditions. For a more effective learning outcome, participants work both in pairs and in groups of three to five. Moreover, role-play activities are important since they generate learning not only through acting out, but also through observing the others in action. By observing each other, leaders are more likely to recognize themselves in similar situations, and they can practice the materials learned without fearing for consequences. This will increase their overall learning outcome.

The proposed intervention is classified as an integrated intervention, meaning full assimilation of new knowledge and experiences in the real work context (La Montagne et al., 2014). The integrated intervention also implies individual learning process and its impact on processes, routines, and changes within the organization (Mikkelsen, 1998). One possible way to combine new knowledge with past experiences is through reflection and discussion (Mueller et. al, 2017). For that reason, meetings include a great deal of discussions and feedback sessions. Throughout the intervention, attention has been put on review and analysis of both theoretical evidence and practical application of the material learned to the organization.

The mediator keeps introducing new theoretical topics combined with more challenging individual practice assignments. Such process is based on the task-centered principle which assumes that learning should be promoted from easy tasks to more complex, and difficult problems should be solved step by step (Mueller et. al, 2017).

Week 1 - Presentation of the intervention

The first meeting should consist of an introduction to the intervention program, where participants (leaders) receive general information about its content, goals, activities and techniques used. This is also an opportunity for the participants and the mediator to introduce themselves and start building a relationship of trust and respect needed to foster learning (Berg and Ribe, 2013).

The mediator starts by presenting himself saying his name, describing his background and his connection with the topic of the intervention (Implicit Person Theory), or in other words, what motivates him to perform this work.

Then, the mediator shall explain that the intervention is about considering people's attributes as malleable. The goal of the intervention is to show leaders that people can learn and improve, and that by believing in human potential and development, they may transform their organizations fostering a culture of innovation, growth and teamwork. Further, the mediator can explain that research demonstrates that the company's mindset impacts employees' trust, their sense of empowerment and commitment, and the level of collaboration and ethical behavior that takes place in the organization (Dweck, 2016).

Finally, the participants should present themselves by saying their names, location of work, tenure in the managerial position, their motivation to participate in the intervention, and expectations in relation to the program.

This meeting is expected to last for 1 hour.

Week 2

In the second meeting, the mediator should provide information about IPT. Based on the argument that attitudinal change requires information, which is expected to start a persuasion process within the participants (Hewstone et. al, 2015; Cialdini et. al, 1981; Bohner and Dieckel, 2015; Simonson, 1979), the mediator will explain that implicit person theories (or mindsets) can be defined as “*the assumptions that individuals hold about the plasticity of personal attributes, such as ability and personality*” (Heslin and Vandewalle, 2011, p. 1697). The mediator will further clarify that although they are rarely made

explicit, these theories create a framework for making predictions and judging the meaning of events (Yeager and Dweck, 2012). Therefore, they are also called *mindsets*, as they guide how people think, feel, and act in achievement context (Dweck, 2016).

The mediator will clarify that *fixed mindset* reflects the assumption that personal attributes are largely static. Individuals who subscribe to this theory believe that although people can learn new things, their underlying intelligence remains the same. Since entity theorists view behavior as reflective of permanent personal attributes, they become disinclined to help others to develop and improve (Dweck, et al., 1995a; Heslin et. al, 2006). In turn, a *growth mindset* embodies the assumption that attributes are malleable and can be cultivated through effort. Hence, incrementalists tend to place the emphasis on developing, instead of judging abilities (Dweck and Leggett, 1988).

Based on Dweck and Leggett's (1988) model, it can be said that mindsets influence people's goals (whether they adopt performance goals or learning goals), and consequently, their response patterns, as shown in the following figure:



Figure 5: How mindsets influence goals and response patterns (Dweck and Leggett, 1988)

This way, Dweck and Leggett (1988) sustain that individuals holding a fixed mindset tend to pursue *performance goals*, focusing on gaining favorable judgements of their competence refraining from negative evaluations. In turn, incrementalists are less concerned about the evaluative implications of failure, and tend to pursue *learning goals*, concentrating in increasing their competence, acquiring and developing their skills (see also Elliot and Dweck, 1988; Dweck, 2016). *This activity is expected to last for 45 minutes.*

In the following, participants will be asked to list their thoughts about IPT and discuss them with the group. A guiding question for this activity can be “which theory do you think is better suited for leaders, and why?”. While performing this activity, leaders will experience self-generation of arguments, which is supposed to create self-persuasion, and possibly cognitive dissonance, that may lead to attitudinal change (Hewstone et. al, 2015; Cialdini et. al, 1981; Festinger, 1957). The thoughts should then be shared with the group, generating a discussion about the arguments presented, which in turn may also persuade participants about the importance of holding a growth mindset for leaders (Simonson, 1979). *This activity is expected to last for 45 minutes.*

Finally, as an individual practice, participants should be asked to observe their own behaviour in different work situations during the week that follows (until the next meeting), and try to connect their observations with the material learned in class. Relevant observations may include an unpleasant conversation with an employee who is not willing to learn new skills, challenging tasks the leader is not willing to take, and negative feedback from a difficult customer. The main goal of this practice is to generate awareness of participant’s own actions, thoughts (*cognitions*) and feelings (*affect*). By increasing awareness of their own behaviour, managers may become more willing to change it (Mueller et. al, 2017). Leaders can be stimulated to reflect on the following questions: “Why did I act in particularly this way?”, “How do I perceive my own behaviour in a given situation?”, “Could I react/act in a different way? Why/why not?”, “What stimulated me to act in exactly this way?”. Finally, the participants are asked to take notes about their observations during the week, which may then be used for the initial discussion in the next meeting.

Week 3

The third meeting should start with a discussion and feedback session about the individual practice from the previous week, when implicit person theories and differences between growth and fixed mindsets were examined. The main goal of this activity is to develop a conversation between the participants and the mediator and create an opportunity for participants to exchange their experiences (Tharaldsen and Otten, 2008). Examples of questions that can be asked are: “How was it to observe your own behaviour?”, “What did

you think when you started observing and analyzing your own behaviour in different work situations?”, “In what situations did you demonstrate fixed and growth mindset?”, “How do you think your colleagues, employees or customers perceived your behavior?”. *This activity is expected to last for 10 minutes.*

Next, the mediator may continue to explain the differences between entity and incremental theories, this time in more depth. In the previous meeting, participants learned that mindset refers to personal beliefs about the malleability of personal qualities, and that persons holding a *fixed mindset* believe that personal attributes do not change, while those who hold a growth mindset believe that personal characteristics (i.e. abilities or traits) are malleable and can be developed through effort.

This week, the mediator will explain that entity theorists tend to see their academic failures as indications of lack of intellectual ability, ascribing to themselves stable, negative ability traits on the basis of a limited number of failure experiences (Chiu et. al, 1997). Further, since entity theorists do not judge a momentary level of ability, but rather evaluate what they perceive to be important and permanent personal attributes, entity theory about others’ traits may generate stereotypes and prejudices (Dweck and Leggett, 1988).

In turn, incrementalists tend to focus on the factors that may improve performance and increase ability rather than on self-judgement (Chiu et. al, 1997), and they pay more attention on reforming and educating (Dweck, 1986). An incremental theory also fosters persistence in the face of obstacles (Dweck et. al, 1995a; Yeager and Dweck, 2012), and individuals subscribing to a growth mindset adopt an inquiring learning goal, seeking challenges that provide opportunities to expand their abilities (Wood and Bandura, 1989). They also exhibit higher self-efficacy (Martocchio, 1994).

Mindsets also influence employees’ engagement via their enthusiasm for development, construal of effort, focus of attention, perception of setbacks, and interpersonal interactions. A growth-oriented mindset increases *enthusiasm for development*, even if these developmental opportunities imply risk and potential failure. Mindsets also affect individuals’ *construal of effort*, meaning that those who maintain a growth mindset are more positive to making effort. A growth mindset shifts the *focus of attention* towards new, useful information that characterizes the psychological availability

associated with engagement. People holding a growth mindset are more inclined to perceive *setbacks* as an inherent part of the learning process that signals a need for more effective strategies. Finally, mindsets also influence *interpersonal interactions*, by reducing negative reactions to social adversities, since for incremental theorists, person perception is about understanding the dynamics of behavior, rather than simply judging dispositional traits (Chiu et. al, 1997; Dweck and Leggett, 1988; Wood and Bandura, 1989, Keating and Heslin, 2015; Yeager and Dweck, 2012).

The following figure can be shown (Dweck, 2016, p. 263):

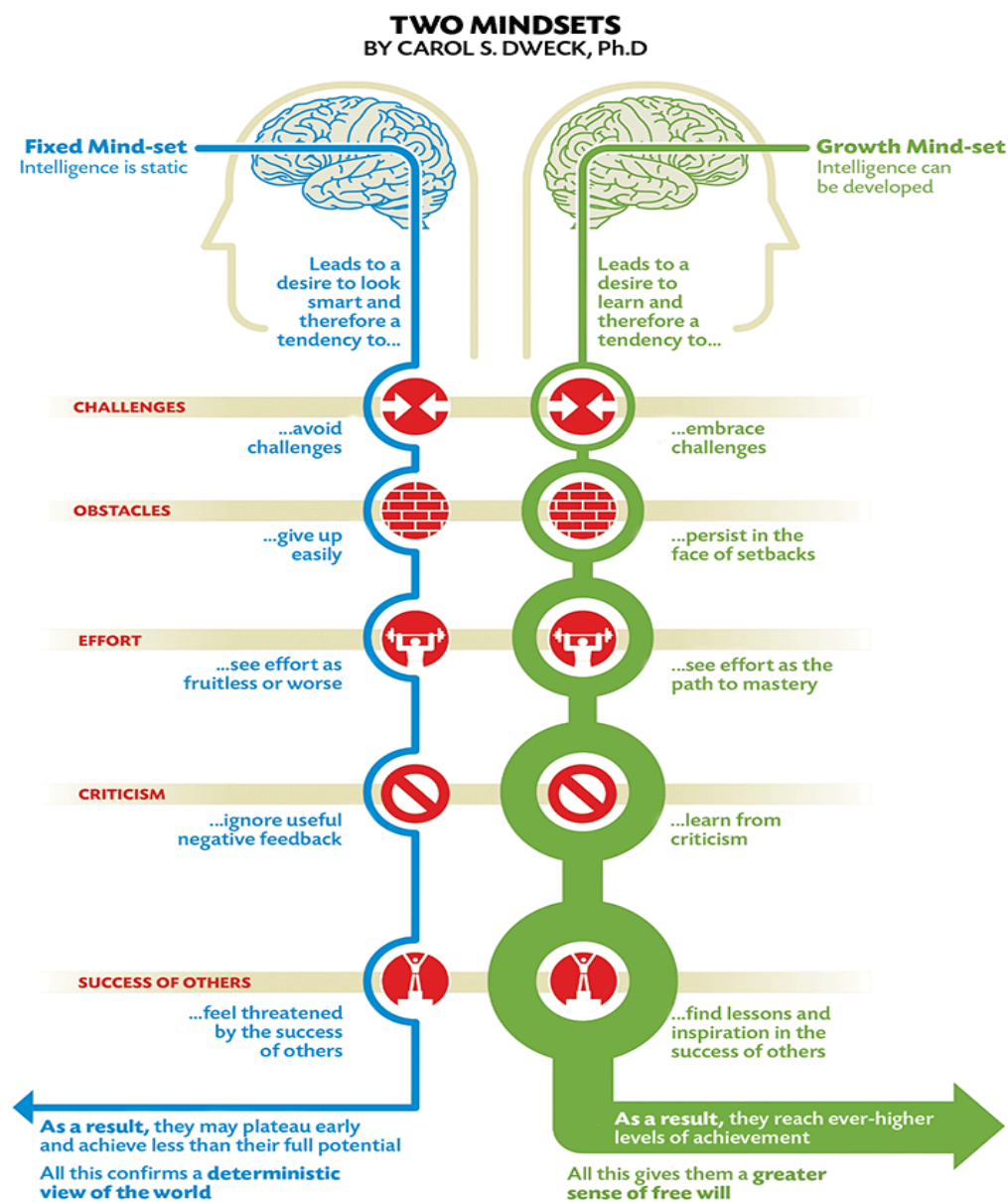


Figure 6: Differences between growth and fixed mindset

The possibility of holding different theories for ability and personality should also be noted (Dweck et al, 1995b), as well as the evidence showing that individuals strategically regulate and shift their endorsement of implicit theories (Leith et. al, 2014).

Next, it is necessary to explain why it is crucial for leaders to maintain an incremental IPT. Participants should learn that leaders subscribing to a growth mindset are more willing to coach their employees (Heslin et. al, 2006); they set themselves more challenging goals (Tabernero and Wood, 1999; Wood and Bandura, 1989); manage setbacks and low performances (Tabernero and Wood, 1999; Wood and Bandura, 1989); exhibit stronger perceived self-efficacy (Tabernero and Wood, 1999); execute their managerial functions more effectively (Tabernero and Wood, 1999; Wood and Bandura, 1989); and are better able to recognize employee performance improvement (Heslin et. al 2005). By providing information about the subject to participants, we expect to persuade them that incremental theory is more suitable for leaders (Simonson, 1979). *This activity is expected to last for 45 minutes.*

Next, a short film can be presented showing the behavior of a leader with a fixed mindset towards an employee. Participants can then be asked to express their opinion about the behavior, and how the leader could have acted in a different way (Edem and Aviram, 1993; Wood and Bandura, 1989).

Further, participants may be asked to work in pairs in a role-playing activity, where they will simulate a situation of a leader holding an entity mindset or a leader holding a growth mindset. The idea is to generate attitudinal change through behavioral modeling (Wood and Bandura, 1989). Two pairs can be asked to present the role-play for the rest of the group: one showing entity theory, and the other, incremental theory. Then, the group may discuss the differences between the mindsets and its potential consequences. *This activity is expected to last for 1 hour.*

The meeting ends with individual practice where participants should be asked to observe different situations at their workplace, reflect and make notes on how IPT could influence employees' performance. The main objective is to generate, stimulate, and increase awareness of actions taken by different actors. The mediator should emphasize that leaders should not take corrective measures, nor call the attention of the employees on the subject; just analyze. Examples of situations that leaders may find interesting are:

managing negative feedback or complaint from a customer, unpleasant conversation with a coworker, or handling long queue lines during a busy day.

Week 4

The beginning of this meeting will be indicated by the discussion and feedback session about individual practice from the previous week. The main objective of this activity is to capture reflections on entity and incremental theories, differences between them, and their application in real life situations, as well as develop discussion among participants. Examples of questions that can be asked by mediators are: “Have you identified an incremental mindset in any situation?”; “Under what situations have you observed an entity mindset?”; “What thoughts did you get when you observed these different situations?”, “Why do you think those individuals acted in these particular ways?”, “How do you think IPT could affect and change individuals’ performance, attitude and behaviour in the given situations?”. *The activity is expected to last for 15 minutes.*

Next, the mediator should ask the participants to work in pairs and write a short essay on the following topic: “Challenges provide a great opportunity for learning”. Through this exercise the participants are encouraged to explain why this might be true. For individuals holding entity theory, this task involves describing the opposite of their beliefs. For individuals holding incremental theory, this exercise results in developing already existing incrementalism. Overall, writing the essay is expected to generate cognitive dissonance, resulting in change in the attitude (Miller and Wozniak, 2001; Anderson and Sechler, 1986). It is important to note that, with deeply held beliefs, changes are slow and incremental (Dweck et. al., 1995a). For that reason, this type of exercise will be repeated several times during the intervention program. *The activity is expected to last for 1 hour and 30 minutes.*

Finally, for the individual assignment, the participants can be asked to think about a person they know who holds an entity theory. Then, they should be encouraged to write a letter to this person, explaining what a growth mindset is, and why they think it is important for this person to know about that. For instance, if they know the person is struggling with certain abilities, they can encourage this person to make an effort (adapted from Aronson et al. 2002). This assignment is crucial because it applies the new

knowledge to real-life situations. Writing a letter, or more broadly speaking, persuading another person to believe in his own abilities, is a significant part of leaders' role.

Week 5

The meeting will start with the discussion and feedback session on the material learned at previous meeting. The mediator can ask volunteers to read their letters, keeping the identity of the person confidential. Winston Churchill once said: "*To improve is to change; to be perfect is to change often.*" (in Gilbert, 1991, p. 887). The main objective of this activity is to highlight one more time the importance of the ability to change the attitude to certain phenomena. When treating the attitude change in a positive way, by accepting and welcoming it, one allows new opportunities to come. This may be challenging, but when leaders are capable to embrace attitudinal transformation, it will eventually result in a more innovative, competitive and open-minded organization. *This activity is expected to last for 15 minutes.*

Further, since the intervention program is aimed to change and develop leader's IPT, it is crucial to provide a theoretical background showing how holding an incremental person theory affects leader's behaviour and mindset. The main objective of this session is to explain concepts of self-efficacy, anxiety, learning and training (Tabernero and Wood, 1999; Martocchio, 1994). The managerial decision making process is not only connected with a solid understanding of cause and effect of circumstantial patterns, but also with fear, uncertainty and need for learning. As a result, by finding themselves under constant pressure associated with taking the best strategic decisions, managers need to recognize that the ability to increase self-efficacy, to focus on learning and training, and to reduce anxiety, is a skill that can be developed and cultivated. This idea should be highlighted during the persuasion session.

The mediator should explain that individuals who hold an incremental person theory demonstrate a stronger perceived self-efficacy, are less dissatisfied with their performance, and set themselves more challenging goals than those with holding an entity theory (Tabernero and Wood, 1999). In addition, creating a context in which individuals believe they can build on their present abilities results in a significant decline in anxiety (Martocchio, 1994). When it comes to learning and training, the mediator should highlight

that those who believe that their abilities are malleable perceive training as an opportunity and are positive to challenge. In contrast, individuals believing in fixed traits and abilities view training and effort as a threat and evidence of low competences. *The activity is expected to last for 45 minutes.*

Next, participants may be asked to work in groups of 4 or 5, where they are encouraged to discuss and reflect on how incremental person theory affects self-efficacy and anxiety. The groups should connect learned material with their own practical experiences from workplace. The goal of this group work is to make participants think through the possible reasons for anxiety and weak self-efficiency at their workplace, and discuss how holding incremental person theory could help them increase self-efficiency and reduce anxiety. By doing that, the participants will share their experiences and maybe find themselves in similar situations. Such experience will generate a higher eagerness and motivation to learn from each other (Mueller et. al, 2017; Bohner and Dieckel, 2011; Latham and Saari, 1979). Examples of possible group work questions are: “What level of self-efficacy do you think you have?”, “In what situations at work did you struggle with anxiety to fail?”, “Can you describe a situation when the feeling of anxiety led you to giving up certain tasks?”, “How do you think holding incremental theory would have helped you manage challenging situations at work?”. *The activity is expected to last for 1 hour.*

Finally, this week ends with individual practice, where participants are given a list with 5 short stories describing challenging situations at workplace. The common idea across all the stories is the development of self-efficiency among leaders. The mediator should ask participants to read the stories, analyze them and write about how they would react in these challenging situations (Miller and Wozniak, 2001; Cialdini et. al, 1981; Mueller et. al, 2017).

One example of such a story can be: *You are the executive manager of a firm. The CEO calls you and says that some entrepreneurs were interested in investing money in your company, which is a great opportunity for development and growth. Your task is to prepare and give a presentation for the investors (approximately 20 people). The problem is that you hate standing in front of many people and giving speech. You have struggled with that since you were in high school. You are getting nervous and the feeling of stress and anxiety overruns you. So, what are you going to do? How would you prepare yourself*

for such a challenging task? Or would you refuse? How would you act in order to increase your self-efficacy and reduce anxiety?

Week 6

The sixth meeting starts with a discussion and feedback session on individual practice from week 5, where the topics of self-efficacy, anxiety, training and learning were discussed. The examples of questions that can be asked by the mediator are: “Did you perceive the situations in the short-stories as challenging? Why?”, “Have you ever been in similar situations?”, “What were your thoughts and actions in such situations?”, “How do you think holding an incremental person theory could help in these situations?”. The main goal of this session is to get an insight of what participants learned from the previous week and how they connected theory with practical examples. This discussion is also a good indicator of the progress of attitudinal change. *The activity is expected to last for 10 minutes.*

The meeting continues with the persuasion session showing evidence on how holding incremental person theory can increase resilience. The mediator shall explain that holding an incremental mindset leads individuals to persist when facing difficulties and to develop better strategies. The focus should lie on the importance of manager’s incrementalism, which promotes resilience and creates more positive response to challenging tasks. It is crucial to highlight that challenges and setbacks can be seen as opportunities for growth, development and learning (Yeager and Dweck, 2012; Taberero and Wood, 1999). *The activity is expected to last for 45 minutes.*

Next, the participants will take part in simulation and observational learning, by forming groups of 4 or 5 and sharing experiences from challenging work situations where enhancing resilience was necessary. Further, the mediator will encourage volunteers to perform role-playing of the situations discussed. The main goal of this activity is to make participants apply theoretical content in a relevant, real world context. Role-playing will engage their higher order thinking, which in turn will result in a deeper level of content learning (Eden and Aviram, 1993; Mueller et. al, 2017; Wood and Bandura, 1989). In addition, the participants will experience the relevance of the theory being studied for handling real world situations. Possible examples of challenging work situations that can

arise and played out are: dealing with a dissatisfied customer, encouraging employees during stressful and challenging situations, motivating themselves and others in times of recession, inclining employees to believe in their abilities and set themselves higher targets. *The activity is expected to last for 1 hour.*

Finally, the meeting ends with the individual practice assignment. The participants will be encouraged to list their thoughts on how they could boost resilience at their workplace (Hewstone et. al, 2015; Cialdini et. al, 1981). Moreover, they should be asked to write down some practical steps depicting the process of building resilience skills among employees. When pursuing this assignment, the participants will get an opportunity to go in depth, visualize and prepare a realistic strategy, which will be a helpful tool in the development of resilience (Simonson, 1979). Since a modern work culture is a direct reflection of the increasing demand and complexity faced by businesses, it is crucial for managers to understand and then manage some of the factors that cause employees to feel overwhelmed at work. Ultimately, increasing resilience at work may lead to stress reduction, which in turn may reduce turnover.

The possible answers to this individual assignment can include the following steps: exercise mindfulness; webinars; performance conversations; peer-to-peer learning; paying attention to the peaks of energy and productivity; balancing work activity with breaks; cultivating both self-compassion and compassion to others. This way, one can achieve better mental health, reduce stress, and increase creativity and focus. These activities improve collaboration between the workers, as well as develop well-being.

Week 7

The meeting this week starts with a discussion and feedback session on the positive effects of holding an incremental person theory on resilience. The examples of questions that can be asked are: “What steps do you think are necessary to undertake when improving resilience among the employees? Why?”; “What you, as a manager, would focus most during that process?”; “What challenges could potentially come along with it? Why?”; “How would you try to solve them?”. The main objective of this session is to generate discussion and share different thoughts and experiences. In addition, it is crucial

to highlight what steps managers find valuable, effective and useful in attempt to develop resilience in the organization. *The activity is expected to last for 10 minutes.*

Next, expanding the topic on leader's IPT, the mediator will present evidence showing that leaders holding an incremental person theory are more inclined to coach employees. This is crucial because believing that people can change leads to an increased desire to help them improve their overall performance (Heslin et. al, 2006). In other words, by recognizing a strong need for coaching, managers develop a deep bench of talents who from now on will work smarter, boosting the organization's efficiency and overall performance. *The activity is expected to last for 45 minutes.*

Further, the meeting continues with simulation and observational learning, where the participants will work in pairs and be encouraged to discuss how they would go about coaching their employees: how they would talk to them, what materials learned from the sessions they would apply, how they would encourage and stimulate employees for more challenging tasks, and how they would react to "no-answers" from them. The next step is to act these situations out. This can be implemented through role-playing, where one participant is assumed to be a manager and the other one plays for an employee. By working and performing the task in pairs, the participants get more speaking time, allowing them to think through a situation more thoroughly. Moreover, such method of group work is also beneficial for the mediator, who can monitor and then provide a more detailed feedback (Eden and Aviram, 1993; Mueller et. al, 2017; Wood and Bandura, 1989; Simonson 1979). *The activity is expected to last for 1 hour.*

Finally, at the end of this meeting, the individual practice will be presented. This week the participants will be encouraged to talk with their employees about potential opportunities for coaching in the company, and then observe and take notes of their reactions. This exercise is a real-life version of the observational and simulation learning session conducted together with the mediator. However, the main goal of this practice is not only about getting a certain type of reaction (positive or negative) from the employees, but rather sense and observe manager's own thoughts, actions, and attitudes when he experiences that reaction. The mediator may suggest to use the following questions with employees: "How do you feel about the possibilities of developing your abilities in the company?"; "What do you consider difficult in this process?"; "How do you perceive the level of employee coaching in the company?"; "How can we improve that?". The mediator

should remind the participants that coaching is a process of helping others to learn and develop by finding solutions themselves.

Week 8

The gathering starts with a discussion and feedback session on the material learned from week 7, namely the impact of incremental person theory on employee coaching. Based on the individual practice, the examples of questions that can be asked are: “How did you perceive the conversation with employees regarding coaching opportunities?”, “Was it a challenging task for you? Why?”, “What main insights did you get from this exercise?”, “How do you think holding an incremental person theory helped you with this conversation?”, “What was the employee’s first reaction?”, “Was that reaction as you expected it to be?”, “What surprised you? What not?”, “Why do you think employees are willing/not willing to be coached?”, “What actions do you, as a manager, want to take in order to persuade employees to be coached?”. The main purpose of this activity is to share and discuss the different experiences leaders have gained throughout the week. By doing that, the participants will get an opportunity to find similar behavioral patterns, which in turn will increase motivation, engagement, and learning outcome. *The activity is expected to last for 10 minutes.*

The meeting should continue with the persuasion session focusing on managing setbacks and low performances (Wood and Bandura, 1989). Since every business has its own peaks and trough, affecting both motivation, performance, and overall organization spirit, it is essential to provide evidence showing why holding incremental theory helps to manage setbacks. The mediator should highlight that instead of being afraid of obstacles and low performances, the managers should perceive them as natural phenomena, giving opportunity to grow and learn. *The activity is expected to last for 45 minutes*

Next, the participants would be encouraged to complete a thought-listing exercise, where they are suppose to write down the answer to the following questions: “Why am I afraid of facing obstacles and show low performance?”, “What really scares me the most? Why?”. When asking such sensitive questions, forcing managers to describe their doubts and vulnerability, one pushes them toward increased awareness of their own fears, which is expected to induce their incrementalism (Hewstone et. al, 2015; Cialdini et. al, 1981).

Further, after approximately 15 minutes, when this task is completed, the participants are encouraged to share their thoughts and reflections on these two questions. The learning objective of this activity is to stimulate interaction between managers, meaning that when one expresses his reasons for being afraid of obstacles or low performance, the other should come up with a specific strategy or way of thinking, telling how this particular fear can be reduced or fully eliminated. This activity will also increase awareness of own feelings and attitudes, possibly leading the participants to think through the real reasons of their anxiety, and develop self-efficacy. Most important is the assumption that the recommendations participants give to each other should be based on the material learned in class, particularly the importance of holding an incremental person theory. In case of struggling when connecting learning outcomes with proposed recommendations, guidance from the mediator should be provided. It is assumed that participants take turns, so everybody gets an opportunity to both share his fears and think through possible solutions, using the learned material. *The activity is expected to last for 45 minutes.*

At the end of the meeting, the individual practice will be handed out. This week, it will consist on writing an essay on “Why is it important to appreciate challenges your business face?”. When answering this question, managers will advocate a position that most likely has been the opposite of their beliefs. By being forced to perceive obstacles coming along the way as something positive, for example as opportunities to grow, learn, embrace the change and innovate, the leaders will intuitively tend to be more willing to change their attitude, which in turn will affect their mindset (Miller and Wozniak, 2001; Anderson and Sheckler, 1986). The mediator should also point out that the usage of learned material when writing the essay is necessary. By applying theoretical evidence to the proposed question, managers will not only increase the quality of their knowledge, but also be more inclined to believe the results.

Week 9

The ninth meeting starts with a discussion and feedback session on the material learned last week, namely how holding an incremental person theory helps managing low performance and setbacks. Since the participants were supposed to write an essay, the main goal of this discussing session is to assess the reasons why it is important to appreciate

challenges the organization faces. By developing an active conversation on such an important topic, leaders will gain an unique experience of exchanging thoughts, proposals, knowledge, and experiences amongst each other. Moreover, together with the mediator, participants will connect their answers with the theory learned. The examples of questions the mediator can ask are: “What made you think that the opportunity to grow is one of the reasons to look on the obstacles in a positive way?”; “How the material learned in class helped you to answer this question?”, “Have you ever thought about it before?”. *The activity is expected to last for 15 minutes.*

The meeting continues with the persuasion session, where the mediator provides theoretical evidence on how holding an incremental person theory stimulates managers to set themselves more challenging goals (Dweck and Leggett, 1988; Elliott and Dweck, 1988; Taberner and Wood, 1999). The main objective of this session is to encourage managers that new and more complex tasks can be approached through a systematic practice, learning and experience. The mediator should focus on showing that manager’s incrementalism results in pursuing higher development goals, which in turn can be established by adaptive patterns of behavior. *The activity is expected to last for 45 minutes.*

Then, the participants will be asked to form groups of 4 or 5 and discuss what could stimulate them to set more challenging goals. Managers will be encouraged to share experiences from work life when they strived towards higher targets. The examples of questions that can be asked are: “What did stimulate/motivate you to set yourself a more challenging goal?; “How did you feel about pursuing that goal?”; “What was the most challenging in that process?”; “Did you manage to accomplish the targeted goal? Why?”. The main goal with this task is to activate reflective thinking process aiming to connect personal experiences from the past with the new learned material. By doing this, the participants will unconsciously analyze their own behaviour and consider what could be done differently. *The activity is expected to last for 1 hour.*

At the end of the meeting, the individual practice assignments will be handed out. Since the main topic of this week is about setting more challenging goals, the mediator will encourage leaders to think through and reflect on the following questions:

- 1) Think of a particular skill you have always wanted to acquire, but believed it was too difficult. Then, name the underlying reasons that made you give up the idea of

acquiring that particular skill. Finally, make a concrete learning plan, describing how you can acquire the skill in a step-by-step process.

2) Think of at least one capability that you, despite of frustrating setbacks, have managed to acquire with persistent effort and training. Describe the process of acquiring that skill in terms of your thoughts, motivation, possible setbacks, and doubts (Cialdini et. al, 1981; Simonson, 1979). What do you think made you develop that skill despite the uncertainty and fear of a possible failure?

Up to this point the leaders have already learned a great deal of materials related to mindset, combined with a significant amount of both individual and group practice. For that reason, it is essential to encourage them to think thoroughly and compare own thoughts and behaviour before and now. Provided answers on the proposed questions will also be good indicators on attitudinal change, which is a crucial part for this intervention.

Week 10

This week starts with a discussion and feedback session on the material learned on week 9, which was about how incremental person theory leads to setting more challenging goals. Since the leaders received individual practice in form of two tasks aimed to reveal their progression toward attitudinal change, the examples of questions the mediator can ask are: “What is the skill you find difficult to acquire?Why?”; “Has the perception of level of difficulty changed since the beginning of this program? Why?”; “How do you think you can acquire the desired skill?”; “What tools do you perceive are necessary in a process of gaining that skill?”. The main objective of this discussion session is to detect whether the participants feel the change in their own perception of difficulties, setbacks, and accomplishments. This is an important indicator for the mediator, who can adjust the intervention program and focus on specific topics, based on the needs of the group. *The activity is expected to last for 10 minutes.*

Further, the mediator may continue with persuasion session, showing the evidence on how implicit person theory contributes to more resilient and effective execution of managerial function, resulting in higher levels of performance (Wood and Bandura, 1989; Taberno and Wood, 1999; Heslin et. al, 2005). This session encourages participants to

understand that mindset affects self-regulatory determinants, affective reactions, self-efficacy, and as a result, overall managerial performance. Moreover, they should learn that higher levels of performance can be achieved through a systematic analytic strategy, helping to discover optimal managerial decision rules. *The activity is expected to last for 45 minutes.*

Next, the participants are asked to form groups of 3 or 4, where they are encouraged to discuss and list their thoughts and actions on how they can execute their tasks more effectively, using the literature learned in class, both from this meeting and the previous ones (Hewstone et. al, 2015; Cialdini et. al, 1981; Simonson, 1979; Mueller et. al, 2017). Since an effective managerial execution is a significant part of leaders' professional role, this task is highly relevant and applicable for the participants. Furthermore, based on the thoughts and actions being listed, the leaders are challenged to design a systematic analytic strategy (Simonson, 1979; Mueller et. al, 2017). Although the thought-listing activity is pursued in groups, allowing the participants to develop an active discussion and experience-sharing, the process of creating systematic analytic strategy is an individual-level work. This is because each leader has its own way to execute managerial functions. In addition, the perception of failures, own abilities, fear, doubts, potential setbacks, ambitions may vary significantly across individuals. The mediator should highlight that the designed analytic strategy is a tool which leaders should apply further in their business. For that reason, it is essential that the described plan is realistic and can be implemented. *The activity is expected to last for 1 hour.*

At the end of the meeting, the individual assignment will be handed out. This time the participants are encouraged to do a research and find a successful person (artist, business man, scientist etc.) with a growth mindset. Further the participants are asked to answer the following questions: "Why do you think this person subscribes to a growth mindset?"; "What personal characteristics do you perceive as the most fascinating? Why?"; "How do you think this person perceives effort?". This task encourages leaders to not only apply a new theoretical material to their own life experiences, but also find evidence in form of outstanding individuals, demonstrating the importance of holding growth mindset (Mueller et. al, 2017; Simonson, 1979; Wood and Bandura, 1989).

One possible answer alternative is Magnus Carlsen - a famous Norwegian chess grandmaster. Carlsen is called the Mozart of chess. He has been playing since he was five

years old. In his interview to Scandinavian Traveler Magazine (Holst, 2016) he said: “*If you’re afraid, then you’ve already lost*”. In his biography, constant aspiration to transcend oneself, and openness to fears and setbacks clearly demonstrate high level of incrementalism.

Week 11

The meeting starts with feedback and discussion session on the material learned last week, namely how holding an incremental person theory contributes to more effective execution of managerial functions. Based on the individual practice assignment the participants were supposed to complete, the mediator can ask the following questions: “What person have your chosen? Why?”; “What indicated that this person holds a growth mindset?”; “What could you learn from this person?”. When leaders come up with different examples of famous and successful people who demonstrate a high level of incrementalism, the participants intuitively become more persuaded towards growth mindset (Mueller et. al, 2017; Miller and Wozniak, 2001; Wood and Bandura, 1989; Simonsen, 1979). *The activity is expected to last for 20 minutes*

The next activity is the incremental induction workshop, *which is expected to last for 90 minutes*. The main objective of this workshop is to combine different educational activities, boosting the overall learning outcome (Mueller et. al, 2017; Simonson, 1979; Eden and Aviram, 1993). Although these types of activities have already been separately implemented during the previous 10 weeks, it is considerably important to combine and repeat them as a summary.

The workshop starts with scientific testimony, delivered through a number of written articles which highlight outlined findings from recent psychological and management research regarding how personal attributes can change. The potential literature resources that a mediator may use can be found in tables 4 and 5. Nevertheless, the mediator can also do an additional research on how holding an incremental person theory affects attitude and behaviour. *This activity is supposed to last for 15 minutes*.

Further, during the next *3 to 5 minutes* a short film will be showed. During the intervention, great attention has been put on malleability of individuals’ abilities and skills.

This film will one more time provide evidence on how the brain and, hence, abilities are capable of “growing like a muscle” (Aronson et al. 2002; Chiu et al. 1997).

Next, counterattitudinal advocacy is going to be awakened. This can be achieved by asking participants the following question: “Name at least three reasons why it is important for leaders to realize that people can develop their abilities?”. This approach is consistent with Miller and Wozniak’s (2001) findings that beliefs are transformed by self-generating arguments. This question reflects one of the main ideas justifying this intervention. At this point, leaders should be able to apply both theoretical material, and experiences from observational learning, simulations and individual practices when answering the question. *This activity is supposed to last for 15 minutes.*

Furthermore, in order to induce counterattitudinal reflection, participants will answer 2-part reflection question. The main idea of this task is to capture the change in attitude among the participants. The mediator may first ask to name an area in which participants once had low ability, but now perform quite well, and then ask: “How were you able to make this change?” This will encourage leaders to think through and reflect on their past experiences of acquiring new skills. The next question could be: “When did you realize that it was possible to develop your ability?”. Answering this question will induce incrementalism (Simonsen, 1979, Mueller et. al, 2017). *This activity is supposed to last for 15 minutes.*

Next, counterattitudinal advocacy will stimulate participants to act as mentors. Particularly, the mediator will encourage leaders to write an email offering advice to a struggling hypothetical protégé about how his abilities can be developed. Their recommendations should be based on both personal experiences of dealing with developmental challenges (Aronson et al. 2002), and empirical evidence. This task is highly applicable to real-life situations where leaders often need to encourage and motivate their employees. *This activity is supposed to last for 20 minutes.*

Finally, the cognitive dissonance induction will stimulate participants to identify three instances of a) when they had observed somebody learn to do something that they had been convinced that this person could never do; b) why they think this occurred; and c) what may have been the consequences (Aronson et al., 1991; Dickerson et al., 1992; Stone et al., 1994). *This activity is supposed to last for 20 minutes.*

No individual practice will be handed out this week, considering the intensity of activities this day.

Week 12 - Midterm gathering

The midterm gathering starts with a discussion and feedback session on the incremental induction workshop held in week 11. The main objective of this activity is to give opportunity to the participants to reflect and express their opinions. Examples of questions that mediator can ask are: “What are your thoughts about the workshop?”; “Did you find it interesting/ challenging/ beneficial/ practically applicable?”; “What part of the workshop was the most challenging for you and why?”; “What was most interesting?”; “What main insights did you take from the workshop?”. *The activity is expected to last for 20 minutes.*

Next, the meeting continues with the midterm summary gathering, where the participants together with the mediator go through and summarize the main topics learned from weeks 2 to 11. Since the duration of the proposed intervention is long (24 weeks), it is essential to provide a “break”, allowing the participants to come up with new questions and feedbacks, without learning new materials. This is a good opportunity for a partial evaluation of the intervention process. For that reason, it is important to develop an active conversation between the mediator and the leaders. Examples of question that can be asked by the mediator are: “How would you classify your participation in the activities?”; “How did you experience the frequency of sessions?”; “What could have been done differently to increase your participation?”; “What is your opinion about the procedures used to approach and attract program participants?”; “What is your opinion about the presented materials’ standard and quality?”. *The activity is expected to last for 1 hour.*

Finally, the mediator should provide the information about Module II of the intervention.

A summary of the persuasion topics, groups activities, and individual practices is presented below.

Meeting	Persuasion topic	Group activity	Individual Practice
1	None	None	None
2	Information about IPT. Clarification of fixed and growth mindset.	Thought-listing on IPT and discussion in the group.	Observation of own behaviour in a different work situations.
	Duration: 45 min	Duration: 45 min	
3	Differences between entity and incremental person theories. Explanation of why it is crucial to hold for leaders to maintain an incremental IPT.	Work in pairs in a role-playing activity, where participants will simulate a situation of a leader holding an entity mindset or a leader holding a growth mindset.	Observation of different situations at workplace. Reflection on how IPT may influence employees' performance.
	Duration: 45 min	Duration: 1 hour	
4	Self-persuasion overlapping with group activity and individual practice.	Writing a short essay on the following topic: "Challenges provide a great opportunity for learning".	Participants are first asked to think about a person who is holding an entity theory. Then, they are encouraged to write a letter to him, sustaining that the development of certain abilities the person is struggling with, can be achieved through specific type of training, aiming to induce growth mindset. Furthermore, the participants should also explain why it is essential for other person to know about that.
		Duration: 1 hour and 30 min	
5	Show how holding an incremental person theory affects leader's behaviour and mindset. Explanation of concepts of self-efficacy, anxiety, learning and training.	Group work on reflecting and discussing how incremental person theory affects self-efficacy and anxiety.	Participants are given a list with 5 short stories describing challenging situations at workplace. Then they are asked to read the stories, analyze them and write about how they would act in these challenging situations.
	Duration: 45 min	Duration: 1 hour	
6	Show how holding an incremental person theory can increase resilience.	Simulation and observational learning on experiences from challenging work situations where enhancing resilience was necessary.	The participants are encouraged to think through and list their thoughts on how they could boost resilience at their workplace. In addition, they are asked to represent some practical steps (plan) depicting the process of building resilience skills among employees.
	Duration: 45 min	Duration: 1 hour	
7	Show how holding an incremental person theory may increase leaders' inclination toward employee coaching.	Simulation and observational learning, where groups of two are encouraged to discuss how they would go about coaching their employees.	Participants are encouraged to talk with their employees about potential opportunities for coaching in the company, and then observe their reaction.
	Duration: 45 min	Duration: 1 hour	

8	Focus on managing setbacks and low performances when holding an incremental person theory.	Thought-listing exercise, where participants are suppose to write down the answer on the following questions: “Why am I afraid of facing obstacles and show low performance?”, “What underlying reasons scare me most? And why?”.	Writing an essay on the following topic: “Why is it important to appreciate challenges coming to your business?”.
	Duration: 45 min	Duration: 45 min	
9	Show evidences on how holding an incremental person theory stimulates managers to set themselves more challenging goals.	Group work and discussion on what would/would not stimulate leaders to set themselves more challenging goals.	Participants are encouraged to think through and reflect on the following questions: 1) think of a particular skill you have always wanted to acquire, but believed it was too difficult. 2) think of at least one capability that you, despite of frustrating setbacks along the way, have managed to acquire with persistent efforts and exercises.
	Duration: 45 min	Duration: 1 hour	
10	Show evidences on how implicit person theory contributes to more resilient and effective execution of managerial function, resulting in higher levels of performance.	Group work where the participants are asked to discuss and list their thoughts and actions on how they can execute more effectively.	Participants are encouraged to do a research and find a person with a growth mindset.
	Duration: 45 min	Duration: 1 hour	
11	Incremental Induction Workshop		
12	None	None	None

Table 7: Summary of intervention activities in Module I

Module II: Sustaining the Change

The aim with Module II is to *sustain* the attitude change towards a growth mindset. Changing and developing a more incremental theory requires time (Dweck, 1995a; Dweck, 1995b), since it is considerably difficult for individuals to let go of their self-perceptions and replace them with a mindset that tells them to embrace what they considered threatening: challenge, struggle, criticism and setbacks. Moreover, once a problem improves, people often stop doing what caused it to improve (Dweck, 2016). To prevent the changes from disappearing, meetings 13 to 23 will consist of executive coaching, which focuses on participants' specific needs (Heslin et. al 2006). For instance, some participants may need more help in order to embrace challenges, while others need support to manage setbacks and low performances, keeping the focus on learning. The idea behind Module II is that the coach will guide leaders help themselves and each other, so that when the intervention finishes, they are able to continue growing and cultivating a learning culture in their organizations.

The weekly meetings will last for one hour, and the participants will sit in a circle, so that they can see each other and the coach. This setting facilitates communication.

Finally, the last meeting will consist of a summary and closure. The mediator may also use the opportunity to to ask for feedback and suggestions to the program. This is a good opportunity to start the process evaluation, enabling discussion within the group. This allows the mediator to verify what the group agrees has worked, and on what topics there is disagreement.

Weeks 13 - 23

Since coaching focuses on engaging learners to make sense of the situation and on encouraging knowledge to be generated internally, and since the role of the coach is to provide a safe, nurturing environment for the individual to grow and develop own strategies and solutions (Zeus and Skiffinton, 2001), no more attitude change instructional activities - such as persuasion, mastery modeling, and counter-attitudinal advocacy - will be used. Instead, the coach will guide the discussions by asking relevant questions, such as

“Have you been challenged last week?”; “How did you respond to it?”; “What steps did you (or could you) take to succeed?”; “Do you have any difficult tasks to do?”; “How will you do it?”; “Have you experienced any setbacks last week?”; “What happened?”; “What could you have done differently?”; “What did you learn?”; “Have you done any mistakes last week?”; “What did they teach you?”; “What will you do next time you are in this situation?”; “Have you felt triggered into a fixed mindset?”; “What happened and what did you feel?”; “How can you create opportunities for learning and growth for yourself and the people around you?”; “What do you have to do to continue growing?” (adapted from Dweck, 2016). The coach and the other participants will listen actively and provide feedback.

Coaching may help individuals change their perceptions by rethinking the situation, reformulating goals, trying new instruments and reflecting on achieved results. The purpose is to inspire processes where individuals learn from their own thinking and their own actions. Through active listening, questions, feedback and dialogue, individuals will be supported to keep the focus on learning and developing. Leaders will reflect on their situation, set goals and try out strategies to continue nurturing a growth mindset. The coach will help participants identify and overcome the threats to the growth mindset, supporting its maintenance until they are able to do it themselves (Berg and Ribe, 2013).

Whenever fixed mindset drives leaders to doubt their ability to succeed, they should be remembered that a growth mindset helps them stay engaged and strive towards their goals. They should also be guided to think of challenging tasks as opportunities to learn, rather than as measures of natural ability, and be remembered that successes and failures reflect the quality of the effort, strategies and choices, rather than being indicators of innate talent. Leaders should recall that worthwhile capabilities are usually acquired with persistent effort and frustrating setbacks along the way. These setbacks, in turn, should be regarded as opportunities to learn, instead of defining people’s level of ability. When fostering growth mindset, the focus should lie on being proud of learning from mistakes, rather than feeling judged by them (Keating and Heslin, 2015).

Week 24

The final meeting consists of a summary and closure. The mediator may start by thanking leaders for their participation and engagement. Further, participants can be asked what they remember from the activities in module 1. It should be recalled that the activities performed aimed to change and develop a growth mindset, so that leaders could become more inclined to conceive personal attributes as malleable. As discussed, holding an incremental person theory is desirable because individuals are more inclined to adopt an inquiring learning goal and to seek challenges that provide opportunities to expand their abilities. Leaders who endorse an incremental theory are more prone to coach their employees (Heslin et. al, 2006); and to manage setbacks and low performances (Taberner and Wood, 1999). They set themselves more challenging goals (Taberner and Wood, 1999), and execute their managerial functions more resiliently and effectively, achieving higher levels of performance (Wood and Bandura, 1989). They are also more able to recognize performance improvements (Heslin et. al, 2005) and to keep their self-esteem after a stereotype threat (Burnette et. al, 2010). It should also be remembered that during the second module, the group met once a week, for twelve weeks, to continue learning and developing from each others' experiences through executive coaching. The mediator may ask participants whether they considered the second module important, and why. Since the aim with Module II was to sustain the change, participants should be encouraged to reflect on how these changes can become part of the organization's culture.

Participants can be inquired about what influenced them most during the program, which activities they liked the most, and which ones they liked the least. The last meeting also provides a great opportunity for group feedback, which may be the starting point for the process evaluation. By asking participants for their critics and suggestions, the mediator opens the possibility for discussion within the group, allowing for the verification of points of consensus and disagreements. Finally, the mediator can ask participants what they think is the way forward.

A small celebration can be organized, including coffee and snacks, to praise the positive learning climate of the intervention, and a course certificate may be handed out.

The mediator may also schedule the individual interviews for the evaluation of the process.

Concluding Remarks

Based on the contributions from the literature related to implicit person theories and attitudinal change, we have developed an intervention program consisting in a package of different tools to change and develop leaders IPT towards incrementalism. We believe that cultivating a growth mindset among leaders will lead organizations to increase their focus on development and learning, making them more innovative and competitive. As a consequence, growth mindset can improve organization's overall performance.

Before the intervention, IPT, task perceptions, employees' motivation and organizational commitment, turnover propensity, mastery, learning activities, leadership practices, perceived coaching, and job satisfaction are measured. This is relevant to measure the outcomes of the intervention. By repeating these measurements, it is possible to investigate whether the intervention actually led to a change and develop to growth mindset amongst leaders, and how this has changed the overall performance of the organization.

Lastly, the process evaluation explains how the implementation of the intervention worked: which activities were carried out and how participants experienced the activities and methodology.

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