Effective Goal Setting in Leadership Development Programs

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DOCTORAL THESIS

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Abstract

Many professionals increasingly join executive education programs, especially those that focus on leadership development, to embark on a personal or professional transition. Consequently, when participants are asked to set development goals and an action plan, these often comprise not only the improvement of leadership competencies but also longer-term personal aspirations and career goals. Not all participants, however, attain the goals to the same degree. The purpose of this research was to discover how the goal-setting process in leadership development programs can be more effective in helping participants engage in goal pursuit. To answer this research question, we first developed a scale that measures goal progress. This scale was then used in an exploratory study as the criterion variable for developing a code that assesses goal-setting quality. Results showed that goal setting is most effective when (1) it is leveraged on a specific vision, (2) it articulates a meaningful goal narrative, (3) it includes intentions to seek information and (4) intentions to act. Finally, these results were validated by means of an intervention in the executive MBA program of ESADE. Besides the theoretical contribution to the literature of goal setting and intentional change, this research has immediate implications for practice as it guides leadership development programs in making their goal-setting process more effective, and in ultimately helping their participants to engage in the pursuit of their career and life aspirations.

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1. Introduction

1.1 Introduction to the PhD thesis

Leadership development programs in executive education often use 360-feedback tools to assess their participants' intrapersonal and interpersonal competencies (e.g., self-awareness, empathy and conflict management), as the basis for them to establish a development plan (Brett & Atwater, 2001). Business schools, however, increasingly recognize the fact that many professionals join these programs to embark on a personal or professional transition (Kets De Vries & Korotov, 2007). In response to this need business schools have started promoting such future career or personal change as part of their leadership development programs (Russon & Reinelt, 2004). Consequently, participants end up writing multiple goals and actions plans that often combine short-term goals to improve leadership competencies with long-term and more aspirational career or personal goals.

Goal attainment, i.e., the degree to which individuals achieve their goals, stands as one of the key measures for assessing the effectiveness of such programs (Toegel & Conger, 2003). However, research indicates that behavioral change and performance improvement does not always occur (Atwater, Waldman, & Brett, 2002; Seifert & Yukl, 2010; Smither, London, & Reilly, 2005), which evinces that some individuals succeed in attaining their goals while others

make little or no progress at all. In fact, during my twenty-one years as a manager of a multinational I saw the organization invest in two leadership development programs lead by world-class business schools. The organization did not perceive these programs as very effective and in view of the considerable investment in time and resources, they were both discontinued within two years of their implementation.

My interest in leadership education and my own experience as a participant in three of such programs motivated me to study how these programs could become more effective. To this end, I focused my attention on goal setting, which is considered a keystone in intentional change processes (Boyatzis, 2006, 2008). The overarching research question that this body of research has attempted to answer is: *In the context of leadership development programs, how can goal setting be more effective in helping participants progress toward their goals?*

The effect of setting goals on goal-directed behaviors and on goal attainment has been vastly documented through decades of research (Epton, Currie, & Armitage, 2017; Gollwitzer & Sheeran, 2006; Latham, 2004; Locke & Latham, 2013). However, most research has focused on testing the unique effects of a goal condition on a specific behavior or performance measure (Epton et al., 2017), and therefore most empirical studies use laboratory or field experiments (i.e., quasi-experimental designs) with an intervention and control conditions . This is also the case for studies conducted in the context of leadership development programs. For example, a study measured the effect of establishing or remembering the goal on competency development (Leonard, 2008). Another examined how the number of competencies for which goals were set influenced perceptions of behavioral change (Johnson, Garrison, Hernez-Broome, Fleenor, & Steed, 2012).

While such laboratory and field experiments have strong internal validity, they lack the contextual realism of the field and therefore their external validity is limited (Scandura & Williams, 2000). The reality is that participants in leadership development programs usually have full discretion in writing their goals, and therefore these vary a great deal among individuals. Different individuals write a different number of goals, of a different nature, with a different timeframe and with different other goal characteristics. And such a variability of goals leads to a disparity of action plans. A close examination of the goals and action plans written by executive managers who took part in the ESADE Executive MBA program provided

compelling evidence of this fact. A manager wrote ten job-related goals (e.g., *to become an executive; to increase visibility of my competencies to the board; to increase team member commitment,* and five more) but no action plans. While another manager just focused on a competency that needed improving (i.e., *to improve my influence in the team*) but proceeded to write a detailed plan with eight specific actions.

To answer our research question, we examined a total of 433 goal statements and 1,657 actions written by 103 managers from 5 cohorts of the Executive MBA program in ESADE. We used mixed-method research as the most appropriate approach for developing a contextualized understanding of complex phenomena (Conger, 1998; Cresswell & Plano Clark, 2011; Stenz, Plano Clark, & Matkin, 2012) as is the case of goal-setting effectiveness in the context of our study. The main findings of our research indicate that goal setting is most effective when (1) it is anchored in a specific career or personal aspiration, (2) goals are well interrelated in a coherent goal roadmap, (3) the plans indicate intentions to seek information that helps how to better achieve the goals, and (4) the plans are written to help self-regulation during goal pursuit. When these characteristics were found, goal setting seemed to involve a higher cognitive effort. Participants engaged more deeply in self-reflection and had more meaningful discussions with classmates, coaches and career services. And within the first three months after setting the goals, individuals reported a higher engagement in goal pursuit, reporting significantly higher perceptions of seeking information on how to best attain the goals.

Beyond some theoretical and methodological contributions (which are discussed along the thesis), this research has relevant practical implications. As actionable research (Ireland, 2012), our main findings can be used by teachers, program managers and coaches to go beyond the conventional prescription of writing specific, measurable, attainable, realistic and time-bound (SMART) goals. They can now be smarter and use this research to assist their students in setting more effective goals and action plans that help engagement in the pursuit of their career goals and aspirations.

1.2 Structure and research strategy of the PhD thesis

This PhD thesis adopts the form of three studies, all written for publication. Each of these three studies responds to a step in the research strategy to respond to the aforementioned overarching research question: *In the context of leadership development programs, how can goal-setting be more effective in helping participants progress toward their goals?*

- Chapter 2 presents the theoretical framework in which the three studies are developed and introduces the research gaps and research questions that each study addresses.
- Chapter 3 is the first of the three studies, which responds to the first research challenge of our PhD investigation: *how can we measure goal progress in the context of leadership development programs?* The study addresses this research question by developing and validating a general scale that measures goal-directed behaviors in this specific context. This measure will therefore be the dependent variable in the other two articles.
- Chapter 4 is the second study, which addresses the second challenge in our investigation: *how can we assess goal-setting effectiveness in the context of leadership development programs?* As a first step, the study uses thematic analysis to develop and validate a code that assesses those goal-setting characteristics that predict goal-directed behaviors. Then, to answer the research question, these variables are aggregated into a final quality score, which is the measure proposed to assess goal-setting effectiveness.
- Chapter 5 is the third study, which aims at further validating the results of the previous study by addressing the following research question: *In leadership development programs, what is the impact of increasing goal-setting quality on their participants' engagement in goal progress?* The article describes an intervention in the goal-setting process of the leadership development program (LEAD) in ESADE. From a quality viewpoint, the study discusses the effects of the intervention during the goal-setting process. And from a quantitative viewpoint, the study evaluates the effect of the intervention on goal-directed behaviors and the

mediating role of goal-setting quality. How the three studies are related is best displayed in Figure 1.

- Chapter 6 integrates the main conclusions, theoretical and practical contributions, limitations and suggestions for future research from the three articles.

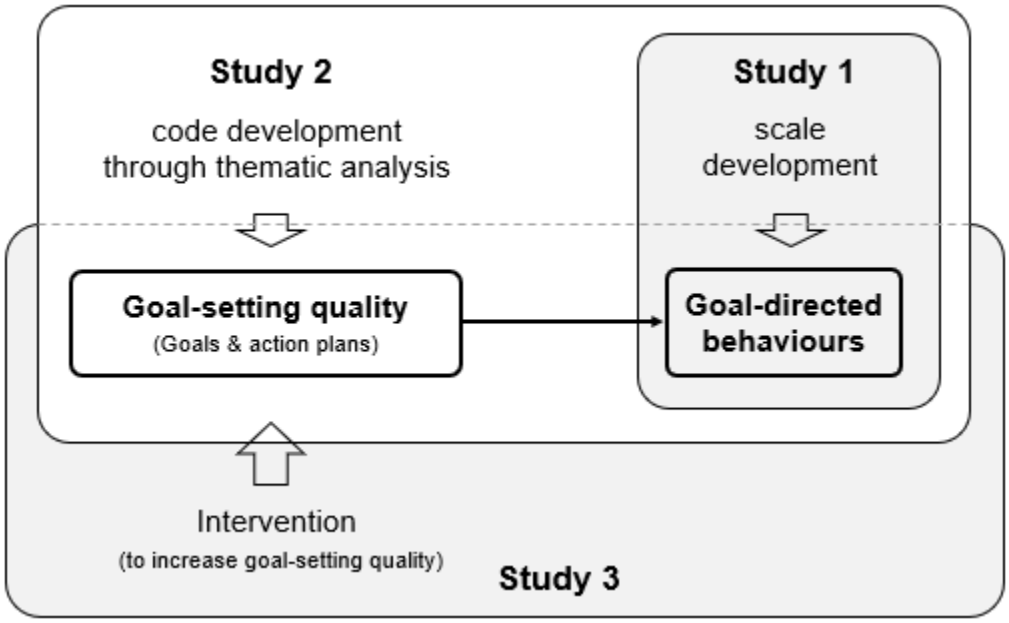

Figure 1. *Links between the three studies of the PhD Thesis*

Finally, and for purposes of parsimony, all references from all chapters are merged into a single list and presented after Chapter 6. The full AGA Code is also included as an Annex at the end of the PhD Thesis. The AGA Code contains all the necessary information (i.e. instructions, examples, counterexamples) for assessing each of the themes involved in the evaluation of goal-setting quality. It also describes how inter-coder reliability is calculated for each theme, as well as how to convert the assessment into quantitative data for statistical analysis.

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2. Overarching Theoretical Framework

2.1 Intentional Change Theory

This research is based on data from the ESADE Business School Leadership Development (LEAD) program that the Executive MBA courses offer their students as part of the syllabus. The LEAD program is designed based on Intentional Change Theory (ICT; Boyatzis, 2006, 2008), an integrative self-directed learning theory which explains that sustained desired leadership development follows a non-linear process model. Individuals achieve sustained desired change through a process that involves five discoveries or phase transitions (Figure 1).

The first discovery is the articulation of the ideal self, which manifests itself as a personal vision, or an image of what the person wishes to be or hopes to accomplish in life and work. The ideal self attracts positive emotions and constitutes the core mechanism for self-regulation and intrinsic motivation (Boyatzis, 2006, 2008). The second discovery is the assessment of discrepancies between the real self (strengths and weaknesses that others see) and the ideal self. Awareness of one's weaknesses that ought to be fixed is likely to attract negative emotions, putting the person in a defensive protection mode (Boyatzis, 2006, 2008). The third discovery involves the design of the change process, which consists of goals to be achieved

and a development plan. The main tenet of ICT holds that when this change process is grounded on positive emotions (i.e., designed to approach the ideal self), people become psychologically more open to explore new ideas (Fredrickson, 2001), they become more resilient (Mosteo, Batista-Foguet, Mckeever, & Serlavós, 2015; Fredrickson, 2001) and as a result personal change is more likely to occur (Boyatzis, 2008; Howard, 2015, Boyatzis, Rochford, & Taylor, 2015). Openness to new experiences is thus likely to facilitate the fourth discovery, that of experimenting and practicing new habits and behaviors characteristics of effective leaders. Finally, the fifth discovery occurs when the participant develops and benefits from a trusting and resonant relationship with the coach or mentor. Vision-based coaching plays a key role in emphasizing the leader's personal vision (future life and career aspirations) as it has shown to "evoke the psychophysiological state characterized by positive emotions, cognitive openness, and optimal neurobiological functioning for complex goal pursuit" (Pasarelli, 2015, p.1).

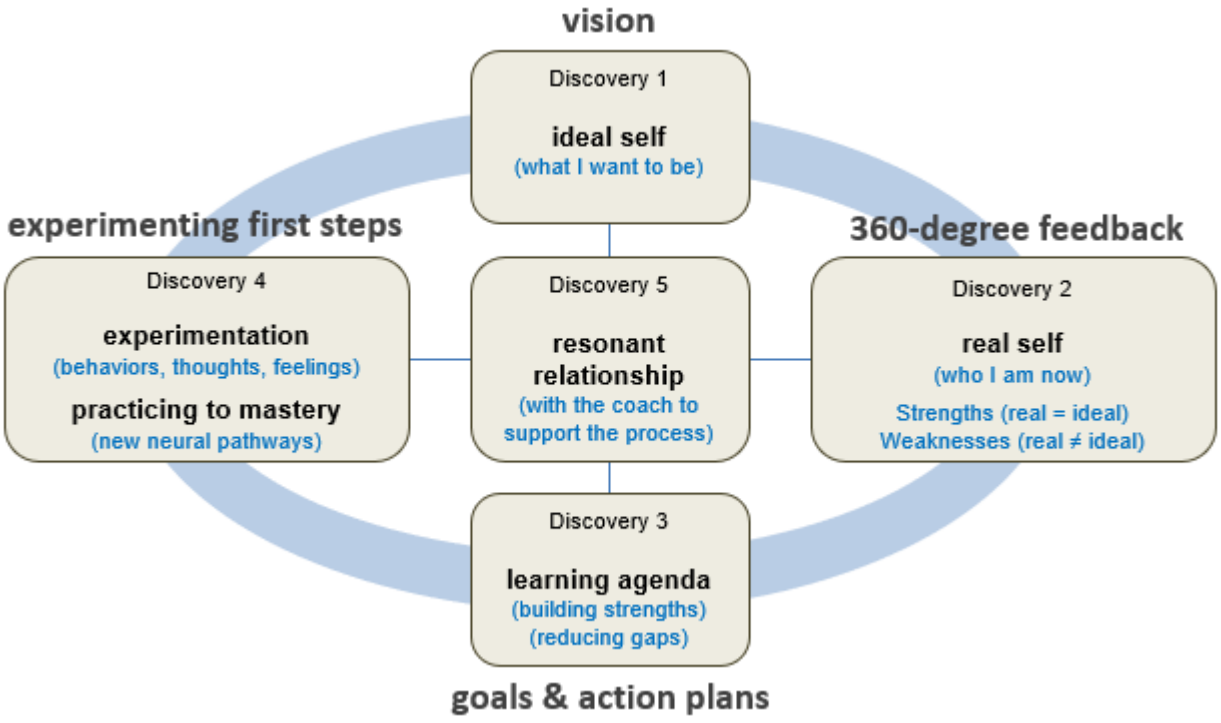


Figure 1. *Model with the five discoveries of Intentional Change Theory (Boyatzis, 2008, p.304)*

Although most leadership development programs encourage participants to use 360-degree feedback as a base for establishing improvement goals and action plans (Brett & Atwater, 2001), the effect of these goals and action plans on subsequent individual change has not been sufficiently studied. A review of 25 years of academic research on leadership development programs using 360-degree feedback (86 articles published in Management and Psychology journals with impact factor >1) revealed this research gap. Regarding the specific literature on leadership development based on ICT, most studies have focused on the effects of positive emotions fostered by the vision-based coaching process (e.g., Passarelli, 2015; Howard 2015; Boyatzis, Rochford, & Taylor, 2015; Mosteo et al., 2015). Despite the importance of goal setting as a key step in intentional change processes (Boyatzis, 2006, 2008), no studies have yet focused on how goals and action plans should be ideally established in this specific context so that they are most effective in helping participants engage in their change process.

2.2 Goal setting theory

Given that our research focuses on studying the effectiveness of self-set goals and action plans, goal setting theory (Locke & Latham, 1990, 2002, 2013; Latham, 2004) is at the core of the theoretical framework from which hypotheses are derived. Goal setting theory is a cognitive theory of motivation that has been developed inductively from approximately 400 studies and accumulates more than 1,000 studies spanning more than four decades of research (Latham & Seijts, 2016). The theory establishes that difficult, specific goals lead to higher performance than vague *do-your-best* goals (or no goals at all). Difficult, specific goals divert direction of action toward goal-directed behaviors, increases individuals' effort and persistence in their pursuit of the goals, and stimulates the discovery of task-specific knowledge and strategies on how to best achieve the goals.

The theory determines five boundary conditions that moderate the effect of goal setting on performance. First, for goal setting to be effective the person must have the knowledge and ability to perform the task needed to attain the goal. Failing that, it is more effective to set learning goals first (Seijts & Latham, 2005; Latham & Seijts, 2016). Learning goals are those framed in terms of knowledge or skill acquisition, which make individuals focus on discovering the strategies necessary to perform the tasks correctly and thus ultimately helping reach the outcome goals more easily.

Second, for goal setting to be effective the person must be committed to the goal. Goal commitment is likely to increase if goal intentions are made public (Epton et al., 2017) due to the natural desire to appear rational and consistent (Hollenbeck, Williams, & Klein, 1989).

Third, for goal setting to be effective, feedback on the progress toward the goal is needed. This information acts as a self-regulatory mechanism since it allows people to discover if they are below their goals, and therefore to decide whether additional effort is needed, whether behaviors need adjusting or whether the strategy for reaching the goals needs changing (Locke & Latham, 1990, Locke 1996, Latham, 2004). Monitoring goal progress has been shown to have a positive effect on goal attainment, an effect that is stronger if the measurement is made public, if it is physically recorded, and when frequency of evaluation is high (Harkin, et al., 2015).

Fourth, goal setting is most effective when it involves the performance of easy routine tasks. When goals are distal in time and require a series of highly complex tasks (as is often the case of self-set goals in leadership development programs), setting proximal goals facilitates progress toward the end goal (Latham & Seijts, 1999). Proximal goals, often called sub-goals, tend to be short-term goals easier to attain. Their attainment is likely to increase perceptions of self-efficacy (Bandura & Schunk, 1981; Latham & Seijts, 1999, Bandura 2001), and in turn, increase commitment to the goals, motivation and performance (Locke & Latham, 1990). Proximal goals are a source of knowledge of early performance, and as such help individuals regulate effort (Louro, Pieters, & Zeelenberg, 2007) and decide whether to adopt different task-appropriate strategies that best help achieve the more distal goals (Latham & Seijts, 1999).

The fifth and last boundary condition for goal setting to be effective is that people have resources to engage in goal-directed behaviors and that no obstacles hinder progress toward the goals. Setting multiple goals (as is often occurs in leadership development programs) may result in goal conflict, i.e., goals competing for time and resources (Sun & Frese, 2013). This may cause individuals to make trade-offs between goals. Conflicting goals have a negative impact on goal commitment and goal progress (VandeWalle, Cron, & Slocum, 2001) and are found to induce pressure and undermine performance (Locke, Smith, Erez, Chah, & Shaffer,

1994; Slocum, Cron, & Brown, 2002). Goal pursuit is therefore most effective when multiple goals are interdependent (Sun & Frese, 2013) and structured in a goal system (Bandura, 2001).

Goal-setting processes involve two phases: choosing the goals, which requires a deliberative mindset, and planning the actions to achieve the goals, which requires an implemental mindset (Gollwitzer, Heckhausen, & Steller, 1990). First, individuals are motivated by different wants and wishes that entail several potential goals, and they must deliberate which goal(s) to choose. Setting appropriate goal intentions is however not a guarantee for goal achievement. The subsequent planning phase is equally important as it has considerable volitional benefits (Gollwitzer & Brandstätter, 1997). Mental anticipation on how goal-directed behaviors are going to be implemented increases the likelihood of them being enacted and thus of attaining the goals (Gollwitzer, 1999; Gollwitzer & Sheeran, 2006). Implementation intentions (i.e., specifying *when, how often, how, where,* or *with whom* the person intends to enact goal-directed behaviors) become a self-regulatory mechanism, since they trigger action initiation without conscious intent, and protect goal pursuit in the face of adversities (Gollwitzer, 1999; Webb & Sheeran, 2007). Both cognitive processes (deliberative and implemental) in goal setting have therefore an influence on action initiation and ultimately on the progress toward goal attainment (Figure 2).

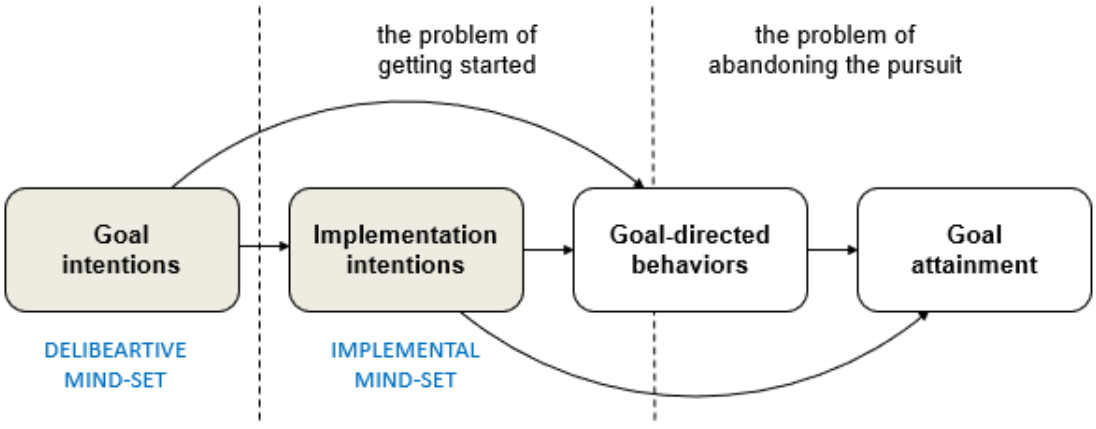


Figure 2. *The two cognitive processes in goal setting (Gollwitzer et al., 1990)*

As previously stated, studies on goal-setting effectiveness (including those in the context of leadership development programs) have mostly focused on testing the unique effects of a goal-setting condition on behavioral change (Epton, Currie, & Armitage, 2017). These studies require the use of laboratory or field experiments (intervention and control condition) and therefore lack the contextual realism of complex phenomena (Scandura & Williams, 2000), such as is goal setting in leadership development program. In view of the many goal and action plan characteristics that make goal setting more effective, we still need to better understand which ones are relevant and how goal setting should be ideally established for leadership development programs to be more effective.

Although the main body of the present research is developed within the framework of intentional change and goal setting theories as presented above, the need for a criterion variable for assessing goal-setting effectiveness required a review of the goal striving literature.

2.3 Goal-directed behaviors in the goal striving literature

Goal setting is effective if it helps attain the goals. Goal attainment is therefore considered a key indicator of program success (Toegel & Conger, 2003). However, assessing goal attainment can be challenging as it usually takes months or even years for goals to be accomplished. In fact, the literature on leadership development programs acknowledges the need for a short-term measure of program success (Hoojiberg & Lane, 2009), since none of the existing scales of goal progress as an early indicator of goal attainment can be used in the context of our study. Goal-directed behavior scales (e.g., Ajken, 1991; Leone, Perugini, & Ercolani, 2004; Perugini, & Bagozzi, 2001) are goal-specific and can only be used in the domain of the study. Spence's (2007) GAS scale can be applied to multiple goals of different nature, but the measure is developed to be used in long-term coaching relationships, where the coach actively helps to assess several levels of behavioral intensity that reflect different levels of goal attainment. Not all goal constructs lend themselves to this type of assessment and since the coaching relationships usually stop when the leadership program ends, data collection months after program completion would become a challenge. In response to this gap in the literature, our research begins with the development of a general scale of goal-directed behaviors, a measure that is then used in the other studies as the criterion variable for goal-setting effectiveness.

3

3. Are we making progress? Assessing goal-directed behaviors in leadership development programs

3.1 Abstract

Leadership development programs increasingly help participants engage in their career transitions. Therefore, these programs lead participants to establish not only development goals, which usually involve the improvement of a specific leadership competency, but also goals that relate to career advancement or to achieving a more general life aspiration. Assessing goal attainment, as a measure of program impact, may take years as goals vary greatly in terms of nature, timeframe and domain. The purpose of this study was to overcome this challenge by providing a measure of goal progress as a necessary antecedent of goal attainment, and which we operationalize through a general scale of goal-directed behaviors. Subject-matter experts assessed the content validity of the measure. Factor analysis, using three samples, revealed four dimensions identified as Sharing Information, Seeking Information, Revising the Plan, and Enacting the Plan. This new scale allows data collection as early as a few months after setting the goals, which can provide practitioners with an earlier indication of program impact and facilitate future academic studies in this field.

Keywords: Goal-directed behaviors, goal setting, goal striving, leadership development, scale development.

3.2 Introduction

Leadership development programs aim to help participants in acquiring and developing the intrapersonal and interpersonal competencies that are necessary for leading teams and organizations more effectively (Day, 2000; Day, Fleenor, Atwater, Sturm, & McKee, 2014), such as emotional awareness, adaptability, empathy, and conflict management. In executive education these programs often use 360-feedback tools to provide an assessment of these competencies, which participants then use as a reference to set their improvement goals and define their leadership development[1] plans (Brett & Atwater, 2001).

Business schools, however, increasingly recognize the fact that many professionals join these programs to embark on a personal or professional transition (Kets de Vries & Korotov, 2007) and in response, they have started promoting such future career or personal transitions as part of their leadership development programs (Russon & Reinelt, 2004). Consequently, improvement plans that participants write often combine short-term goals related to leadership competencies (e.g., *to improve my communication skills*) with longer-term and more aspirational career or personal goals (e.g., *to become a general manager*).

Since these programs are costly and demand substantial personal effort, stakeholders expect them to be effective and to help participants accomplish their goals. Goal attainment, i.e., the degree to which a participant achieves the set goals, is thus considered a key outcome, and its measurement is fundamental to establishing program success (Toegel & Conger, 2003). However, assessing the impact that such training interventions have on individual change constitutes a challenge, as change is "an individualized and serendipitous experience" (Bernthal, Cook, & Smith, 2001, p.507), and its study is inherently longitudinal. It is only natural that leaders, after completing their program, gradually disengage from the university, business school or organization that imparted the course, and as a result data collection becomes more challenging as time goes by. This may explain why it is scarcely known whether leaders actually make progress toward their goals.

The need for measurement scales assessing the short-term impact of these programs on individual change has been acknowledged in the leadership development literature (Hooijberg & Lane, 2009). With this study, we respond to this need by providing a general scale of goal-directed behaviors (GDB) that measures *goal progress*, a necessary antecedent of goal

attainment. Unlike previous goal-specific constructs, this new construct reflects the level of engagement in goal pursuit in general and can therefore be applied regardless of the number and nature of the goals.

Instruments for measuring goal attainment found in the leadership development literature have two important limitations which our scale overcomes: first, not being general enough to cover multiple goal domains and second, having to wait too long for data collection. For example, a common option used to measure goal attainment is to administer a second 360-feedback survey at a later date. The survey, however, would only apply to a fraction of the goals (to those concerning competencies as assessed by the 360-feedback survey, but not to those related to the job, career or personal domains). Additionally, it can take more than a year for the effects of training to start being visible to others (Cherniss, Goleman, Emmerling, Cowan, & Adler, 1998). By then, leadership programs have long been completed, thus making a second 360-feedback to assess goal progress a challenge to implement. Black & Earnest (2009), also recognizing the need in the literature for an instrument that evaluates the impact of such training programs, developed a self-reported scale which assesses the improvement of specific skills. While this scale makes data collection easier, it also applies to only a fraction of the goals, i.e., those related to specific competencies as evaluated by the scale. Acknowledging the need for a more general measure of goal attainment that can be applicable to multiple heterogeneous goals, Spence (2007) developed the Goal Attainment Scale (GAS), which is a weighted average score of the degree of success of all goals, with each goal being weighted by a perceived difficulty rating. This measure was developed for long-term coaching interventions, in which the coach guides the client along the goal-striving process. However, in the context of leadership development programs the goal-striving process can easily take years and therefore such costly coaching interventions are seldom offered.

Measuring goal-directed behaviors as an early indicator of goal attainment is not new in goal setting literature (e.g., Ajzen, 1991; Leone, Perugini, & Ercolani, 2004; Perugini & Bagozzi, 2001). However, these measures also share the limitation of being goal specific and therefore can only be applied in the domain of their study. For example, a measure of *time spent providing feedback to improve people's performance* is usually specific to the goal of *improving your competency in developing others*, and therefore cannot be used to assess goal progress toward multiple goals pertaining to multiple domains.

Since our general scale of GDB overcomes the aforementioned limitations (i.e., restriction to a specific goal domain and difficulty in data collection), it can be used to assess progress toward multiple goals in multiple domains and it can be applied as early as a few months after goals are set, a timeframe that facilitates data collection as participants are likely to be (either physically or emotionally) still involved in the program.

The present article starts with the definition of the GDB construct. It then proceeds with an overview of goal-setting theory (i.e., Locke & Latham, 1990, 2002, Latham, 2004, Seijts & Latham, 2005; & Gollwitzer, 1999) as the framework leading to the different dimensions of the GDB construct, the hypothesis for the measurement model, and the justification of the variables in the nomological network that are later considered for construct validation. In the method section we describe the steps followed to develop and validate the scale, a process that led to a final 18-item scale tapping four behaviors: Sharing Information, Seeking Information, Revising the Plan, and Enacting the Plan. The study is based on data from business executives taking part in a leadership development program designed around Intentional Change Theory (Boyatzis, 2006, 2008). We conclude by highlighting the theoretical contribution and the practical advantages of having a general scale of GDB that can be applied soon after the goals are set. Limitations of the study are discussed and directions for future research using the general scale of GDB are suggested.

3.3 Indicators of Goal Attainment

Goal setting theory states that goals regulate human behavior by providing purpose or intent, and that there is a positive relationship between goal difficulty and task performance. This relationship is explained by four possible mechanisms: goals (1) divert the direction of action toward goal-related behaviors, (2) energize people, (3) increase people's persistence in their striving toward achieving the goal, and (4) encourage people to discover task-specific knowledge and strategies on how tasks should be better performed (Latham, 2004; Locke & Latham, 1990, 2002). Goal setting theory therefore indicates that focusing on goal-directed behaviors (GDB) is one of the mechanisms that helps individuals to achieve their goals.

The study of goal-directed behaviors has accumulated more than 30 years of research. Academics have been mostly concerned with understanding the psychological mechanisms

that explain the variance in goal-directed human behavior. Several theoretical models of GDB have been proposed and empirically validated in a variety of contexts. Each model aims at improving the explanatory power of GDB, a construct that has mostly been treated as the dependent variable of the models.

In the Theory of Reasoned Action (Fishbein & Ajzen, 1975), *intention* to perform the behavior was asserted to be the immediate antecedent of the behavior in question. This model was later refined by incorporating *perceived behavioral control* as another determinant of behavior (Ajzen, 1991) and this has become one of the most prominent models in the field of behavioral goals: the Theory of Planned Behavior (TPB).

The TPB model was further expanded and deepened introducing new constructs, *anticipated emotions* and *desire to perform the action*. Anticipated emotions are related to the predicted consequences of achieving the goal, emotions that trigger the desire and the subsequent intentions to act (Perugini & Bagozzi, 2001). The anticipated effects of goal-attainment are therefore more thoroughly captured in this new model, which the authors named the model of Goal-Directed Behaviors (GDB).

Whereas studies based on the TPB usually measure behavior as the target of all the independent variables of the model (i.e., the behavior or task becomes the end goal in itself), studies based on the GDB model treat behaviors as a means to an end-state goal (e.g., asking for feedback after a presentation – the GDB – in order to improve my communication skills – the end goal). Since engaging in GDB to achieve an ultimate goal is what managers in leadership development programs typically do, we might ask whether it is therefore possible to apply any of the scales used in the GDB models to our domain of interest.

Evidence for the validity of such models emanates from context-specific studies which are not closely related to leadership development. In such studies, the nature of the GDB and that of the end goal itself are perfectly determined, and as a result constructs are measured by context-specific scales. A typical example is “I intend to study handbooks to learn how to use the statistical package during the next 4 weeks”, a measure that is specific to the goal of getting a good examination score (Leone et al., 2004, p. 1956).

Existing context-specific GDB scales are unfortunately not applicable in the domain of leadership development programs, where different individuals can set different numbers of

goals and goals of a different nature. Therefore, to measure goal progress as an assessment of the short-term impact that these programs have on individual change, we need a new (and general) scale of GDB that is applicable in this domain.

3.4 Defining Goal-Directed Behaviors

As a preliminary step in scale development it is necessary to have a proper definition of the construct that suits the domain of interest (Hinkin, 1995), for which we require an understanding of the nature of GDB in the context of leadership development programs.

Managers who participate in leadership development programs usually have a great deal of discretion in writing out their goals and action plans. This is even more so when these programs are part of executive education courses in business school settings, as participants are not likely to have program constraints coming from their work organizations. As previously mentioned, goals and development plans typically relate to the improvement of a specific skill or competency but may also relate to career advancement or even to the achievement of a more general life aspiration.

A disparity of goals is likely to generate a disparity of action plans, and hence a multiplicity of intentions to put a wide variety of behaviors into practice. Even participants who set one single goal may plan multiple actions or behaviors, all aimed at achieving the goal. An analysis done in a recent study that comprised 189 goals and 1,028 action plans written out by executives from a leading business school in Europe (the context of our study) provides compelling evidence of this assertion[2]. One participant set the goal *to improve my communication skills*. She then specified 10 actions, which included *to record myself in a presentation to analyze my weaknesses*, *to do a Coursera course in public speaking*, and *to practice some of the competencies in front of my project group*. Each of these actions involved the display of a different behavior or sets of behaviors, all of them directed to achieving the goal (to improve the communication skills).

Measuring GDB in leadership development programs therefore requires a general scale that can be used to measure behaviors independently of their nature and number. Consequently, the definition of the GDB construct that we propose is context-neutral, namely *the enactment of behaviors that facilitate goal attainment.*

3.5 Dimensionality of GDB in leadership development programs

When developing a new scale, it must be ensured that items that measure the construct cover the theoretical domain of interest. Therefore, the first step is to establish and define the dimensions of the construct, dimensions that can be derived from theory (deductive approach), from observations (inductive approach), or from both (Hinkin, 1998).

An examination of the existing theory on goal setting and goal striving, and a systematic review of the literature on leadership development programs using multisource feedback[3], allowed us to derive three dimensions of our GDB construct: *Sharing Information*, *Seeking Information* and *Enacting the Plan*. Direct observations, which allowed us to assess face validity of these three theory-driven dimensions, uncovered a fourth one: *Revising the Plan.* Below, we discuss each of these four dimensions in detail. We then present a model of GDB by hypothesizing how the dimensions are related to each other.

Sharing Information. Goal-setting literature has shown that, for goals to be effective, there must be commitment to the goals (Locke & Latham, 1990). Goal commitment, defined as an individual's determination to reach a goal (Locke, Latham, & Erez, 1988), increases if the goals are made public. Research shows that sharing goal intentions and action plans with others increases goal commitment (Hollenbeck, Williams, & Klein, 1989). Therefore, those who share their goals and action plans with more people are likely to also strive with more determination toward achieving the goals. Many leadership development programs assess their participants' managerial competencies using multisource feedback tools. Multisource feedback entails receiving feedback from multiple sources, usually direct reports, peers, co-workers and managers (London & Smither, 1995). Research strongly suggests that when this feedback is discussed with the boss, the participants' perceived accountability for the goals increases, and as a consequence their performance improves (London, Smither, & Adsit, 1997; Toegel & Conger, 2003). We therefore conclude that sharing information with others about the goals, action plans or the feedback received during the training program is a dimension that our GDB construct should measure. We define this dimension as *sharing information with others related to feedback details, goal intentions or action plans.*

Seeking Information. Challenging, specific goals encourage individuals to discover task-specific knowledge or strategies on how tasks can be better performed. This behavior is

one of the mediating mechanisms that explain an increase in performance (Latham, 2004; Locke & Latham, 1990, 2002). When individuals do not have the ability to perform the task or the knowledge on how to best achieve their goals, then the acquisition of knowledge and skills, rather than the increase in effort and persistence, becomes a salient mechanism for goal achievement (Seijts & Latham, 2005). Research also reveals that discussing and clarifying multisource feedback with raters, or discussing goals or action plans with others, has a positive effect on rating improvement over time (Smither et al., 2004; Toegel & Conger, 2003), and exerts a positive influence on goal attainment (Hazucha, 1993; Smither et al., 2004).

Goal setting is also more effective when feedback about the progress toward the goals becomes available to the individual during goal striving. Seeking information to monitor and evaluate progress toward goal attainment enhances metacognition and facilitates self-regulatory strategies to better achieve the goals (Locke & Latham, 1990). We therefore conclude that *Seeking Information,* whether as a cognitive strategy to learn how to better achieve the goals, or as a metacognitive strategy to obtain feedback on the progress toward the goals, is another relevant domain that our GDB construct should tap in the context of leadership development programs. We define this second dimension as *seeking information that could be useful in improving the action plan or the strategy to achieve the goals.*

Enacting the Plan. Challenging, specific goals also direct actions toward goal-related behaviors, another of the mediating mechanisms that lead to higher performance (Latham, 2004; Locke & Latham, 1990, 2002). However, goal striving starts when the individual makes the transition from goal intentions to action. Goal intentions express *what* the individual intends to achieve. Once this decision is made, the mindset changes into *how*: i.e., to determine the best course of action to be implemented in order to achieve the goal (Gollwitzer, Heckhausen, & Steller, 1990). Research in goal striving shows that action initiation is facilitated when individuals have clear mental anticipations of the behaviors most instrumental to meeting their goals (Gollwitzer, 1999). These mental anticipations or plans that specify the *how*, *where*, *when*, or *with whom* the goal is to be achieved are referred to as implementation intentions. A meta-analysis by Gollwitzer & Sheeran (2006) provides compelling evidence of the positive effects that forming implementation intentions has on triggering action and on goal achievement.

Once goals are set after completing a leadership development program, managers typically form their implementation intentions by means of an action plan. Such plans therefore reflect their mental anticipation of how to best achieve their set goals. Not surprisingly, several academic studies use the degree of plan implementation as a measure of progress, and as an early outcome of program success (Hooijberg & Lane, 2009; Toegel & Conger, 2003). We therefore claim that our GDB construct should also tap *Enacting the Plan*, a dimension we define as *enacting the action plan and making progress toward achieving the goals*.

To guard against the theoretically-derived dimensions not covering all the domains of GDB, we then explored potential additional dimensions of the construct using the inductive approach, which involves the analysis of first-hand account of GDB (Hinkin, 1995). To obtain a purposeful sample of individuals who highly engaged in GDB, candidates for the interviews were selected on the basis of their past participation in the same or similar leadership development programs, and on their assent to having achieved their goals. We used semi-structured interviews to guide participants in their account of the specific behaviors, steps or actions that they had engaged in since setting their personal goals and writing their corresponding action plans. Interviews were conducted and transcribed verbatim by the first researcher, who then coded actions according to the three theory-driven behaviors. We stopped after 10 interviews since concept saturation was reached after a few interviews. Data analysis led to the emergence of an additional dimension, *Revising the Plan*.

Revising the Plan. Most behaviors observed in the interviews could be clearly classified under one of the three theoretically-derived dimensions. However, a fourth domain emerged: some behaviors were related to the adaptation of plans to better achieve the goals, e.g., *After speaking with some experts I changed my plan and targeted a different set of multinational companies for job interviews*. Demonstrating flexibility to change the plans or adapt the strategy to attain the goals was a recurrent behavior observed in the interviews. Consequently, *Revising the Plan* was added as a fourth dimension of GDB, a dimension that we defined as *changing or adapting the action plan to attain the goals.*

3.6 A model of GDB in leadership development programs

It follows from the above that GDB is an aggregate construct (Law, Wong, & Mobley, 1998) as it is formed as a combination of four dimensions, which we hypothesized not to be independent of one another.

Since sharing goal intentions with others is likely to increase commitment toward the goals (Hollenbeck, Klein, O'Leary, & Wright, 1989) and to positively influence goal achievement (Antonioni, 1996; Hazucha, 1993; Smither et al., 2004), we expected that the more people with whom participants share their goals and plans, the more likely it is that they will engage in acquiring additional information and searching strategies to attain the goals, and in putting some of the actions into practice.

Hypothesis 1: Sharing Information is positively associated with Seeking Information
Hypothesis 2: Sharing Information is positively associated with Enacting the Plan

When goals are complex or challenging, as is often the case in leadership development programs, searching for information or for new strategies on how to progress toward the goals is a key mechanism for goal attainment (Locke & Latham, 1990, 2002). The information acquired, whether it comes from discussing feedback with others (Smither et al., 2004; Toegel & Conger, 2003), from reviewing plans and progress with others (Hazucha, 1993), or simply from inquiring through other external sources (e.g., through internet or through attending a seminar), is likely to help participants design a more effective action plan. Moreover, individuals who engage in seeking information with the aim of better attaining the goals are likely to feel more encouraged to put the action plans into practice.

Hypothesis 3: Seeking Information is positively associated with Enacting the Plan

Finally, self-regulatory strategies, such as seeking information or feedback to evaluate progress toward the goals, are likely to promote changes in behaviors and in the course of action to better attain the goals (Harkin et al., 2016; Slocum, Cron & Brown, 2002). Since information and feedback are likely to make discrepancies between the present state and the desired end-goal more salient, individuals are likely to think of ways of adapting the present course of action to better attain the goals. We therefore hypothesized that people who engage in seeking information to assess the adequacy of their action plan, or their progress toward the

goals, are more likely to revise their action plans to make them more effective. In turn, revised and better plans are more likely to encourage and facilitate enacting the plan.

Hypothesis 4: Seeking Information is positively associated with Revising the Plan
Hypothesis 5: Revising the Plan is positively associated with Enacting the Plan

Taken together, our hypothesized relationships among the four dimensions lead to our proposed model of GDB, as illustrated in Figure 1.

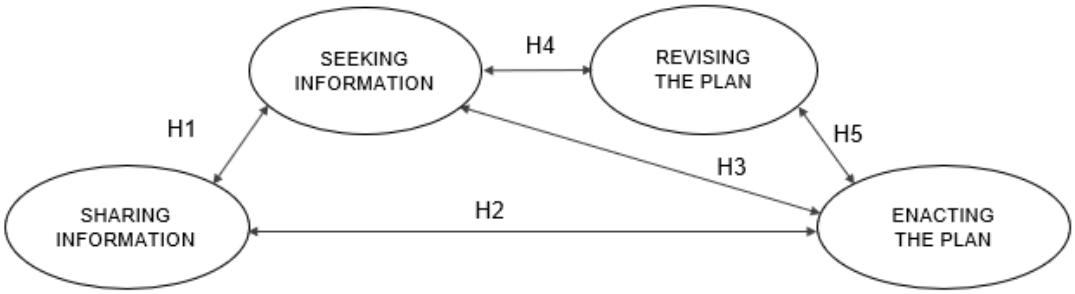


Figure 1. *Model of Goal-Directed Behaviors (GDB)*

3.7 Conceptual relationships with other related constructs

When developing a new scale, it is also important to establish the conceptual relationships between the newly developed scale and related constructs in the domain of the study, which in our case is goal attainment. Each of the related constructs presented below has been well validated and the scales of all of them have been broadly tested in the literature, thus constituting a good nomological network for validating our new GDB scale.

Goal commitment. Since goals vary a lot from individual to individual, we used Klein, Cooper, Molloy & Swanson's (2014, p. 222) target-free measure of goal commitment, which they conceptualize as "a volitional psychological bond reflecting dedication to and responsibility for a particular target." Goal commitment is recognized as an essential moderator between goal level and performance (Latham, 2004; Latham & Locke, 2007; Locke & Latham, 1990), and there is extensive evidence of its significant effect on performance and goal achievement (e.g., Wofford, Goodwin, & Premack, 1992; Slocum et al., 2002). Goal commitment shields goal pursuit (Shah, Friedman, & Kruglanski, 2002) and encourages

individuals to enact behaviors or actions directed to achieve the goals (Slocum et al., 2002). Goal commitment has also been found to be positively related to the discovery of strategies to attain the goal (Early, Shalley & Northcraft, 1992), which is likely to lead to information-seeking behaviors. Research also shows that when goals are made public, i.e., when individuals share their goals and action plans with others, goal commitment increases (Hollenbeck, Williams, & Klein, 1989). In view of the above, we expected goal commitment to be positively correlated to *Enacting the Plan, Seeking Information* and *Sharing Information.*

Learning Goal Orientation (LGO) measures the disposition toward developing ability in achievement situations (VandeWalle, 1997). Individuals with a high LGO are more open to new experiences (Payne, Youngcourt, & Beaubien, 2007) and tend to interpret feedback as useful for correcting errors and improving competencies. Consequently, these individuals are more likely to use effective learning strategies (Locke, Shaw, Saari, & Latham, 1981; Wood, Whelan, Sojo, & Wong, 2013), and to share information as a means to actively engage in feedback-seeking behaviors (Payne et al., 2007; VandeWalle, Cron, & Slocum, 2001). LGO has also been shown to be positively associated with the achievement of performance goals (Latham & Locke, 2007; Taing, Smith, Singla, Johnson, & Chang, 2013), and consequently with the enactment of behaviors and actions planned for that purpose. In view of the above, we argued that LGO should also show positive correlations with our new measure of GDB, specifically with *Sharing Information*, *Seeking Information*, and *Enacting the Plan.*

Avoiding Performance Goal Orientation (APGO) measures the tendency to avoid exposing one's lack of ability and to avoid negative judgement from others (VandeWalle, 1997). Individuals with a high APGO tend to interpret feedback as evaluative and judgmental, and are therefore less likely to see its usefulness for engaging in developing competencies needed to achieve their goals (VandeWalle et al., 2001). Research shows APGO to be negatively correlated with feedback seeking (Payne et al, 2007) and with job and performance outcomes (VandeWalle et al., 2001). Consequently, we expected APGO to be negatively associated with *Seeking Information* and *Enacting the Plan.*

Self-efficacy measures people's beliefs in their capabilities to perform the behaviors needed to achieve their goals (Bandura, 2013). We chose Chen, Gully, & Eden's (2001)

general self-efficacy scale, as it is applicable to any situation, and is thus more appropriate for the context of leadership development programs, where individuals can set goals in a wide range of domains. Individuals with a high general self-efficacy are more likely to engage in effective knowledge acquisition and strategy development activities in the pursuit of achieving goals (Bandura, 2013). People with high self-efficacy also tend to be more persistent in the face of difficulties, since they are convinced they can succeed. Research shows that self-efficacy has a positive effect on goal-directed behaviors (Slocum et al., 2002), the search for task-specific knowledge or strategies (Latham, 2004) (i.e., seeking information) and goal achievement (Locke & Latham, 1990; Latham & Locke, 2007). Hence, we hypothesized that self-efficacy would be positively correlated with our measure of GDB, especially with *Seeking Information* and *Enacting the Plan.*

Proving Performance Orientation (PPGO) measures the tendency to set achievable goals that allow one to prove one's ability to gain favorable judgment from others (VandeWalle, 1997). Unlike APGO or LGO, PPGO has been shown to be unrelated to effort and task performance (VandeWalle et al., 2001), and to feedback seeking (Payne et al., 2007). Consequently, we predicted that PPGO should be unrelated to our measure of GDB. For the purpose of our study, the three dispositions of goal orientation – LGO, APGO and PPGO – were measured using VandeWalle's (1997) three-dimensional scale.

Empathic Concern (EC) measures the tendency to experience "other-oriented feelings of sympathy and concern for unfortunate others" (Davis 1983, p. 114). Neurological studies show that leaders who possess high levels of EC are more likely to engage in social-emotional relational tasks, which activates the default-mode network in the brain (Boyatzis, Rochford, & Jack, 2014). In contrast, goal setting activates a different and competing network called task-positive (Boyatzis et al., 2014). We therefore predicted a lack of association between EC and GDB or a mild negative one.

In the following section, we describe the steps taken to develop and validate our new self-reported general scale of GDB.

3.8 Method

To develop and validate a general scale of GDB we followed Hinkin's (1995, 1998) framework for scale development, which is still considered to be a good standard for developing scales that aim at measuring behaviors in organizations (e.g., Djurdjevic et al., 2017). Figure 2 illustrates the three stages and the steps followed in this study. In the first stage (step 1) a pool of items was generated. In the second stage (steps 2, 3 and 4) the scale was developed through the rewording and elimination of items. In the third and final stage (steps 5, 6 and 7) the goodness of model fit was assessed, and the psychometric properties of the scale were evaluated.

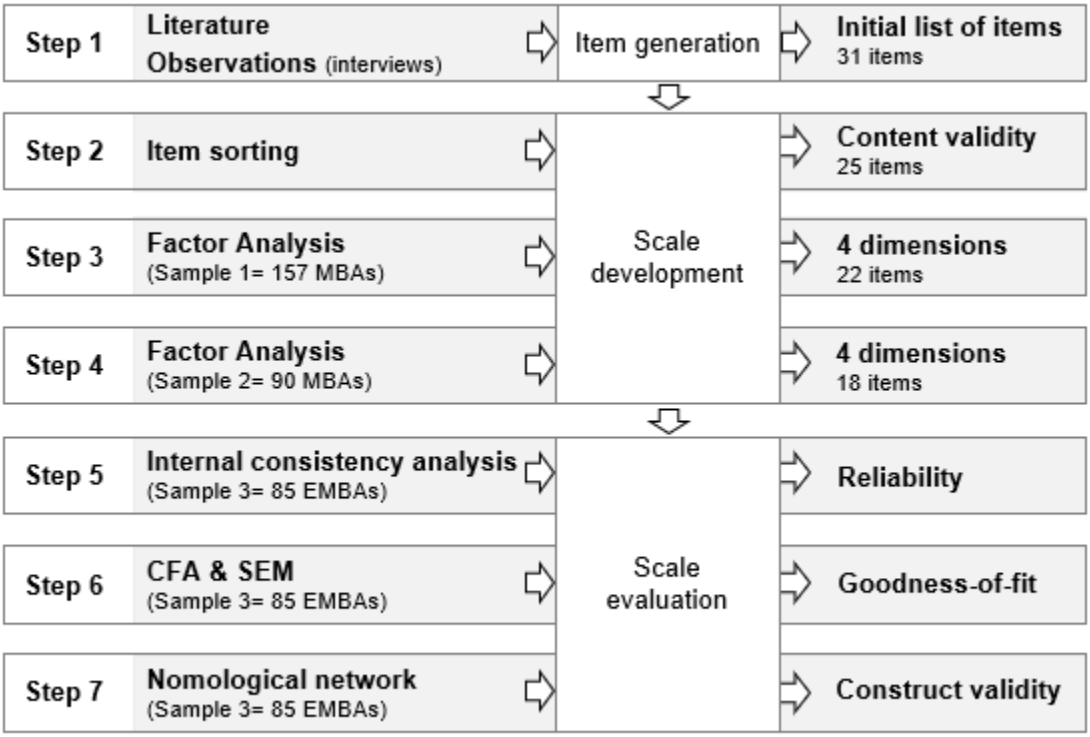


Figure 2*. Stages followed to develop the general scale of GDB*

The scale was developed and evaluated with data from participants of a leadership development program in a leading European business school. The program was designed around Intentional Change Theory (Boyatzis, 2006, 2008), which holds that personal change

is more likely to occur if the change process is anchored in one's vision, hopes and aspirations (as opposed to just focusing on the weaknesses that need fixing). Participants were therefore encouraged to first describe their career and personal aspirations before receiving and interpreting their 360-feedback. As a result of this process, development plans tend to integrate a greater variety of goals and action plans (e.g., some related to the development of competencies and some more aspirational in nature). This vision-based approach makes participants be more open to new ideas and experimentation (Boyatzis, 2008; Passarelli, 2015; Mosteo, Batista-Foguet, Mckeever, & Serlavós, 2015) and consequently they are likely to display a greater variety of goal-directed behaviors soon after goals are set. This program therefore makes it an ideal context for the development and validation of our scale.

3.8.1 Step 1: Item Generation

A pool of 31 items was generated to assess GDB, ensuring that the items covered each of the four dimensions of the construct. We foresaw a final retention of four to six items per scale dimension and therefore proposed that approximately double the number of items be initially generated (Hinkin, 1998). Given that the scale is a self-report instrument, the items reflected the individual's self-perception of the behaviors enacted to achieve the goals.

Sharing Information. To measure the first of the theoretically-derived dimensions, a list of six items was generated (e.g., *I have explained my goals to…* and *I have shared my degree of plan implementation with…*). All the items were to be evaluated on a 5-point response scale ranging from 1 = only my coach to 5 = more than 3 people

Seeking Information. To assess this second dimension, also deduced from theory, a list of an additional 11 items was created (e.g., *I have sought further information to help me better define my action plan* and *I have asked for advice regarding my feedback).* All the items were to be evaluated on a 5-point Likert scale (from 1 = strongly disagree to 5 = strongly agree).

Revising the plan. Six items were created to measure this dimension, the only one inductively deduced from direct observations. Items such as *I have adapted my plan based on the information received* and *My plan after three months was different than my original plan* were added to the list, all to be evaluated on the same 5-point Likert scale.

Enacting the plan. To complete the initial pull of items, a set of 12 items were generated to tap this last dimension of GDB (e.g., *I am putting the plans into practice*, and *I am progressing toward attaining my goals*). All items were also to be evaluated on the same 5-point Likert scale. We then screened the items to improve the wordings and eliminate redundancy. The number of items for the next development step was kept to 31.

3.8.2 Step 2: Face and Content Validity: Initial Item Reduction

Face and content validity refer to the adequacy with which a measure assesses the construct of interest (DeVellis, 2012). First, practitioners corroborated that all items had adequate face validity, and next we followed the more structured and rigorous approach for testing content validity (DeVellis, 2012). To this end, the 31 items were analyzed and sorted following the proportion of substantive agreement (Anderson & Gerbing, 1991). Seven raters (four subject-matter experts and three PhD students from related research fields) were asked to sort the items into categories based on the dimension of the GDB construct that the items seemed to describe. The raters provided a description for each category and assessed how relevant each item was to its intended dimension (high, moderate or low). Items that were consistently rated as highly relevant to the same dimension were kept. Items that were inconsistently classified as tapping different dimensions, and items whose relevance to the dimension was assessed as low or moderate, were reworded (as suggested by the subject-matter experts) or eliminated.

During this process of content validation, the inconsistent classification of the items that described discussing information led to a rewording of the items. The new wording made the intention of the goal-directed behavior clearer: the intention being either that of sharing information (to discuss just to share one's intentions with others) or that of seeking information (to discuss in order to receive feedback). Some inconsistencies in the classification of some other items between the categories *Seeking Information* and *Revising the Plan* also led to additional rewording and item reduction. This process of content validation led to a preliminary GDB scale consisting of 25 items tapping the four domains of our GDB construct. The scaling was left as originally proposed

3.8.3 Step 3: Further Item Reduction (Study 1)

The purpose of Study 1 was to create a more parsimonious scale by further reducing the number of items based on the questionnaire's psychometric properties, while maximizing internal

consistency (reliabilities) among items (Hinkin, 1998). We also continued to explore the dimensional structure of the construct's measurement instrument.

Sample 1. Study 1 targeted 355 international MBA students at a leading European business school, 157 of whom responded to the survey (44% response rate). The sample comprised 35 nationalities, the gender split was 64% men and 36% women, the mean age was 29.15 (SD=3.06), and the mean work experience was 5.8 years (SD=3.08). A sample size of 157 is sufficient to obtain an accurate solution in an EFA if loadings are reasonably high (Guadagnoli & Velicer, 1988), which it was in our case[4]. Using a sample that is not from our target population is less critical at this exploratory stage of scale development. However, we chose a sample of very similar characteristics: the MBA students had some years of professional experience and had just completed a leadership development program a few months before the survey was sent to them, a program that also included multisource feedback as a base for their development plan.

Questionnaire administration. A survey with the 25 items of the preliminary GDB scale was delivered via Qualtrics® software. The items were randomly mixed to diminish the threat of systematic measurement error due to similar items appearing sequentially in the survey. This randomization was done for all items except for the ones related to *Sharing Information*, as these had a different response scale that necessitated their appearing together. The questionnaire was preceded by the following instruction:

> *Think of a time when you set some personal goals and defined the corresponding action plans, ideally at the end of a development or training program. For each item of this section, please assess the degree to which you showed the following behaviors during the first 3 months after setting your goals and plans*.

Data analysis. Our initial assumption was that all items for each sub-scale were reflective. We therefore expected to find high inter-item correlations and all items to load onto one dimension for each sub-scale. Items within the same sub-scale with low inter-item correlations were plotted to check for outliers. A few outliers were detected, but they concerned only the response to one item (i.e., the individuals had clearly misunderstood the item and assessed it with an inconsistent answer). These values were recalculated using the SPSS EM maximum likelihood method (Cuesta & Fontseca, 2014).

To verify the underlying factor structure of the preliminary scale, we conducted for each sub-scale a factor analysis using maximum likelihood as the estimation criterion, and forcing the number of factors to one. We retained the items that loaded strongly onto the latent factor. We examined the nature of the items that did not meet these requirements to verify whether they were formative as opposed to reflective (i.e., tapping a new dimension within the sub-scale). Reflective items with poor loadings (less than .500) were either reworded or deleted. The elimination of three such items improved not only the parsimony of the scale but also its reliability, as the number of items was sufficiently high (Hinkin, 1998). We also verified that the total variance (of the items for each sub-scale) accounted for by the single factor exceeded the minimum 60% recommended value (Hinkin, 1998). Finally, realizing that the variability of the data was low, a shift from a 5- to a 7-point scale was adopted for all 22 remaining items of the GDB scale.

3.8.4 Step 4: Second EFA and final GDB scale (Study 2)

The purpose of Study 2 was to explore how to minimize the number of items while maintaining good psychometric properties of the scale.

Sample 2. For this second EFA we targeted 185 new international MBA students at the same leading European business school. Ninety of them responded to the survey (48% response rate). The sample comprised 32 nationalities, the gender split was 75% men and 25% women, the mean age was 29.8 (SD=2.60), and the mean work experience was 5.8 years (SD=2.33).

Sharing Information. Loadings for the five items continued to be above .80, and the sub-scale showed an α coefficient of .94. The variance explained by one factor was 75.3%. Given these results, all five items were kept for the final GDB scale.

Seeking Information. The answers to one item (*I sought further clarification on the feedback I received*) lacked consistency with respect to the rest[5]. Without it, psychometric properties improved: variance explained by one factor increased to 51.9%, while the α coefficient stayed at .80 despite having one item less. In view of these results, the item was excluded from the final GDB scale.

Revising the Plan. Two items out of seven showed poor loadings onto the latent factor. Their wording revealed that the items were tapping a slightly different domain which was not considered especially relevant. Hence, to keep the scale unidimensional and parsimonious, both items were eliminated. A third item (*my plan after three months was different than my original plan*), although reflective, was also eliminated. We attributed its lower loading to the item's specificity: the reference to a limited period of time that was unique among all five items. As a result, the scale for *Revising the Plan* was reduced to four items, the variance explained by one factor increased from 50% to 66% and the α coefficient remained high at .88.

Enacting the Plan. Loadings for all five items surpassed .71, variance explained by one factor was 62.1% and the sub-scale showed an α coefficient of .89. In view of these results, all five items were kept for the final GDB scale.

Results corroborated the reflective nature of all items and the unidimentionality of the subscales. An EFA (using maximum likelihood estimation criterion, promax rotation, and forcing the number of factors to four) provided more evidence for the four-factor model. All items but one loaded significantly higher on the latent factor that they were supposed to measure (with values above .73) than on the other factors of the scale. The exception was one item from *Sharing Information* that loaded slightly higher on *Enacting the Plan.* We did not attribute this cross loading to the latent factor but to the fact that the item shared a wording specificity with one item of *Enacting the Plan* (which we later confirmed in the CFA[6]). Consequently, the item was kept and a final 18-item, 4-dimensional GDB scale was proposed (Table 1) for final validation (last three steps of the process).

3.8.5 Step 5. Reliability and Average Variance Extracted (Study 3)

The purpose of Study 3 was to evaluate the GDB scale by re-assessing its psychometric properties and establishing construct validity for each of the dimensions underlying the questionnaire.

Sample 3. This last study targeted students from four cohorts of the Executive MBA program from the same leading European business school as the previous samples. Executive MBA participants took the full version of the leadership development program which included several seminars and vision-based coaching sessions to assist participants in each phase of their personal change process. As previously stated, this was the ideal context for the final

evaluation and validation of our scale. The study targeted 170 students, 86 of whom completed the survey (51% response rate). The gender split was 72% men and 28% women, the mean age was 35.2 (SD=4.52), the mean work experience was 10.2 years (SD=4.23) and 12 nationalities were represented (81% from Spain).

Extended questionnaire. For construct validation purposes, the survey included the scales of the constructs from the nomological network of goal attainment, whose conceptual relationship with our GDB construct we hypothesized in the theoretical section of the paper. The survey also collected biographical data through close-ended questions.

Table 1. *General scale of Goal-Directed Behaviors*

Sub-scale	Item
Sharing Information	1. I shared my degree of plan implementation with…
	2. I shared relevant information about my goals and plan with…
	3. I explained my goals to…
	4. I talked about my plan to reach my goals with…
	5. I gave details of my plan to…
Seeking Information	6. I sought further information that is relevant for my plan
	7. I sought feedback from others about my goal intentions
	8. I asked for people's comments about my plan
	9. I looked for feedback about the initial steps that I have taken
Revising the Plan	10. I modified the action plan to better achieve my goals
	11. I redefined the strategy to attain my goals
	12. I adapted my plan based on the information obtained
	13. I modified the plan using the information that I acquired
Enacting the Plan	14. I took steps towards implementing my plan
	15. I made decisions that were congruent with my goal intentions
	16. Putting the actions into practice helped me advance towards my goals
	17. I progressed towards my goals
	18. I started to implement some of the actions in my plan

Note. All items measured on a 7-point response scale.
Sharing Intentions: 1=nobody or only my coach / 2=one person /… / 7=more than five people.
Rest of sub-scales: 1=strongly disagree / 2=disagree / 3=somewhat disgree /
4=neither agree nor disagree / 5=somewhat agree / 6=agree / 7=strongly agree.

Data analysis. In a first exploratory stage, several outliers concerning the response of one item were detected and their values imputed. One individual appeared as a persistent outlier in most of the plots and was therefore excluded from the analysis, reducing the sample size to 85 individuals.

Reliability and Average Variance Extracted. All four subscales measuring GDB were found to be unidimensional and composed of reflective items. Internal consistency reliabilities were therefore assessed with Cronbach's alpha, and with Heise & Bohrnstedt's omega coefficients, the latter of which is recommended when items are not Tau-equivalent (Deng & Chan, 2017), as is clearly the case in *Seeking Information.* Average Variance Extracted (AVE; i.e., average communalities extracted per subscale) was also calculated. Results revealed good psychometric properties for all of the subscales (Table 2).

Table 2. *AVE, Cronbach's alpha and Omega of the four GDB sub-scales*

	AVE	(α)	(Ω)
Sharing Information	77.4%	.94	.90
Seeking Information	61.7%	.86	.78
Revising the Plan	64.1%	.87	.80
Enacting the Plan	55.1%	.86	.78

3.8.6 Step 6. Goodness-of-fit (Study 3)

First, to evaluate the goodness-of-fit of our measurement model (Figure 4), a CFA was performed to verify the measurement quality of the factor structure, and to provide first evidence of construct validity of the new GDB scale (Jöreskog, 1969). All CFA loadings of the indicators related to each factor were well above .70 (>.84 for Sharing Information; >.72 for Seeking Information; >.75 for Revising the Plan, and >.70 for Enacting the plan). Details are provided in Table 3.

Table 3. *CFA Measurement Model. Loading estimates*

		Factor			
		1	2	3	4
Information Sharing	Item 1	.840			
	Item 2	.897			
	Item 3	.931			
	Item 4	.959			
	Item 5	.901			
Information Seeking	Item 6		.716		
	Item 7		.787		
	Item 8		.837		
	Item 9		.828		
Revising the Plan	Item 10			.885	
	Item 11			.824	
	Item 12			.746	
	Item 13			.785	
Enacting the Plan	Item 14				.693
	Item 15				.712
	Item 16				.872
	Item 17				.838
	Item 18				.802

Note. Completely standardized solution

Conclusions from CFA results cannot be drawn without assessing the goodness-of-fit of the model first. Despite not having a large sample size, the high loadings revealed by the CFA rendered enough power to the goodness-of-fit test (Saris, Satorra, & Van der Veld, 2009), and thus allowed us to confidently interpret the test results.

CFA using the data from Sample 3 resulted in good global fit indices (Figure 3). All global indices, such as the χ^2/df ratio, Root Mean Square Error of Approximation (RMSEA), Square Root Mean Residual (SRMR), and Comparative Fit Index (CFI) were above the usual thresholds (Hu & Bentler, 1999).

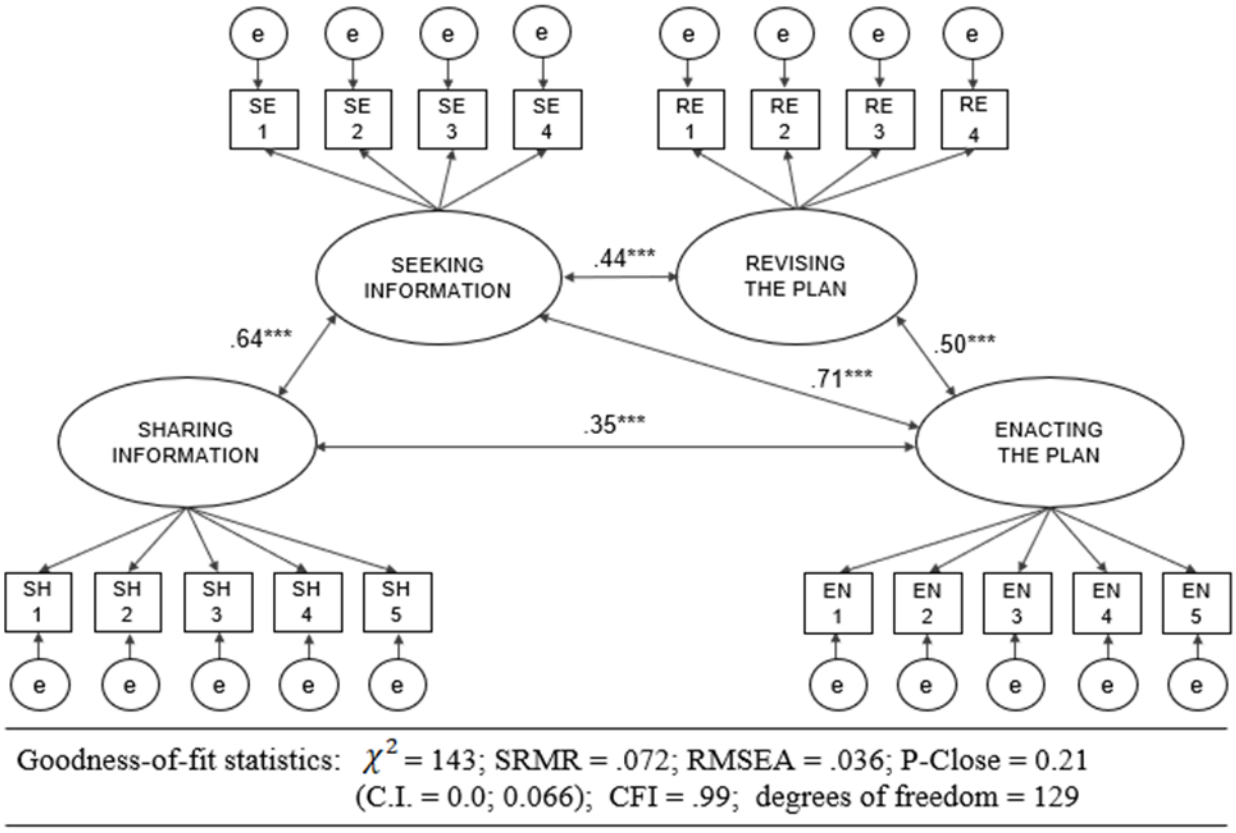


Figure 3. *Model of GDB and CFA statistics. Correlations between the four dimensions of the scales and goodness of fit statistics*

Bi-variate correlations[7] among the four dimensions were found to be highly significant (Table 4) for the five relationships hypothesized. Correlation between *Sharing Information* and *Revising the Plan* was non-significant, as predicted in our model. In conclusion, results from the CFA support the 4-factor structure of our model and provide first evidence of construct validity by clearly discriminating the four dimensions within the GDB construct.

Table 4. *Descriptive and Zero Order Correlations for Sample 3*

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Information Sharing	3.66	1.80														
2. Information Seeking	4.53	1.29	.548***													
3. Revising the Plan	4.54	1.35	.200*	.407***												
4. Implementing the Plan	5.62	.68	.338***	.591***	.388***											
5. Goal Commitment	4.08	.72	.319***	.543***	.205*	.505***										
6. Learning Goal Orientation	4.54	.39	.288***	.334***	.268**	.318***	.309***									
7. Proving - PGO	3.37	.67	.015	.100	.144	.024	.122	.014								
8. Avoiding - PGO	2.41	.74	-.119	-.174	.016	-.281***	-.151	-.385***	.253**							
9. Self-efficacy	4.10	.45	.169	.224**	.147	.272**	.144	.448***	.141	-.209*						
10. Empathic Concern	3.76	.54	.020	.132	-.023	-.073	.071	.055	-.035	-.054	-.125					
11. Career Satisfaction	3.59	.82	.152	.233**	.020	.211*	.148	.006	-.006	-.041	.064	-.115				
12. Gender	.27	.45	-.032	.090	-.070	-.162	-.019	.040	.194	.121	-.138	.115	-.004			
13. Age	35.20	4.52	-.085	-.071	.181*	.002	.005	.079	-.145	.109	-.084	-.053	.021	-.068		
14. Tenure	10.18	4.23	-.087	-.045	.079	.002	.014	.083	-.180*	-.144	-.002	.013	.055	-.013	.793***	

Note. N = 85 Gender was coded as 1 (female) and 0 (male) * p < .10 ** p < .05 *** p < .01
PGO: Performance Goal Orientation

3.8.7 Step 7. Convergent and Discriminant Validity (Study 3)

To gather further evidence of construct validity we assessed convergent and discriminant validity, by testing the conceptual relationships between the newly developed GDB scale and the six proposed measures from the nomological network of goal attainment: goal commitment, self-efficacy, learning goal orientation (LGO), proving performance goal orientation (PPGO), avoiding performance goal orientation (APGO), and empathic concern. Bivariate correlations between constructs are presented in Table 4.

Convergent validity. As predicted, we found evidence of the positive association between some dimensions of GDB and Goal Commitment, LGO and Self-efficacy, and of the negative association between some dimensions of GDB and Avoiding-PO.

Bivariate correlations between Goal Commitment and GDB were positive and highly significant for three of the scale dimensions: *Sharing Information* (r=.32), *Seeking Information* (r=.54), and *Enacting the Plan* (r=.51). LGO was also positively correlated with *Sharing Information* (r=.23), *Seeking Information* (r=.33) and *Enacting the Plan* (r=.32). Also, as expected, General Self-Efficacy positively correlated with *Seeking Information* (r=0.22) and *Enacting the Plan* (r=.27). Altogether, these results supported the convergent validity of our scale. Regarding Avoiding-PGO, bivariate correlations with our GDB dimensions were negative and significant for Enacting the Plan (r= -.28), and negative but not significant for the other GDB dimensions. Construct validity, in this case, was partially supported.

Discriminant validity. Discriminant validity of the GDB scale was assessed firstly by finding evidence of the lack of correlation between GDB and two constructs in the nomological network that we predicted to be unrelated to goal attainment, Proving-PGO and Empathic Concern. As expected, none of the bivariate correlations (Table 4) between either of the two constructs and the four dimensions of the GDB were significant, thus supporting the discriminant validity of our scale.

Additionally, the assessment using the Fornell-Larcker criterion also supported the discriminant validity of the GDB scale in relation with the related constructs of Goal Commitment, Self-efficacy, and LGO. In our case, the AVE value of each GDB subscale exceeded the squared correlations between the GDB subscale and the related constructs (more than double in all cases).

3.9 General discussion

Business schools, through their executive education programs, are increasingly attending their participants' needs to embark on a personal or professional transition (Russon & Reinelt, 2004; Kets De Vries & Korotov, 2007). Although leadership development programs encourage participants to establish a personal development plan, schools seldom know if participants actually meet their goals and succeed in realizing the intentional change process. Goal attainment is considered a key indicator of the impact that leadership development programs have on their participants (Toegel & Conger, 2003; Yammarino, 1993), but its measurement constitutes a real challenge since goals vary greatly in nature, and years may elapse before goals are fully achieved.

Although we can find measures of goal attainment in the context of leadership development programs, such as a second 360-feedback, self-reported scales on specific competencies (e.g., Black & Earnest, 2009) and the Goal Attainment Scale (Spence, 2007), none overcome both challenges of being able to measure progress toward multiple goals of different nature, and being able to do it early enough to make data collection feasible.

In this study, we sought to overcome both challenges and contribute to the literature on leadership development with a general scale of GDB, which measures four distinct general behaviors that are instrumental to goal attainment, and that can be applied as early as a few months after goals are set. Those who succeed in achieving their goals are more likely to (1) share their goal and plan intentions with more people, (2) engage in the search for information or better strategies to achieve their goals, (3) improve or adapt the plan associated with the goals, based on the information obtained, and (4) start implementing the actions of the plan.

The application of the scale to our target population (85 professionals who participated in a leadership development program in executive education) evinced the advantages of this new measurement instrument. First, we were able to collect data three months after individuals had set their goals, a time that coincided with the end of the Executive MBA program and therefore led to a response rate as high as 51%. Second, the scale captures four general behaviors that manifest when individuals engage in their change process, regardless of the number or nature of the goals and action plans that participants establish. Therefore, measuring goal progress three months after goals are set seems to be early enough to facilitate data

collection, but it is late enough for individuals to be less biased by the honeymoon effect of the training.

3.9.1 *Contribution*

The development of our general scale of GDB has both theoretical and practical implications. First, we fill a gap in the leadership development literature (Hooijberg & Lane, 2009) by providing a proximal measure of goal attainment developed to assesses the short-term impact of leadership development programs. Most specifically, the new scale is most indicated to assess programs designed around Intentional Change Theory (ICT) (Boyatzis, 2006, 2008) as it captures the degree of engagement in goal pursuit through some general goal-directed behaviors that such vision-based coaching programs seek to promote. Since coaches assist their clients with the definition of their personal vision, goals are more likely to be set in a context of a long-term aspiration, and the change process is more likely to induce the positive emotions required to sustain goal striving (Boyatzis, 2006, 2008; Passarelli, 2015; Howard, 2015). Such conversations with the coach leading to the articulation of a well-defined vision may facilitate similar conversations with people other than the coach and therefore promote *sharing information* with others, which is the first behavior captured by the scale. Additionally, positive emotions activate a psychophysiological state that makes individuals cognitively more open to exploring new ideas and experiences (Fredrickson, 2001; Passarelli, 2015; Boyatzis, Rochford, & Taylor, 2015). Consequently, the ICT process is also likely to facilitate behaviors such as *seeking information* on how to better attain the goals, *revising the plans* if needed and eventually taking the first steps to experiment, (i.e., *enacting the plan*), behaviors that are also measured by the scale.

Second, the study also contributes to goal setting theory as all hypotheses regarding the relationships among scale dimensions were supported. Results add to the already mounting evidence of the benefits of making goal intentions public (Hollenbeck, Williams, et al, 1989; Epton et al., 2017), and the benefits of seeking information relevant to the goals (Locke & Latham, 1990, 2002; Latham, 2004, Seijts & Latham, 2005; Harkin et al., 2016). Both behaviors (and revising the plan) were all shown to be positively correlated with enacting the plan, and hence all likely to positively influence progress toward the goals.

The possibility of data collection as early as a few months after goals are set also has implications for practice. By means of our GDB scale, institutions (e.g., business schools and universities) will be able to easily measure the degree to which leadership development programs help their participants engage in their personal change process. With this information, institutions may be able to assess the impact of their programs by comparing the average GDB among cohorts and analyze if this average improves overtime as a result of the program upgrades or interventions (such as improving the goal-setting process or the coaching process). These institutions may also use this information to externally promote their leadership development programs among future potential participants.

Finally, executive coaches may put more emphasis on prompting their coachees to engage in each of the four GDB by, for example, the articulation of these behaviors in their action plan. Coachees could also be encouraged to reflect on their self-assessed GDB as a self-regulatory strategy, which is likely to motivate corrective actions that help with progress toward the goals.

3.9.2 *Limitations*

This study has some limitations. First, the general scale of GDB is a self-reported scale, and therefore its assessment is susceptible to being biased by social desirability, which may pose a threat to construct validity. We consciously did not control for social desirability in the survey. Long questionnaires produce respondent fatigue and carelessness (Hinkin, 1995), and increase the likelihood that participants drop the survey before completion. For this reason, beside the items of the GDB scale, we chose to include only the most relevant constructs for testing convergent and discriminant validity. However, this threat was minimized by the fact that the answers to the study were not linked to any program results, and that the surveys were anonymous.

Second, the new scale operationalizes GDB by measuring the individual's self-perception of the construct. This constitutes a threat to construct validity due to mono-operation (Shadish, Cook, & Cambell, 2002). External and more objective measures of GDB (e.g., ratings by others) would provide further evidence of convergent validity. In addition, using the same method (i.e., also self-reports) to operationalize the rest of the constructs could generate common-method bias. Despite these threats, empirical correlations (positive, negative

and no correlations) strongly matched the associations between constructs that the theory predicted.

Third, no test for criterion validity was performed. Since GDB is conceptualized as a proximal measure of goal attainment, a longitudinal study should ideally be conducted to test the extent to which the measure predicts goal attainment, thus assessing the predictive validity of the construct.

The relatively small sample (90 individuals in Sample 2, 85 in Sample 3) can be a threat to the statistical conclusions validity of the study. Sample size for EFA is recommended to be in an item-to-response ratio of at least 1:4 (Rummel, 1970), or around 150 as long as correlations among items within each dimension are sufficiently strong (Guadagnoli & Velicer, 1988), which turned out to be the case for our GDB scale. In addition, the high loadings (all above .70) rendered high power to the tests of goodness-of-fit (Guadagnoli & Velicer, 1988), and thus helped to diminish this threat.

Finally, this scale has been developed and validated in a context where goals are self-set and typically concern the development of leadership competencies or more general career or life aspirations. In such a context, behaviors such as sharing information, seeking information and revising the plan appear to be highly relevant to goal attainment. The generalizability of the scale to contexts that do not fulfill such conditions is therefore questionable.

3.9.3 Directions for future research

The general scale of GDB broadens the opportunities for research in goal-striving contexts where goals vary greatly among individuals. For example, as the new GDB scale is most appropriate for measuring the impact of leadership development programs in executive education, it may allow further validation of some of the central tenets of Intentional Change Theory through the use of our GDB scale to compare the impact of coaching to vision with that of coaching for improvement needs (see Howard, 2015).

Regarding research on the scale itself, future research should address the criterion validity by assessing, through longitudinal studies, the predictive power of GDB on measures of goal attainment (e.g., self-reported assessment or second multisource feedback). The scale

of GDB has laid the first stone for building a predictive model of goal attainment (by including constructs that would further explain the variance in goal attainment). Further research should also aim at discovering possible underlying causal processes among the four dimensions, which would render explanatory power to the model (Sutton, 1998). As a first step we suggest exploring the effect that goal commitment might have on the predictive and explanatory power of the model. We would expect that goal commitment is likely to at least partially explain the positive relationship between Sharing Information and the two dimensions of GDB with which it correlates. We would also expect some behaviors to occur in a certain temporal sequence, as *Revising the Plan* seems to function as a partial mediator between *Seeking Information* and *Enacting the Plan*. Further research should therefore seek to further understand a possible temporal sequence among the dimensions within the model, as this would be valuable information for guiding executives on the steps to follow.

Goals and action plans in leadership development programs led by business organizations (as opposed to business schools) are usually more straitjacketed: goals and action plans are typically work-related and shared by the boss or other managerial functions. Testing the scale of GDB in such contexts would contribute to the assessment of its external validity.

Future research should also examine how the structure of goals and action plans relates to each of the GDB. Findings from such research could have practical implications since they could serve as guidance for practitioners to improve the goal-setting process. This could open the door to studies using quasi-experimental designs where an intervention (e.g., coaches encouraging participants to plan their intentions to enact each of the four GDB) could be applied to an experimental group, to then determine the significance and the size of the effect on GDB with regards to the control group.

In conclusion, the general scale of GDB generates opportunities for future research in the field of leadership development, research that should help academics and practitioners in their quest for making these leadership development programs more effective, and for better guiding their participants to fulfill their personal and professional aspirations.

Endnotes

1. The term leadership development is used throughout the article as a generic term for leader and leadership development.
2. A specific code was developed to assess goal nature. Goals were assessed by two expert coders, yielding an interrater reliability of 88%
3. The literature review comprised 86 articles (25 conceptual and 61 empirical), published in Management and Psychology journals with impact factor > 1, and covering 25 years of academic research.
4. Only one item had a low loading, and thus was a candidate for elimination. Four items had loadings above .40, and all the rest had items well above .60.
5. The fact that the leadership program already offers a coaching session to clarify feedback may lead to diverse interpretations of this item.
6. The EFA had mistakenly shown a cross-loading because such an exploratory approach does not allow measurement errors from different items to correlate. CFA results confirmed that it was due to item 6 and item 14 (Table 1) sharing a specific wording. Allowing their respective specificities to correlate, this cross-loading no longer appears with the data from Sample 3.
7. All input data not reported in the article are available on request from the first author of the paper.

4

4. Smarter than SMART: Making goal setting in leadership development programs more effective

4.1 Abstract

Leadership development programs increasingly aim at having a longer-term impact and often promote not only the development of specific competencies but also future professional and personal change. Therefore, goals that participants set at the end of these programs vary greatly in number, nature, and timeframe. Unfortunately, progress toward goals does not always occur. Based on goals and action plans written by 116 managers in an executive program, we conducted mixed methods research with the aim of discovering how to make goal setting more effective. Using thematic analysis, we developed a code that assesses goal-setting quality, and that explains 42% of the variance in progress toward the goals. Goal setting is effective when it is vision specific, there is a narrative effort and it reflects intentions to know and to act. These findings explain some counter-theoretical results (e.g., a negative effect of goal parsimony and the irrelevance of goal proximity) and provide practical guidance for making goal setting in leadership development programs more effective than the usual list of SMART goals.

Keywords: Goal setting, goal-directed behaviors, mixed methods research, thematic analysis, leadership development.

4.2 Introduction

Leadership development programs are mainly designed to develop the intrapersonal and interpersonal competencies of managers, so that they can improve their performance and lead their organizations more effectively (Day, 2001). These programs often start with the assessment of such competencies, (e.g., self-awareness, empathy and conflict management), which participants then use as the basis for establishing improvement goals and the plans to achieve them (Brett & Atwater, 2001).

However, obtaining short-term outcomes, such as changes in knowledge, behaviors, or competencies, is not the only focus of these programs. Many of them also place emphasis on having a longer-term impact on their participants, by trying to promote future professional, social or personal change (Kets de Vries & Korotov, 2007; Russon & Reinelt, 2004). The degree to which participants attain their goals after completing the leadership development program is thus considered a key measure of program effectiveness (Toegel & Conger, 2003). Research shows, however, that these programs are not equally effective for everyone (Atwater, Waldman, & Brett, 2002; Smither, London, & Reilly, 2005), i.e., some individuals are successful in achieving their intended change, while others fail to implement their plans and scarcely progress toward their goals. The purpose of this research was to discover how these programs can be more effective in helping individuals engage in their goal pursuit. To this end we focused on the goal-setting process and addressed the following research question: *how can we assess goal-setting effectiveness in the context of leadership development programs?*

Goal setting is a keystone in the journey of intentional change that individuals embark on at the end of a leadership development program (Boyatzis, 2008), as conscious self-set goals facilitate goal attainment (Kolb & Boyatzis, 1970; Latham, 2004). The journey is anything but smooth, as progress requires perseverance, effort and resilience in the face of adversity (Latham, 2004; Locke & Latham, 1990). Additionally, self-set goals can also vary a lot among participants. While some individuals may choose to set short-term goals, such as those of improving a leadership competency (e.g., *to improve my communication skills*), others may focus on longer-term goals, more aspirational in nature, such as a career advancement or a life project (e.g., *to become general manager of a mid-size company*). And such a variety of goals among people leads to a disparity of action plans.

An analysis of goals and action plans written by a cohort of executive managers from a leading business school in Europe provided compelling evidence that this is the case. One manager set nine goals, which included: *to get promoted to an executive position in the company*, *to increase my visibility to the Board*, and *to learn how to delegate*, but she failed to design an action plan to achieve them. Another manager, having only written one goal (*to do networking with multinational companies in the financial market*), proceeded with a detailed plan involving eight actions (e.g., *to rewrite my CV*, and *to attend two events every week to do networking*).

Hundreds of empirical research studies in goal setting and goal striving have accumulated over the last four decades. Testing the unique effects of goal setting on behavioral change lends itself to the use of quasi-experimental designs (intervention and control conditions) and consequently studies have mainly focused on how a particular goal-setting condition influences a selected behavior (Epton, Currie, & Armitage, 2017). This is also the case for studies conducted in the context of leadership development; for example, one that measures the effect of establishing a goal or remembering it on competency development (Leonard, 2008), or one that examines how the number of competencies for which improvement goals are set influence perceived behavioral change (Johnson, Garrison, Hernez-Broome, Fleenor, & Steed, 2012).

While laboratory and field experiments are research designs with high potential internal validity, they lack the contextual realism of the field, and thus limit their external validity (Scandura & Williams, 2000). Triangulation of research methods (qualitative and quantitative) to examine a topic results in more robust and generalizable findings and is therefore recommended for management research to move forward (Scandura & Williams, 2000, Conger 1998). Specifically in the field of leadership, many academics acknowledge the need for more qualitative studies and advocate for an increase in the use of mixed-methods research to advance theoretical thinking and develop contextualized understandings of existing complex phenomena (Conger, 1998; Cresswell & Plano Clark, 2011; Stentz, Plano Clark, & Matkin 2012). In view of the above, the study of goal setting as it naturally originates in leadership development programs constituted an ideal opportunity to use mixed methods and to contribute to the goal-setting literature by developing a richer understanding of goal-setting effectiveness in a more realistic context.

Following an exploratory sequential design (Stentz, Plano Clark, & Matkin, 2012) we used thematic analysis (Boyatzis, 1998) to develop and validate a code for assessing the quality of goals and action plans (AGA code). The code first allows the assessment of qualitative information (i.e., goal statements and action plans) by identifying themes, and then transforms these themes into quantitative data, which can then be subject to statistical analysis (Insch, Moore, & Murphy, 1997; Boyatzis, 1998). The AGA code was developed and validated based on the goals and action plans written by 116 managers taking part in an executive leadership program at a leading European business school. Results from the study show that goal-setting quality stems from only six goal-setting characteristics but that these are found to explain as much as 42% of the variance in goal-directed behaviors, an indicator of goal progress (Velasco, Batista-Foguet, & Emmerling, 2019) measured three months after program completion.

In the initial section of the article we present the theoretical framework which relates to goal setting theory (e.g., Harkin et al., 2016; Locke & Latham, 2013) and Intentional Change Theory (ICT) (Boyatzis, 2006, 2008), and from which we derive the relevant categories to be considered in the AGA code. In the method section we describe how the code was developed and validated. Initial results from the theory-driven code seemed to contradict well-established tenets in goal setting theory. Few goals, contrary to what theory predicts (VandeWalle, Cron, & Slocum, 2001; Dalton & Spiller, 2012), appeared to have a negative correlation with goal progress, and goal proximity (Bandura & Shunk, 1981; Latham & Seijts, 1999) showed no correlation at all. Further (inductive) analysis shed light on these apparent paradoxes by providing theoretical justification and clarifying the rationale behind them. Goal setting appears to be most effective when it is vision specific (i.e., goals emanate from a long-term specific vision), there is a narrative effort (multiple, well-interconnected goals), and the action plans reflect intentions to know and intentions to act.

Besides theoretical contributions in the fields of goal setting and intentional change, this study has immediate practical implications. As actionable research (Ireland, 2012), teachers and coaches of leadership development programs can use the results of this study to foster critical thinking during the goal-setting process and go beyond the universally accepted prescription of writing SMART goals (Doran, 1981). This should help leaders write more effective goals and action plans, and ultimately facilitate the pursuit of their personal and professional aspirations.

4.3 Theoretical framework for code development

Before starting to develop a code that allows us to assess goal-setting quality, an appropriate criterion variable needed to be selected that would enable us to discriminate the most effective from the least effective goal setting. A logical candidate for a good criterion variable would be a measure of goal attainment, i.e., the degree to which individuals achieve the goals they set after program completion. In fact, research in leadership development programs has indeed used goal attainment as a key indicator of program success (Toegel & Conger, 2003; Yammarino, 1993). However, since goals vary greatly in nature, measurement constitutes a challenge as years may elapse for goals to be achieved and data collection becomes more problematic as time goes by.

4.3.1 Criterion Variable: Goal-Directed Behaviors

To make data collection more feasible in this study, we chose a general scale of goal-directed behaviors (GDB) as our criterion variable, a scale that was specially developed to measure progress toward the goals in the context of leadership development programs (Velasco et al., 2019). The general scale of GDB can be applied as early as a few months after program completion and measures the enactment of four behaviors that are found to facilitate goal attainment: (1) sharing goal intentions and action plans with others, (2) seeking information or better strategies to achieve the goals, (3) revising or adapting the plans based on the information obtained, and (4) starting to implement the action plan.

The general GDB scale is thus an aggregate construct (Law, Wong, & Mobley, 1998) formed by the four dimensions (i.e., *sharing information, seeking information, revising the plan, enacting the plan*), each being unidimensional and composed of reflective items. The construct has good psychometric properties (Cronbach's α are respectively .94, .86, .87, and .86) and good construct validity (Velasco et al, 2019), and being an indicator of goal progress (a necessary antecedent of goal attainment), it constituted a good criterion variable for the development of our code.

4.3.2 Indicators of goal-setting quality

Since the code was initially generated from the theories that drive research (Boyatzis, 1998; DeCuir-Gunby, Marshall, & McCulloch, 2011), we first reviewed the literature on goal setting and intentional change to search for relevant indicators of goal-setting quality, which for this

study we define as the characteristics of goals and action plans that lead to higher GDB. We selected indicators that fulfilled two conditions. First, that the literature provides consistent evidence of them influencing goal progress or goal attainment. Second, that assessing the indicator in a goal or action statement does not require too much subjectivity or interpretation on behalf of the coders. This would prevent coders reaching an acceptable consistency of judgment and therefore the code would cease to be reliable for predicting GDB (see Step 3 in the method section). Based on these two conditions, a review of the literature led us to propose the following indicators:

Goal Nature. Intentional Change Theory (Boyatzis, 2006) holds that for individuals to successfully engage in their change process, it is important that they first articulate their values, future aspirations, dreams, and desired vision (i.e., the ideal self). Multisource feedback that participants receive during the leadership program helps them discover their current strengths and weaknesses (i.e., the real self). Only when goals and plans are designed to approach the ideal self will sustained, desired change occur (Boyatzis, 2006, 2008; Boyatzis, Rochford, & Taylor, 2015; Howard, 2015). Consequently, we predict that the presence of aspirational goals (i.e., personal goals or career goals linked to the ideal self) is likely to be associated with high GDB. On a lower level in the goal hierarchy we find achievement goals (DeShon & Gillespie, 2005) which include learning and performance goals. While learning goals focus on developing competence to master a task (e.g., *improve my ability to influence my boss*, or *develop my selling skills*), performance goals focus on reaching a performance outcome or standard of excellence (Elliot & McGregor, 2001; Seijts & Latham, 2005) (i.e., *get the new project approved by my boss*, or *increase sales by 10%*). In contexts such as that of our study where performance can benefit from the acquisition of knowledge and the development of competencies, setting only performance goals has been shown to be less effective than setting a combination of the two (Seijts & Latham, 2005; Latham & Seijts, 2016).

Hypothesis 1. Goal nature is associated with GDB: (H1a) the presence of aspirational goals is related to higher GDB; (H1b) the presence of only performance goals is related to lower GDB

Goal specificity. Research has shown mounting evidence that setting specific challenging goals, as opposed to vague, do-your-best goals, has a positive effect on

performance (Latham, 2004; Locke & Latham, 2002). The more specific the goals are, the more performance can be regulated through goal-directed behaviors and the search for task-specific strategies that help better achieve the goals (Locke, 1996; Locke & Latham, 2002).

Hypothesis 2. Goal specificity is positively correlated with GDB

Goal proximity. When the goal to be accomplished is complex and distal in time, setting explicit proximal goals (i.e., goals that are instrumental in achieving the more distal goal) helps individuals progress toward goal attainment (Latham & Seijts, 1999). Proximal goals, often called sub-goals, tend to be easier to achieve. Their achievement provides a sense of progress toward the more distal goal, which increases self-perceptions of efficacy (Bandura & Schunk, 1981; Latham & Seijts, 1999). In turn, an increase in self-efficacy is likely to increase commitment to the goals, motivation and performance (Locke & Latham, 1990). As a source of early performance feedback, proximal goals also help individuals regulate effort (Louro, Pieters, & Zeelenberg, 2007), focus on task-appropriate strategies, and in turn, have a positive impact on goal-directed behaviors (Latham & Seijts, 1999).

Hypothesis 3. Goal proximity is positively correlated with GDB.

Multiplicity of goals and action plans. When defining multiple goals and actions, individuals often need to make trade-offs between the time, attention, or resources devoted to each of them. Since these are limited for every person, multiple goals are likely to lead to goal conflict, which has been found to negatively impact goal commitment and engagement in GDB (VandeWalle et al., 2001). Conflicting goals have also been found to induce pressure and undermine performance (Locke, Smith, Erez, & Chah, 1994). Goal commitment is also affected at the implemental stage. Planning actions for multiple goals brings attention to the difficulty of achieving them, thus undermining commitment and goal success (Dalton & Spiller, 2012). We therefore predicted that setting too many goals and too many actions would negatively influence GDB.

Hypothesis 4. Goal parsimony is positively correlated with GDB
Hypothesis 5. Action parsimony is positively correlated with GDB

Implementation intentions. Setting appropriate goal intentions is a first step, but not a guarantee for goal achievement. Equally important subsequent steps are planning how to achieve the goal, initiating goal-directed behaviors, and striving to achieve the goal (Gollwitzer & Sheeran, 2006). Planning has considerable volitional benefits (Gollwitzer & Brandstätter, 1997), as mental anticipation of how GDB are going to be implemented increases the likelihood of them being enacted, and thus the likelihood of attaining the goal (Gollwitzer, 1999). Specifying the time, situations and effective ways to initiate the GDB (i.e., specifying with whom, when, how long, where, or how the action is to be implemented) acts as a self-regulatory tool (Gollwitzer, 1993; Sheeran, Webb, & Gollwitzer, 2005). Implementation intentions help to trigger action without conscious intent, and protect goal pursuit in the face of problems, such as tempting distractions, bad habits, or competing goals (Gollwitzer, 1999).

Hypothesis 6. Planning implementation intentions is positively correlated with GDB

Sharing intentions. Findings in a recent meta-analysis of the unique effects of goal setting on behavioral change suggest that goals are more effective if set publicly (Epton et al., 2017). Once the goal intentions are made public, a person's commitment to the goal increases due to the natural desire to appear rational and consistent (Hollenbeck, Williams, & Klein, 1989), and therefore the likelihood that they engage in GDB also increases. Evidence of this effect is also found in leadership development programs. Some studies have shown that when participants discuss the feedback and plans with the boss, their accountability for the goals increases and performance improves (London, Smither, & Adsit, 1997; Toegel & Conger, 2003).

Hypothesis 7. Planning to share intentions (goal or action plans) with others is positively correlated with GDB

Seeking information. Goal setting theory establishes that when specific, challenging goals involve new, complex tasks, and individuals do not possess the knowledge and skills relevant for performing such tasks properly, then seeking information and strategies on how to perform the tasks eventually leads to higher levels of performance (Locke & Latham, 1990, 2002). This is often the case in leadership development programs, as individuals usually face a challenge on how to improve competencies, or how to best attain demanding personal, career

or achievement goals. We therefore predict that planning specific actions for discovering and learning how goals can be best attained should facilitate action initiation and progress toward the goals.

Hypothesis 8. Planning to seek information on how to better attain the goals is positively related to GDB

Progress monitoring. Monitoring or tracking progress toward the goals is a crucial activity in goal striving, as feedback about how close one is getting to achieving the goal is a useful piece of information for individuals to regulate their behavior and decide when additional effort is needed, or when behaviors need adjusting to make better progress toward the goals (Locke & Latham, 1990, Locke, 1996). A recent meta-analysis shows that monitoring goal progress has a larger impact on goal attainment when the measures are made public, when they are physically recorded, and when the frequency of evaluation is high (Harkin et al., 2016). We therefore argue that the more specific (and hence measurable) goals and actions are, the more salient discrepancies between the current state and future state will be, and the easier it will be for self-regulatory strategies to be implemented. Action measurability is therefore determined by its specificity and parallels the predicted positive effects on GDB previously seen in goal specificity.

Hypothesis 9. Action measurability is positively related to GDB
Hypothesis 10. Planning to measure progress is positively related to GDB

4.4 Method

4.4.1 Description of the leadership development program

The sample data used for this study comprised 293 goal statements and 1,589 actions written by a total of 116 executive managers (from multiple cohorts) after attending a leadership development program at a leading European business school. The program spans five months and involves a half-day seminar and a one-on-one coaching session every month. Designed around Intentional Change Theory (Boyatzis, 2006, 2008), the program helps participants to first articulate their long-term vision and aspirations (i.e., ideal self), then to interpret multisource feedback on fourteen leadership competencies (i.e., real self) which is

administered during the program, and finally assists participants in the design of a development agenda that includes the goals and action plans in order to advance toward their vision.

4.4.2 Thematic Analysis

Thematic analysis is a widely used qualitative analytic method within psychology and related fields (Braun & Clarke, 2006), a method that allows transforming qualitative information (in our case, goal and action statements) into quantitative information (in this study, a numerical measure of quality), which can then be subject to statistical analysis (Boyatzis, 1998). Thematic analysis seeks to encode patterns (also called themes or thematic properties) that are relevant to the research question, which in this study is *how can we assess goal-setting effectiveness in the context of leadership development programs?* The AGA code should therefore allow us to assess the quality of goals and action plans that predict goal progress for each individual, and consequently the assessment of thematic properties of goals and action plans must enable aggregation at the individual level. This is our unit of analysis.

The methodological rigor with which thematic analysis is approached sets our research within the positivistic paradigm as both the reliability and validity of the findings are at the heart of the method we use (Boyatzis, 1998; Ryan & Bernard, 2003). First, the development of the code was theory driven (deductive development), and then refined based on the analysis of the raw data (inductive development). Two independent coders analyzed the data until consistency of judgement among coders was reached (i.e., until inter-rater reliability exceeded 80%), thus removing the bias of a single coder. The code was finally validated by applying it to new data from a different cohort and then testing the hypothesized predictions on GDB. The steps followed to develop and validate the AGA code are detailed in Figure 1.

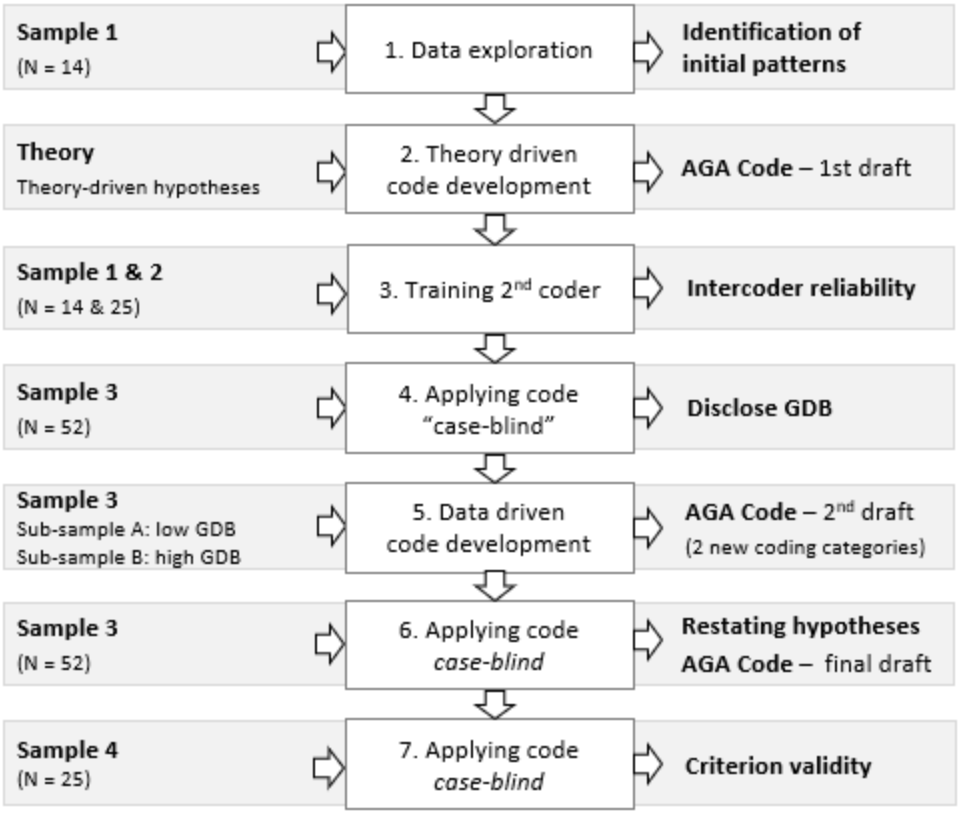


Figure 1. *The 7 steps for developing and validating the AGA Code*

4.4.3 Step 1. Data exploration

To get familiar with the richness of our data we first studied the statements of goals and action plans written by 14 participants (Sample 1) from past editions of the program. At first glance, the data revealed that goals and action plans varied greatly among individuals. A closer examination allowed us to discover that the exact same actions appeared multiple times with different individuals. For each competency assessed through multisource feedback, the software program provided a list of ready-made suggestions which, with a simple click, could be downloaded and integrated in the action plan. Since writing a personalized action involves more cognitive effort than just clicking an action from the list, we expected this thematic property to be relevant in predicting GDB (those investing a higher effort in planning would

engage in GDB to a greater degree). This initial data exploration yielded the first data-driven theme of the code, which we labelled *idea personalization*.

Additionally, the software displayed a compulsory field for recording the intended completion date of each action. A glance over the data revealed that some people seemed to have made an effort in planning different dates, while other people repeated the same date throughout the action plan. We expected that, similar to the case of *idea personalization*, planning effort would be related to GDB, and therefore constituted the second data-driven theme of the code, which we labeled *planning*.

4.4.4 Step 2. Theory-driven code development

In addition to *ideal personalization* and *planning*, the AGA code was further developed to assess the ten theory-driven indicators that were hypothesized as influencing GDB.

Code book for goals. The code book for goals included four thematic properties. (1) *Goal nature* was a descriptive code (Saldaña, 2016) as it allowed goals to be classified as personal, career, performance, learning or task goals. Since task goals could relate to different domains, a sub-code allowed them to be further classified as either personal, career, work or learning-related. (2) *Goal specificity*, a magnitude code (Saldaña, 2016) that attributed goals at one of three levels of intensity: 2 (very specific), 1 (specific) and 0 (vague). This thematic property was operationalized at the individual level through the weighted average among all goals. (3) *Goal proximity*, also a magnitude code, was developed to assess different levels of goal proximity and was also operationalized as the weighted average among all goals (proximal explicit goals receiving the highest weight and vague goals the lowest). Finally, (4) *goal parsimony* was assessed by merely counting the total number of goals, including previously assessed sub-goals. A summary of the code and examples are provided in Annex 1.

Code book for action plans. The code book for action plans was developed to assess eight thematic properties. Regarding (5) idea personalization, (6) action parsimony, and (7) planning effort, all that was required for the code was a description of the method to objectively assess the magnitude of each property. *Objective magnitude coding* is completely reliable as no data interpretation is involved and therefore only one rater was needed to calculate the values. The five remaining thematic properties, (8) *sharing intentions*, (9) *seeking information*, (10) *measuring progress*, (11) *implementation intentions*, and (12) *action measurability*, were

all operationalized at the individual level based on the same criterion, namely, the ratio between the number of themes assessed and the number of personalized actions in the plan. Non-personalized actions (1,028 out of 1,589) were discarded from any other assessment for being computer-generated standard ideas. A summary of the code and examples are provided in Annex 2.

The content of the code was then modified and refined by applying it on real data (goals and action plans from the 14 individuals of Sample 1). Descriptions of qualifiers and exclusions to the identification of the themes were added, and all descriptions were illustrated with examples drawn from the sample data for easier interpretability of the themes. The purpose for providing such detailed criteria was to allow for the training of coders who, once trained, would reach similar judgements on each theme, thus making the code more reliable.

4.4.5 Step 3. Training the second coder

When the assessment of themes requires personal judgement, interpretation of qualitative information can be contaminated by personal projection (Boyatzis, 1998). To minimize this risk, the coding process must yield a high inter-coder reliability, which occurs when consistency of judgment between coders is reached (Lombard, Snyder-Duch, & Bracken, 2002). To this end, a second coder was trained to apply the AGA code, using data from previous editions of the program (Samples 1 & 2). Differences in assessment between the expert coder and second coder were discussed and, if attributed to the lack of robustness of the code, this would be revised and improved. When inter-rater reliability reached 80% the training concluded and the code was considered ready for validation.

4.4.6 Step 4. Applying the code case-blind

To test the validity of our AGA code (i.e., its capacity to predict GDB), we targeted 124 students from three cohorts, to whom we sent a survey to measure GDB three months after program completion. Fifty-two completed the survey (Sample 3), yielding a 42% response rate. The gender split was 69% male and 31% female, with an average age of 36.2 (SD=4.59), an average work experience of 11.1 years (SD=4.70) and 9 nationalities represented (79% from Spain). These fifty-two managers wrote a total of 189 goals and 314 personalized actions, and downloaded 805 additional non-personalized actions from the system.

Besides controlling for cohort, age, gender, nationality and tenure, we also controlled for goal commitment (Klein, Cooper, Molloy, & Swanson, 2014), self-efficacy (Chen, Gully, & Eden, 2001), achievement orientation, and learning style (Kolb & Kolb, 2005). These variables have been shown to influence goal achievement, and therefore they are likely to also influence GDB, our dependent variable in the study. Research in goal setting theory has extensively shown how goal commitment moderates goal level and performance (Latham, 2004; Locke & Latham, 1990). In other words, goals are not achieved unless there is a commitment to them (Locke, Latham, & Erez, 1988). Goal commitment in turn is influenced by self-efficacy. People with high self-efficacy are more likely to commit to challenging goals and to engage in searching for task-specific knowledge or strategies to achieve them (Latham, 2004). Achievement orientation has also been shown to influence goal commitment (Slocum, Cron, & Brown, 2002). In the program, achievement orientation was one of the fourteen competencies assessed as part of the multisource feedback and was made available for our research. Participants were also asked to have their learning styles assessed, which theory predicts also has an influence on goal setting, information gathering, planning and taking action (Boyatzis & Kolb, 1991, 1995), and therefore is likely to influence GDB as well (see descriptive statistics in Annex 4).

During the coding process, both raters were case-blind to the values of the dependent variable (GDB). Results from the 18-item GDB scale showed high reliability in each of its four dimensions: sharing intentions (α=.94), seeking information (α=.86), revising the plan (α=.87), and implementing the plan (α=.86). Survey results were not disclosed until the code was fully applied to the data. This procedure eliminated the risk of spuriously inflating the covariation between the assessment of goals and action plans, and the values of GDB. Inter-rater reliability for goals was 88% and for action plans 76%.

Differences in assessment were discussed until 100% agreement was reached. For each thematic property of the goals and action plans, the assessments were collapsed into a single value following the operationalization criteria described above, and with the disclosure of our criterion variable of GDB, a first correlational study was conducted at the individual level. The methods used for calculating each single value and its correlations with GDB are shown in Table 1.

Table 1. *Operationalization of the thematic properties and their correlations with GDB*

Thematic properties	variable type	Operationalization of the construct	correlation with GDB
Assessment of goals			
Goal nature	nominal	Nº of goals for each nature category	ns
Goal specificity	ordinal	Weighted average among goals †	ns
Goal proximity	ordinal	Weighted average among goals ††	ns
Goal parsimony	numerical	Nº of goals	.318**
Assessment of action plans			
Idea personalization	numerical	Nº of personalized actions (PA)	ns
		Nº of non-personalized actions (NPA)	ns
Sharing intentions	numerical	Ratio: average of themes present per PA	ns †††
Seeking information	numerical	Ratio: average of themes present per PA	.272**
Implementation intentions	numerical	Ratio: average of themes present per PA	ns
Measuring progress	numerical	Ratio: average of themes present per PA	ns †††
Measurability	numerical	Ratio: average of themes present per PA	ns
Action parsimony	numerical	Nº of actions (PA and NPA)	ns
Planning	ordinal	A function of nº of actions & nº planned dates ††	ns

Notes: † Weights = 2 (for very specific goals), 1 (for specific goals), and 0 (for vague goals)
†† Details of specific calculations are provided in the AGA code
††† No significance cannot be intepreted due to the low nº of themes rendering low statisitical power to the test
** Correlation is significant at the 0.05 level (2-tailed)

The fact that only two of the twelve correlations were significant was truly a surprise. Even more so when one of the two significant correlations – the one between goal parsimony and GDB – seemed to contradict what theory had so far established. Multiple goals are likely to lead to conflict, thus undermining goal commitment, inducing pressure and having a negative impact on performance and on goal attainment (Dalton & Spiller, 2012; Locke et al., 1994; VandeWalle et al., 2001). Results indicated the contrary: the more goals, the higher the GDB (r = .318). Only one of our 10 hypotheses was supported, namely H8, since results showed that planning actions to seek information relevant to goal-attainment did correlate with GDB (r = .272). As for the rest of the eight theory-driven hypotheses, data did not support any. In view of such apparent *counter-theoretical* findings, it was crucial to proceed with step 5, and further develop the code based on a more detailed analysis of our data.

4.4.7 Step 5. Data-driven code development

From our sample (N=52), two sub-samples were defined using GDB as the sampling criterion: one containing the individuals with the highest GDB (n_a=15) and the other containing the

individuals with the lowest GDB (n_b=15). A process of comparing and contrasting both sub-samples allowed us to extract two observable differences between sub-samples. The code was subsequently developed to incorporate the following two inductively generated themes:

Goal interdependence. Contrary to our theory-based prediction, results showed that a higher number of goals was related to higher GDB. A deeper analysis of the goal content between both sub-samples confirmed that individuals high in GDB (sub-sample A) did have more goals, but these goals stood out as being more interrelated. Hence, goals did not seem to compete for time and resources, but instead, they appeared to help and complement each other to facilitate the attainment of the end goal. On the other hand, goals from individuals low in GDB (sub-sample B), although fewer in number, seemed to pertain to different domains and therefore appeared more independent of each other. In fact, the literature on multiple goal pursuit has recognized the benefits that goal interdependence has on progress toward goal attainment (Sun & Frese, 2013), and has identified several relationships of interdependence which we used to develop this thematic category of the code. The assessment of goal interdependence allowed us to join goals into clusters, and within each cluster to identify a goal sequence, from the more proximal, instrumental, or contingency goals, to the end goal(s). The following is an example of a single goal cluster formed by three sequentially interconnected goals:

Goal 1: *To become general manager of the business unit* (End Goal)
Goal 2: *To increase my visibility to the CEO of the company* (Instrumental to Goal 1)
Goal 3: *To lead one of the projects in operational excellence* (Instrumental to Goal 2)

Individuals high in GDB had therefore (1) a higher average number of goals per cluster, and (2) a higher average number of interdependent links per goal. We operationalized goal interdependence through the multiplication of both ratios.

Hypothesis 11. Goal interdependence is positively correlated with GDB

Emotional attractors. Once the goal clusters were assessed, comparative analysis of clusters between both sub-samples provided compelling evidence supporting Intentional Change Theory (ICT) (Boyatzis, 2006, 2008). Clusters from individuals high in GDB (sub-sample A) contained on average a higher number of goals, but the cluster revealed the end goal to be more aspirational (such as a desire for personal growth or career advancement). Goal

clusters therefore seemed to reflect personal values, hopes, dreams and desires, which ICT define as positive emotional attractors (PEA) as they are likely to arouse positive emotions, such as joy, interest and love. When change is grounded on positive emotions, people become psychologically more open to explore new ideas and possibilities (Fredrickson, 2001), they become more resilient (Mosteo, Batista-Foguet, Mckeever, Serlavós, 2015, Fredrickson, 2001), more intrinsically motivated, and as a result personal change is more likely to occur (Boyatzis, 2008; Howard, 2015, Boyatzis et al., 2015).

In contrast, clusters from individuals low in GDB (sub-sample B), had fewer goals on average, but these fewer goals revolved more around weaknesses that needed fixing, such as improving some of the competencies that may have been rated low in the multisource feedback. Goal clusters therefore seemed to reflect problems, fears, anxiety, and obligations, which ICT defines as negative emotional attractors (NEA) as they are likely to arouse negative emotions, such as fear, anxiety, anger, and disgust. Such negative states narrow cognition and the thought-action repertoire (Fredrickson, 2001), lower resilience (Mosteo et al., 2015, Fredrickson, 2001) as well as intrinsic motivation, and as a result personal change is less likely to be sustained (Boyatzis, 2008; Howard, 2015; Boyatzis et al., 2015).

In view of the relevance of emotional attractors in discriminating GDB among individuals, we proceeded to further develop the code to assess the PEA/NEA state of a goal cluster (see summary in Annex 3) and operationalized the score at an individual level as the total number of PEA minus the total number of NEA[1].

Hypothesis 12. PEA/NEA score, measured at goal cluster level, predicts GDB

4.4.8 Step 6. Applying the additional code case-blind and restating hypotheses

Both coders applied the additional codes to the 189 goal statements from the 52 individuals of our Sample 3 (with the GDB values hidden to ensure *case-blind* coding). Inter-rater reliability for goal interdependence was 85% and for emotional attractors 83%. Differences in assessment were discussed until 100% agreement was reached.

The set of hypotheses was subsequently reconsidered for the final validation of the AGA code. First, with the incorporation of goal interdependence in the code, goals assessed as sequentially interdependent were included in the calculations of time proximity, because

sequentially interdependent goals are explicit proximal goals, and are instrumental to achieving a more distal end goal. The operationalization of goal proximity was then simplified by using the ratio between the number of only explicit proximal goals and the total number of goals. With this recalculation our hypothesis regarding time proximity was maintained.

Second, a detailed analysis revealed that individuals high in GDB seemed to have written more implementation intentions of *how*, which we interpreted as individuals revealing a greater effort in specifying how the action was to be carried out. Since the action expresses *how* to achieve the goal, *how* to implement the action could then be interpreted as the *how of the how* (i.e., an extra effort in stipulating how the goal was to be achieved). The hypothesis on implementation intentions was therefore restated by making references only to implementation intentions of *how*.

Finally, more specific goals and more intentions to measure progress were observed among individuals high in GDB. Non-significant correlation with GDB were attributed to numbers being too small (i.e., low statistical power of the test), and consequently we did not disregard the hypotheses for the final analysis. The thematic categories in the AGA code that were found to have no relevance for predicting GDB were eliminated from the code. The number of categories was therefore reduced to ten[4], yielding the following seven final hypotheses.

Hypothesis 1. *PEA/NEA score, measured at goal cluster level, predicts GDB*

Hypothesis 2. *Goal interdependence is positively correlated with GDB*

Hypothesis 3. *Goal proximity is positively correlated with GDB*

Hypothesis 4. *Goal specificity is positively correlated with GDB*

Hypothesis 5. *Implementation intentions of how in the action plan predict higher GDB*

Hypothesis 6. *Intentions in the action plan to seek information relevant to goal-attainment is positively correlated to GDB*

Hypothesis 7. *Intentions in the action plan to monitor progress are positively correlated to GDB*

4.4.9 Step 7. Testing criterion validity: AGA Quality Score

To test the criterion validity of our AGA code, two calculations were required. First, the testing of our hypotheses, so as to verify that each of the seven variables in fact predicted GDB.

Second, the performance of a discriminant analysis, so as to determine the discriminant function coefficient (dfc_i) for each variable (X_i), which we then used for calculating the final AGA Quality Score[5] (AQS), an overall measure of goal-setting quality ($AQS = \sum dfc_i * X_i$).

Since the differential weights used in the AQS linear function corresponded to discriminant function coefficients out of Sample 3, we used a separate sample (Sample 4) to validate the predictive power of the code. This new sample comprised 62 goals and 62 actions from 25 individuals. For each individual, AQS was calculated prior to disclosing the GDB values. The predictive power was finally tested by performing a T-test of equality of means between sub-group A (11 individuals with the highest GDB) and sub-group B (11 individuals with the lowest GDB).

In conclusion, this thematic analysis process allowed us to assess, using the AGA code, ten thematic properties related to the quality of goals and action plans. These ten resulting scores were used to calculate seven variables (i.e., dimensions of goal-setting quality), which were then algebraically amalgamated into an overall quality score at the individual level. We therefore propose a multidimensional aggregate model (Law et al., 1998) of goal-setting quality, a multidimensional construct that predicts the individual's engagement in GDB (i.e., our measure of progress toward the goals), and which we operationalize through AQS.

4.5 Results

4.5.1 Hypothesis testing

To test our set of hypotheses we computed Pearson correlation between each of the seven variables and GDB. All variables correlated with GDB except for goal specificity, whose correlation with GDB was not significant. Additionally, to verify the capacity of each variable to discriminate between the two sub-groups of individuals (those with the highest GDB from those with the lowest GDB), T-tests for equality of means between the two sub-groups were performed. This time mean differences between subgroups were statistically significant for all variables except for intentions to measure progress. This theme seldom appeared in the action plans and therefore non-significance could well be attributed to the lack of statistical power. In view of these results, displayed in Table 2, all ten thematic properties involved in calculating these seven discriminating variables were kept for the final version of the AGA Code[2].

Table 2. *Pearson correlations based on Sample 3 (N=52). Comparisons between sub-groups based on GDB: T-Test for equality of means*

Variable	Person correlation with GDB	High GDB (N=15) Mean	Low GDB (N=15) Mean	Mean difference	SE	t
PEA/ NEA score	**.495** ***	1.60	-1.93	**3.53** ***	.77	4.55
Goal interdependence	**.339** **	3.45	1.02	**2.43** **	.96	2.52
Goal proximity	**.290** **	.47	.16	**.31** **	.14	1.93
Goal specificity	ns	.36	.09	**.27** **	.12	2.18
Seeking information	**.272** *	.19	.07	**.12** *	.07	1.75
Implementation intentions of how	**.445** **	.27	.08	**.19** **	.08	2.22
Intentions to measure progress	ns	.07	.00	**.07** ns	.07	1.00

*** Correlation is significant at the 0.01 level (2-tailed)
** Correlation is significant at the 0.05 level (2 tailed)
* Correlation is significant at the 0.10 level (2 tailed)
ns = non-significant correlation

4.5.2 Predictive power of AQS

The set of discriminant function coefficients yielded by the discriminant analysis (Table 3) revealed a high, but negative, value for goal proximity (-.763). We attributed this negative value to the multicollinearity effect between goal proximity and goal narrative, since the presence of sub-goals and sequentially interdependent goals contribute to increase both goal proximity and goal narrative constructs. We thus considered *goal proximity* as redundant information, and for reasons of simplicity and parsimony we eliminated this coding category from the AGA code. The AGA Quality Score (AQS) was thus calculated as a linear function of the six variables, weighting each variable with their discriminant coefficient:

$$AQS = .598\ x_1 + .303\ x_2 + .218\ x_4 + .254\ x_5 + .185\ x_6 + .095\ x_7$$

Table 3. *Results from the discriminant analysis. Discriminant score (AQS: AGA Quality Score) and its explanatory power (R^2)*

Discriminant Variables	[1]	with 7 coefficients (a)	with 7 coefficients (b)	with 6 coefficients (a)	with 6 coefficients (b)
PEA/ NEA score	x^2	1.232	.549	.978	.598
Goal interdependence	x^3	1.249	.278	.680	.303
Goal proximity	x^4	-.763	.282	--	--
Goal specificity	x^5	.301	.200	.284	.218
Seeking information	x^6	-.067	.234	.130	.254
Implementation intentions of how	x^7	.855	.170	.693	.185
Intentions to measure progress	x	.006	.087	-.146	.095
Discriminant Score		**AQS**		**AQS**	
Pearson correlation with GDB		.646***		.650***	
	R^2	**41,7%**		**42,3%**	

(a) Standardized Canonical Discriminant Function Coefficients
(b) Structure Matrix
*** Correlation is significant at the 0.01 level (2-tailed)

Without *goal proximity*, the predictive power of the discriminant score even increased from 41.7% to 42.3%, thus corroborating that the information explained by this variable was redundant. These results indicate that with AQS (our operationalization of goal-setting quality at the individual level) we were able to explain as much as 42.3% of the variance in GDB, measured three months after program completion, by merely analyzing the statements in goals and action plans that participants wrote before they finished the program.

4.5.3 Criterion validity with Sample 4

Assessing criterion validity of AQS meant testing if the construct could predict GDB measured at a later time. Thus, in our study criterion validity relates to predictive validity. Since coefficients to calculate AQS were derived from the application of the AGA code on goals and action plans from Sample 3, a new sample was required to test its predictive validity. Twenty-five individuals (Sample 4) responded to the survey (58% response rate), a moderate sample size that penalized the statistical power of the tests. Despite this fact, results from the T-test for equality of means in GDB between the two sub-groups yielded a mean difference of 1.17, significant at the .05 level (SE=.46; t=2.54). The spread of GDB values was considerably smaller among individuals in Sample 4 than in Sample 3. In Sample 4, the 8 individuals with

the highest AQS had a mean GDB of 5.51 (5.73 for the top sub-group in Sample 3), and the 8 individuals with the lowest AQS had a mean GDB of 4.24 (3.33 in Sample 3). Despite a much lower statistical power of the test due to the smaller sample size and modest spread of GDB values, AQS still predicted mean difference as significant, thus supporting the predicted validity of the AGA code.

4.5.4 Underlying structure of AQS

To achieve better interpretability of the multidimensional AQS construct, Principal Component Analysis (PCA) was performed (results shown in Table 4) to explore its underlying dimensions and find plausible interpretations for patterns of association among the six variables that formed the AGA code. While only three components were shown to have eigenvalues higher than 1 (Keiser criteria), the scree plot indicated a model with four underlying components, which was the one finally chosen for its greater substantive plausibility.

Table 4. *Principal Components Analysis. Structure Matrix*

	Component			
	1	2	3	4
PEA / NEA score	**.797**	.377	.544	-.037
Goal specificity	**.890**	-.184	.029	-.154
Goal interdependence	-.004	**.959**	.235	.016
Seeking information	.211	.243	**.975**	-.159
Implementation intentions of *how*	-.225	.187	.074	**.796**
Intentions to measure progress	.014	-.137	.163	**.815**

Extraction Method: Principal Component Analysis
Rotation Method: Promax with Kaiser Normalization

PEA / NEA score and *goal specificity* loaded onto the same factor. We interpreted this underlying dimension as being related to the specificity in which the vision is operationalized. Specific end goals in a cluster make the vision more tangible and vivid, and therefore the goal-setting process is likely to be more intensely leveraged on the PEA (Boyatzis, 2006). We labelled this first dimension of AQS, *vision specific.*

Regarding *goal interdependence* and *seeking information*, *each* constituted a dimension in itself. We interpret goal interdependence as an effort to narrate a detailed goal roadmap, i.e., a series of goals at different levels of the goal hierarchy (DeShon & Gillespie, 2005), well interconnected with the aim to achieve a higher and often vision-specific end goal. This second dimension of AQS was thus labelled *narrative effort.* The third dimension, *seeking information*, assesses the intentions (also expressed in the action plan) to learn how goals can be best achieved, which we named *intentions to know*.

The last two variables, *implementation intentions of how* and *intentions to measure progress,* loaded onto a single factor. Research indicates that implementation intentions (Gollwitzer & Brandstätter, 1997) and measuring progress toward goal attainment (Harkin et al., 2016) are both self-regulatory strategies that facilitate the enactment of goal-directed behaviors. We interpret the planning for such self-regulatory strategies as indicative of a strong intent to act, and hence we labelled this fourth dimension of AQS *intentions to act.* Figure 2 presents the four-dimensional model of AQS and the correlations among its dimensions.

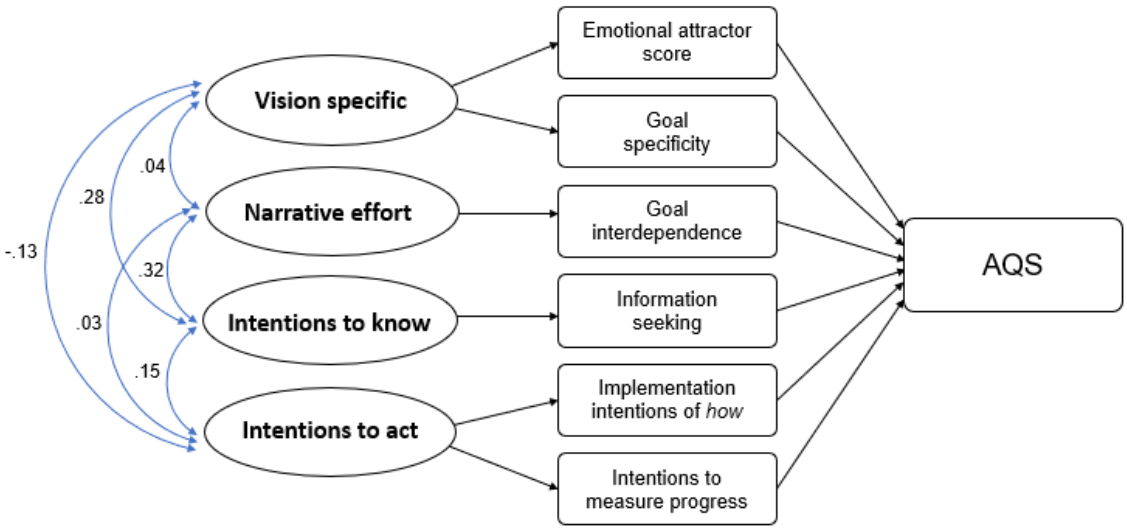


Figure 2. *Dimensional model of the AGA Quality Score (AQS)*

4.6 Discussion

The SMART method of writing management goals (Doran, 1981) has become the standard for developing effective goals in many managerial contexts (Bjerke & Renger, 2017). We

questioned whether just writing lists of SMART goals is the optimal approach for goal setting in the context of leadership development programs, and carried out an exploratory study with the purpose of discovering what goal-setting features are most effective in helping leaders advance toward their objectives. In line with recent research that challenges the conventional wisdom regarding the process of developing SMART goals (Bjerke & Renger, 2017), results from our exploratory study also lead us to conclude that not all goals need to be SMART for goal setting to be effective. Our findings reveal that goal setting is more effective in helping participants engage in their goal pursuit (i.e., a higher engagement in goal-directed behaviors) when it fulfills four main characteristics.

First, there is a significantly greater presence of **vision specific** goals. Participants who show a greater engagement in GDB usually do better at operationalizing their vision into specific goals that reflect the ideal future state they aspire to achieve. These goals usually pertain to the career or personal domain, and as theory predicts (Boyatzis, 2006, 2008; Boyatzis et al., 2015; Howard, 2015) the underlying hope, desire and aspirations of these goals become the motivational driver for the personal and professional transition. While the findings reveal the importance of making these goals *specific* in order to increase their motivational drive, we argue that such vision-specific goals do not need to fully qualify as SMART. At such an early stage in the personal and professional transition the level of uncertainty with regards to goal attainment is often too high for individuals to make these goals *time bound.*

Second, goal setting is more effective if it involves a greater **narrative effort**. Since reaching a vision-specific goal tends to be a challenging endeavor, specifying more instrumental, proximal, easier-to-accomplish goals is an effective strategy for making progress toward achieving more ambitious end goals (Locke & Latham, 1990; Latham & Seijts, 1999; Louro et al., 2007). The goal-setting process is thus more detailed, with more goals but with these being better interrelated so that rather than competing for time and resources, they complement each other (Sun & Frese, 2013). The findings of the study lead us to conclude that learning goals that relate to the improvement of leadership competencies (as assessed through 360-degree feedback) do not need to fully qualify as SMART either. What seems to be most important is that the competencies to be improved are well chosen to support the vision-specific goals and the more proximal performance goals that the individual has established. Most learning goals were vague, difficult to measure and had no time limit (e.g., *To improve*

empathy, *to develop my communication skills*). Rather than making learning goals *specific*, *measurable* and *time-bound*, what seemed to be most effective was, first, for learning goals to relate to competencies that help participants reach their desired vision, as opposed to merely choosing goals for the competencies that need fixing, and second, for each learning goal to be supported by a plan with actions specifying *how* to develop the targeted competency.

Third, and with reference to action plans, effective goal setting reflects stronger **intentions to know.** From our data analysis we conclude that during the goal-setting process individuals do not always have all the knowledge needed to design a clear, specific and detailed plan of what is required to reach goals. When goals are complex, discovering the best strategies on how to reach these goals is one of the mechanisms that helps goal attainment (Locke & Latham, 1990, 2002). Given the considerable volitional benefits of planning (Gollwitzer & Brandstatter, 1997), people who show stronger intentions to seek information in their plans are more likely to engage in this behavior. In turn, seeking information is likely to have a positive effect on goal pursuit (Locke & Latham, 1990, 2002), a positive effect that is also shown in the GDB model used in this study.

Fourth, individuals who score high in GDB seem to make a better transition from the *what* mindset (*what* goals to choose) into the *how* mindset (*how* to attain them) (Gollwitzer, Heckhausen, & Steller, 1990). This stronger focus on the *how* mindset is evinced by personalized action plans specifying how these actions are to be implemented. Such detailed mental anticipation of *how* not only the goals but also the actions are to be implemented acts as a self-regulatory strategy that facilitates action initiation and progress toward the goals (Gollwitzer, 1999; Gollwitzer & Sheeran, 2006). Our findings reveal that the benefits of implementation intentions concerning *how* are greater than those of implemention intentions concerning *where*, *when*, *how long* and *with whom* (which our study were shown not to be significant). We argue that implementation intentions concerning *how* are especially important in actions related to the improvement of leadership competencies. As previously stated, these goals are rarely *specific* or *time-bound*. Focusing on *how* (behaviors that need to be acquired and habits that need to be developed) and anticipating *how* these behaviors and habits will be implemented is key. In fact, research suggests that when the person does not know how to reach a difficult goal (e.g., not knowing what specific behaviors need to be enacted to improve empathy), specifying appropriate behaviors (i.e., how to perform them) may have a stronger

effect on goal attainment that specifying where or when behaviors or actions are to be performed (Dewitte, Verguts, & Lens, 2003).

Additionally, the personalized action plans of individuals scoring high in GDB also contain more intentions to measure progress toward the goals, another self-regulatory strategy that helps goal attainment (Harkin et al., 2015). Since both these characteristics (implementation intentions of *how* and measuring progress) concern planning for self-regulatory strategies to ensure goal progress, we interpret their common underlying dimension as having strong **intentions to act.** While personalized action plans showed positive effects on the engagement in GDB through their underlying *intentions to act*, non-personalized action plans showed no significant effect. We argue that the minimal cognitive effort needed in clicking and downloading general actions from the software platform, and in filling in planned dates, did not help individuals form implementation intentions, and as such these actions did not have the self-regulation power to initiate GDB (Gollwitzer & Branstätter, 1997).

Correlations among the four underlying dimensions of goal-setting quality (vision specific, narrative effort, intentions to know, and intentions to act) are quite low, which indicates that they are not strongly interrelated. However, the relationships among the four should not to be completely ignored as there is something noteworthy about the signs of the correlations. It seems logical that *intentions to know* has a mild, but positive correlation with the other three dimensions of goal-setting quality. First, it correlates with *vision specific* goal setting, since aspirational goals are more challenging and therefore likely to require actions to discover how to best achieve them. Second, it also correlates with *narrative effort.* Individuals who write more detailed goal roadmaps are likely to reflect more deeply on potential best strategies to achieve the end goal. Such self-reflection is therefore likely to result in planning to search for information (intentions to know) aimed at clarifying what the best course of action should be. Third, *intentions to know* also correlates with *intentions to act*, since both seem logical manifestations of an underlying intent to engage in goal striving.

In contrast, the correlation between *vision-specific* and *intentions to act* has been shown to be negative. As previously stated, while defining *vision-specific* goals requires a *what* mindset (*what* specific goals to define), planning *intentions to act* requires a change to a *how* mindset (*how* to attain them) (Gollwitzer et al., 1990). Recent neurological studies reveal that

vision specific goal setting, because it is driven by hopes, desires and aspirations, tends to involve emotional reasoning which activates the default mode network in the brain. On the other hand, planning *intentions to act* requires a closer attention to detailed plans and tends to involve analytical reasoning which activates the task-positive network of the brain (Boyatzis, Rochford, & Jack, 2014). Neurological studies reveal a reciprocal inhibition between these two opposing brain networks (Jack et al. 2013), which may explain why people who are emotionally engaged in their aspirational goals find it harder to make the transition to the task-positive mode that is needed for implemental planning, hence the negative correlation.

In conclusion, this study is the first attempt to assess the effectiveness of goals and action plans as they are freely written by participants in leadership development programs. With the AGA code goal-setting quality can be assessed through only six goal-setting variables, which stem from four underlying goal-setting characteristics: *vision specific, narrative effort, intentions to know,* and *intentions to act.* Goal-setting quality (measured through AQS) appears to be a good predictor of goal progress as it has been shown to explain 42% of the variance in goal-directed behaviors measured a few months after program completion.

4.6.1 Theoretical and methodological contributions

First and foremost, the empirical findings of this study contribute to Intentional Change Theory (ICT) (Boyatzis, 2006, 2008), as they provide strong evidence of an association between leveraging goals under positive emotional attractors (PEA) and making progress toward the goals (measured as GDB). Anchoring goal setting in one's vision, purpose, or desire strongly predicts GDB, with a weight that exceeds that of any other goal-setting properties measured by the AGA code.

Our empirical findings also contribute to the literature on goal setting and goal striving. They indicate that goal specificity is positively correlated with GDB, thus supporting one of the central tenets of goal setting theory (Latham, 2004). Goal specificity seems to be most effective in predicting GDB when it applies to the goals most closely related to the vision. Since vision-related goals motivate individuals to engage in goal pursuit (Boyatzis 2006, 2008), making such goals *specific* is likely to increase motivation and therefore increase the impact on GDB.

Additionally, our findings provide evidence for the effect of goal interdependence on GDB, thus contributing to the literature on multiple goal pursuit (Sun & Frese, 2013) When setting distal aspirational goals (e.g., a long-term career goal), the perceived difficulty in achieving them makes individuals become more conscious of the large goal-discrepancy gap. This may reduce perceptions of self-efficacy, which may in turn lower goal commitment or even lead to disengagement from the goals (Sun & Frese, 2013; Locke & Latham, 1990). Adding proximal, easier goals provides incentives for action and helps people progress toward the goals (Bandura, 2001; Latham & Seijits, 1999). Such positive effects of increasing goal interdependence are best explained by Social Cognitive Theory, which posits that "Progress toward valued futures is best achieved by hierarchically structured goal systems combining distal aspirations with proximal self-guidance" (Bandura, 2001, p. 8).

Regarding action plans, intentions to seek information to discover the best course of action to reach goals was found to have a positive effect on GDB. This supports another of the central tenets of goal setting theory, namely that task-relevant information seeking mediates goal attainment (Locke & Latham, 1990, 2002). Our results also evince the beneficial effects that planning self-regulatory strategies has on goal pursuit. As theory predicts, formulating implementation intentions in the action plan facilitates the initiation of goal-directed actions (Gollwitzer & Brandstätter, 1997). The fact that only implementation intentions of *how* seem to influence GDB may be explained by the considerable difficulty inherent in most goals in this type of context.

Finally, we contribute to research methodology by providing a detailed account of an example of mixed-method research based on an exploratory sequential design (Cresswell & Plano Clark, 2011; Stentz et al., 2012). We show how a qualitative research method (thematic analysis of rich data) can lead to a deep contextual understanding of the phenomenon and can also be combined with quantitative research methods in order to stay within the positivistic paradigm. In our example, these methods involve reliability calculations, hypothesis testing, and statistical analysis tools such as correlational analysis, t-tests, discriminant analysis, multi-regression analysis, and factor analysis, which are key to the development and validation of the AGA code.

4.6.2 Implications for Management Education

This study has significant implications for management education: its findings can be used in leadership development programs as guidance for stakeholders (HR managers, coaches, teachers, and participants) to be followed during the goal-setting process in order to make the program more impactful. Clearly, it is not a matter of setting SMART goals, it is a matter of being smart about setting the goals.

Not all the goal-setting characteristics that theory claims to be beneficial to goal attainment are equally important in the context of leadership development programs. The goal-setting process should start with participants anchoring the change process with a specific personal or career goal that they aspire to achieve in the mid/long term. Participants should then delineate a goal roadmap with performance and learning goals that lead to the higher-end aspirational goal. Therefore, contrary to a central tenet in goal setting theory, the more goals the better, but only if they are hierarchically structured and interconnected to help toward achieving a longer-term aspiration. Since participants are logically encouraged to include development goals involving the improvement of leadership competencies, they need to carefully choose which competencies they wish to work on. Participants are more likely to strive for the improvement of competencies that help attain aspirational goals than for the improvement of competencies just because they got poor ratings in their multisource feedback. Smartly choosing developmental goals that are strongly interconnected and integrated in a goal roadmap is therefore recommended so that leaders engage more successfully in their goal pursuit. However, when establishing these learning goals, participants should not be overly concerned about whether they qualify as SMART. To engage in goal pursuit, it is more effective for each learning goal to be supported by a plan with actions specifying *how* to develop the targeted competency and to plan ways of measuring progress.

During the process of creating a detailed goal roadmap, participants are likely to come across some unknowns concerning how to best achieve some of the goals. Our findings show that planning to seek information to clarify these unknowns appear to help progress toward goals. Therefore, once the goals are set, the next step should not be rushing to plan a course of action for each goal, but to stop and think first what could be learned to help define a more effective course of action, and plan accordingly.

Finally, since planning the actions is a mental anticipation of *how* the goals will be achieved, changing one's mindset and asking oneself *how* is crucial at this stage, especially when dealing with difficult goals. Moreover, asking oneself *how* more than once is what differentiates more effective planning: *how* the actions will be implemented, and *how* progress toward the goals will be measured. Specifying details concerning *how* in the action plans seems to help self-regulation, and thus has a positive impact on progress toward goals.

In conclusions, stakeholders (e.g., program managers, teachers, and most especially coaches) of leadership development programs should guide participants in their goal-setting process so that they leave the program with a well-structured goal roadmap and action plan that maximizes motivation for action and helps as a self-regulatory tool that enhances perceptions of progress early on in the pursuit of their aspirations.

4.6.3 Threats to validity and future research

Our analysis of goal-setting quality (AQS) and goal progress (GDB) is basically correlational. Alternative explanations accounting for such correlations pose a threat to internal validity, so inferences about causality should made with caution. Among all the control variables used in the study, goal commitment does in fact correlate with both AQS and GDB (Annex 4). It is not far-fetched to deduce that individuals who feel highly committed to their goals are more likely to put more effort in the goal-setting process, and thus write more detailed goals and action plans that result in a higher AQS. Equally, these individuals are also more likely to feel motivated and determined to pursue the goals, thus also engaging in higher GDB. Other alternative explanations, not accounted for our study, could be found in differences in personality traits, such as goal orientation (Latham & Locke, 2007) , and planning styles (McKee, Boyatzis, & Johnston, 2008), or differences in goal alignment with the individual's own values and vision (Boyatzis, 2008). Extension of the present research should therefore address causality through studies following an experimental design with a control group. A possible intervention in such studies could involve training program staff to guide students during the goal-setting process so that they set goals and plans in line with our findings. The effect of the intervention could be measured by assessing the difference in the average GDB between cohorts prior and after intervention (the assumption being that both cohorts are similar enough for selection threats to be minimized).

Although the AGA code was developed to assess a wide variety of goals and action plans, the context and characteristics of the population used for code development may limit the external validity of our conclusions. Our findings are derived from the analysis of data from several cohorts of highly educated professionals, between 30 and 45 years old, mostly Spanish, who were participants in an executive MBA course and were highly motivated to progress in their careers. Cohorts from other cultures might take a difference stance in behaviors that involve interaction with other people, such as sharing information or seeking information by asking others. Therefore, future research should involve replicating the study with different populations and in different contexts, as this would help to determine the boundaries of the external validity of our conclusions. One example could be the study of goals and action plans of leadership development programs held in companies, a context that may impose some restrictions in the goal-setting process as goals and plans are usually shared or agreed with the boss.

Finally, the criterion used in this study for establishing goal-setting quality was GDB, an indicator of goal progress and a necessary antecedent of goal attainment. Future research should assess the predictive validity of GDB with longitudinal studies that complement the assessment of GDB with the more distal measures of goal attainment and of rating improvement after a second multisource feedback. The time span between measurements should be long enough for leadership improvement to be fully visible and for goals to be accomplished. These studies would allow further testing of the predictive validity of GDB, and in turn enhance the relevance of the AGA code through predictions of more stringent measures of program effectiveness.

In sum, the AGA code opens new possibilities for future research in goal setting in leadership development programs and offers a new perspective for making such programs more effective. If we can help leaders develop competencies more effectively and attain their goals to a fuller degree, they are more likely to improve their performance and that of their teams, and organizations may consequently see greater benefits in continuing to invest in such programs.

Endnotes

1. Purely PEA or purely NEA states would get an extra point. This was done to discriminate goals being leveraged on one single emotional state: e.g., 3 PEAs would lead to a score of 4, while 4 PEAs and 1 NEA would lead to a score of 3.
2. The AGA Code, and all input data not reported in the article, are made available on request from the first author of the paper.

Annexes

Annex 1. *First draft of the AGA code for goal statements: Summary with examples.*

Themes	Brief definition and examples
Goal nature	
Personal goal	Goal that describes the intent to pursue or achieve a desired end state that belongs to the personal domain. ▪ *To get married and have children; To have a better work-life balance.*
Career goal	Goal related to a career advancement, career change, job promotion or getting a new job. ▪ *To set up my own start-up company*
Performance goal	Achievement goal that focuses on reaching a level of performance in relation to others, to a standard of excellence, or both. ▪ *To show my boss I can lead an international team; to increase sales by 5%*
Learning goal	Achievement goal that focuses on acquiring or mastering skills, abilities, knowledge or competencies. ▪ *To improve my communication skills*
Task goal	Goal that refers to performing a task or doing an activity, which is typically instrumental to a higher end goal. ▪ *To see more of my friends* (personal-related task) ▪ *To actively search for a new job* (career-related task) ▪ *To delegate more non-core tasks* (performance-related task) ▪ *Do a design thinking course* (learning-related task)
Goal specificity	
Very specific	The goal provides details of what needs to be accomplished and by when. ▪ *To get a new job by the end of this year*
Specific	The goal provides details of what needs to be accomplished. ▪ *To delegate 50% of my non-core tasks*.
Vague	The goal does not provide enough details of what needs to be accomplished. ▪ *To improve my English; to delegate more tasks*
Goal proximity	
Sub-goal	When the goal statement comprises a first goal as instrumental to a second goal, or final aim or purpose. The first goal is the sub-goal. ▪ *To get involved in the 2025 strategic plan to gain more visibility*
Proximal	When immediacy of action is explicitly planned or can be implicitly inferred. ▪ *To get a new job within the next three months* (explicit) ▪ *To improve my emotional self-control* (implicit)
Distal	When action is explicitly planned beyond 3 months ▪ *To change jobs by the end of the year*
Undefined	When no sub-goals are present, and goals cannot be coded as proximal nor distal. ▪ *To approach the fashion world*
Goal parsimony	
Goal parsimony	For an individual, goal parsimony is calculated by adding the number of goals, including sub-goals and multiple goals identified within the same goal statement.

Annex 2. *First draft of the AGA code for action statements: Summary with examples.*

Themes	Brief definition and examples
Idea personalization	
Present	When the action has been written in the individual's original wording, as opposed to having been downloaded with a click from the system.
Sharing intentions	
Present	When the action expresses intentions to share information about goals and plans with other people. ▪ *To tell my boss about my development goals and action plans.*
Seeking information	
Present	When the action states intentions to obtain further information about one's feedback, goals or action plans to be used as a self-regulatory strategy. ▪ *To ask for advice to career service department; to read a book on influence.*
Measuring progress	
Measuring progress	When the action states intentions to measure goal progress as a self-regulatory strategy. ▪ *To keep track of the new product sales by sales person*
Monitoring frequency	When measuring progress is present, and frequency of measurement is explicit ▪ *To record myself in a meeting <u>once a month</u>*
Progress self-recording	When measuring progress is present, and intentions of self-recording are explicit ▪ *To analyze the recordings and <u>write down things to be improved</u>*
Public monitoring	When measuring progress is present, and also intentions to share it with others ▪ *I shall <u>share the progress with my team</u>*
Implementation intentions	
When	When details of when the action is to be performed are present ▪ *<u>Before starting a project</u>, write down the time expected for completion.*
How long	When details of how long the action is to be performed for are present ▪ *To read the e-mails <u>during the first hour of the day.</u>*
How	When details of how the action is to be performed are present ▪ *To practice the speech. <u>I shall record myself with a video and watch it first</u>*
Where	When details of where the action is to be performed are present ▪ *To simulate presentations in public <u>at home</u>*
With whom	When details of with whom the action is to be performed are present ▪ *To discuss <u>with each team member</u> performance expectations.7*
Action measurability	
Present	The action is measurable when it provides enough details of what needs to be performed, so that action completion can be objectively assessed. ▪ *To design a vision statement for the department*
Action parsimony	
Action parsimony	For an individual, action parsimony is assessed by adding the number of personalized actions to the number of non-personalized actions.
Planning	
Planning	For an individual, planning reflects the effort to elaborate a plan with a different date for each action planned. It is therefore a function of the nº of different planned dates and the nº of planned actions.

Annex 3. *Two additions of the AGA code for goal statements: Summary with examples.*

Themes	Brief definition and examples
Goal interdependence	
Sub-goal (SG)	Although this code was already developed for goal proximity, sub-goals establish a goal interdependence with an end goal, and therefore the assessment of this relationship grants both goals to remain in the same cluster. ▪ *To get involved in the 2025 strategic plan (SG) to gain more visibility (EG)*
Sequentially interdependent goals (SI)	Two separate goal statements, temporally or instrumentally interdependent. ▪ *To improve my influence at work (SI)* ▪ *To get promoted to a more senior position (EG)*
Reciprocally interdependent goals (RI)	Intimately connected goals: achieving either goal helps achieving the other ▪ *To stand by my opinion more strongly, so that decisions are taken with more consensus (RI)* ▪ *To be less humble and to see myself equal to others, unless the contrary is proved (RI)*
Parallelly instrumental goals (PI)	Goals that clearly pursue the same (not stated) purpose or end ▪ *To increase my professional networking outside my company (PI)* ▪ *To contact head-hunters and deliver my CV (PI)*
Contingency goals (C)	When a goal is stated as a contingency plan (C) in case the other goal is not met. ▪ *Lead my own company (EG)* ▪ *Develop leadership skills in case my own company is not a success (C)*
Multiple separate goals (MS)	When, within the same goal statements, several independent goals are mentioned ▪ Improve empathy (MS_1) and the capacity to influence other people (MS_2)
Emotional attractors	
Positive Emotional Attractors (PEA)	A goal cluster is leveraged in the PEA when the end goal has a promotion focus, i.e., it expresses a desire for approaching a positive outcome, such as achieving personal or professional growth, fulfilling an aspiration, or being compassionate with others. ▪ *Keep on implementing my learning-roadmap 2017* ▪ *I would like to become a teacher* ▪ *I would like to help and coach my team with my learnings from the course*
Negative Emotional Attractors (NEA)	A goal cluster is leveraged in the NEA when the end goal has a prevention focus, i.e., one that expresses a concern with avoiding negative outcomes, reflects self-imposed or external expectations, or focuses only on an instrumental goal. ▪ *To look for a job* ▪ *It is fundamental to reduce the level of self-demand* ▪ *Expand my network in multinational companies*
Undefined	When in doubt between PEA or NEA, the goal cluster is left undefined. ▪ *Change career path*

Note: EG = end goal

Annex 4. *Descriptive statistics and Zero Order Correlations for Sample 3*

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. AQS	.54	3.28	1											
2. GDB	4.58	.97	.650**	1										
3. Goal Commitment	4.19	.72	.478**	.489**	1									
4. Self-efficacy	4.12	.45	.264	.208	.137	1								
5. Achievement Orientation - Others	8.06	.56	.126	-.043	.047	.136	1							
6. Achievement Orientation - Self	7.75	1.00	.143	.393**	.408**	.335*	-.023	1						
7. AE_RO	1.59	11.17	-.074	-.076	-.035	-.119	.075	.192	1					
8. AC_CE	1.49	10.84	-.128	-.152	.110	.189	.052	.133	-.327*	1				
9. Gender	.30	.46	-.126	.016	-.211	-.180	-.178	-.089	.170	-.370*	1			
10. Age	36.34	4.62	.008	-.004	-.056	-.144	-.138	.057	.065	-.370*	-.039	1		
11. Tenure	11.18	4.75	.081	-.002	.024	-.007	-.186	.153	-.047	-.305	-.006	.774**	1	
12. Cohort	2.30	.79	-.154	-.153	-.051	-.154	-.096	.036	.214	-.272	.140	.229	.149	1

Notes: N = 50 (two persistent outliers were excluded from the analysis)
Achievement Orientation has two scores: self-assessment score and the average of all other raters
AE_RO score = Active Experimentation score - Reflective Observation Score (Boyatzis & Kolb, 1991, 1995)
AC_CE score = Abstract Conceptualization score - Concrete Experience score (Boyatzis & Kolb, 1991, 1995)
Gender was coded as 1 (female) and 0 (male)
* $p < .05$ ** $p < .01$

5

5. Increasing the impact of leadership development programs through a goal-setting intervention

5.1 Abstract

Many professionals join executive education programs, especially those that focus on leadership development, with a personal agenda that transcends the desire to acquire the knowledge for becoming a more effective leader. Research reveals that in fact many executives increasingly view these programs as instrumental for embarking on a personal or professional transition. Therefore, on completing the program participants usually write a list of goals and actions that often include the improvement of leadership competencies and longer-term personal aspirations and career goals. Not all participants, however, attain the goals to the same degree. The purpose of this study (based on a pre-post quasi-experimental design) was to assess the impact of a goal-setting intervention in a leadership development program. Post-intervention results revealed that goal-setting quality substantially increased. Goal setting was better anchored in long term aspirations and reflected more detailed and coherent goal roadmaps. Participants planned and enacted more seeking-information behaviors, thus showing a greater engagement in the goal-striving process. A detailed account of the intervention is provided to facilitate replication and thus to help increase the impact of goal setting in similar contexts.

Keywords: leadership development, executive education, goal setting, goal-directed behaviors.

5.2 Introduction

Professionals usually join executive education programs to gain knowledge and learn the latest thinking in a particular field with the aim of managing their organizations more effectively (Long, 2004). Since most executive education programs include a module on leadership development, these programs often conduct an assessment of their participants' intrapersonal and interpersonal competencies (e.g., self-awareness, influence, and conflict management), as a basis for establishing improvement goals and an action plan (Brett & Atwater, 2001).

However, it is not uncommon for professionals to view such programs, especially those that focus on general management or leadership development, as an opportunity for re-evaluating their lives and facilitating a personal or professional transition, such as obtaining a significant promotion or exploring new career directions and life options (Kets De Vries & Korotov, 2007). Management schools have started acknowledging this fact and are trying to have longer-term impact by stimulating and promoting such future social or personal change (Russon & Reinelt, 2004). Consequently, participants often end up establishing multiple, diverse goals that may combine the improvement of competencies with longer-term personal aspirations and career goals.

Goal attainment, i.e., the degree to which participants attain their goals, therefore constitutes one of the key measures of program effectiveness (Toegel & Conger, 2003). Research indicates, however, that these programs are not equally effective for everyone (Atwater, Waldman, & Brett, 2002; Smither, London, & Reilly, 2005), which means that some individuals succeed in achieving their goals while some others fail to implement their plans and make little or no progress toward their goals.

How can these programs improve their impact on goal attainment? Unfortunately, individuals usually initiate the journey toward their goals at the end of the program, and the influence that the school can exert on their pursuit of the goals is thus minimal. Schools, however, do have the possibility of guiding executives in optimally setting their goals and assisting with the design of good implemental plans. The purpose of this study was therefore to assess the impact that an intervention in the goal-setting process had on helping participants write goals that help engagement in the goal-striving process.

Goal setting is a keystone in intentional change processes (Boyatzis, 2006, 2008) and its impact on goal-directed behaviors and goal attainment is broadly documented through decades of research (Epton, Currie, & Armitage, 2017; Gollwitzer & Sheeran, 2006; Latham, 2004; Latham & Seijts, 1999; Locke, Smith, Erez, Chah, & Schaffer, 1994; Locke & Latham, 1990). A recent study of the goal-setting process in a leadership development program (Velasco, Emmerling, & Batista-Foguet, 2019), revealed that multiple, diverse goals and the subsequent action plans are likely to be more effective if (1) goal setting is driven by a specific vision goal, (2) there is a narrative effort with a well interconnected goal structure, (3) the action plan reflects intentions to know how to best achieve the goals, and (4) the action plan reflects self-regulatory mechanisms that help goal pursuit.

Based on these findings, an intervention in the goal-setting process was designed and applied to a cohort of 47 executives in a leadership development program, following a pre-post quasi-experimental design. Goal-setting quality increased significantly after intervention. Goal setting was more anchored in long-term aspirations and resulted in more detailed and coherent goal roadmaps. Participants also planned more actions to seek information on how to best achieve their goals. Progress toward the goals was measured three months after program completion by means of a self-reported goal-directed behavior (GDB) scale (Velasco, Batista-Foguet, Emmerling, 2019). Seeking-information values from individuals in the experimental group were significantly higher than those in the control group (i.e., prior to intervention), when the absence of any guidance left goal setting at the entire discretion of the individual.

Research on multiple, diverse self-set goals and action plans has received relatively little attention. This study contributes to filling this void by providing further evidence for the effectiveness of the joint presence of four relevant goal-setting characteristics (i.e., vision specific, narrative effort, intentions to know, and intentions to act), and thus by strengthening their predictive validity. In addition to our contribution to the literature of goal setting and intentional change, our study has immediate practical implications, as it provides practitioners with a detailed account of the goal-setting intervention that made the program more impactful, and as such, it facilitates replication in other similar programs.

In the following section we review the theoretical framework from which the variables relevant for our study derive. The design of the intervention and its implementation are detailed

in the method section. The intervention involved not only the delivery of content material and guidance in goal setting, but also a four-hour training session for the coaches to properly assist participants throughout the goal-setting process. In the results section we analyze the effects of the intervention and conclude the article by discussing contributions, threats to validity and directions for future research.

5.3 Theoretical framework

Goal-setting effectiveness, as defined in a recent exploratory study on the goal-setting process in a leadership development program (Velasco, Emmerling, & Batista-Foguet, 2019), is the degree to which a set of written goals and action plans predicts individual progress toward the goals. In the study, goal-setting effectiveness is measured through goal-setting quality, an aggregate multidimensional construct (Law, Wong, & Mobley, 1998) formed by six goal-setting variables (i.e., *emotional attractor score, goal specificity, goal interdependence, information seeking, implementation intentions of how*, and *intentions to measure progress*), which constitute the base for our intervention. Research has provided extensive evidence of their positive effects on goal progress and goal attainment. The theoretical framework from which the six variables derive is presented hereunder.

5.3.1 Intentional Change Theory: emotional attractor score

Progress toward goal attainment is not a smooth journey, as perseverance, effort and resilience in the face of adversity are much needed to effectively advance toward self-set goals (Latham, 2004; Locke & Latham, 1990). Intentional Change Theory (ICT) (Boyatzis, 2006, 2008) regards goal setting as a keystone in the intentional change process that executives engage in at the end of a leadership development program. ICT holds that sustainable change and progress toward goals are more likely to occur when the person engages in the creation of a personal vision that is linked to what the person wishes to become, or what she/he hopes or dreams to accomplish in life and work (i.e., the ideal self). Such a visioning process activates the positive emotional attractors (PEA), a psycho-physiological state comprised of distinct emotional, psychological, physiological, and neurological characteristics, which fuels intrinsic motivation and helps individuals direct and sustain their efforts toward attaining the goals (Boyatzis, 2008; Boyatzis, Rochford, & Taylor, 2015). Leveraging the vision of the ideal self is likely to generate goals with a promotion focus (Higgins, Shah, & Friedman, 1997). i.e.,

goals that concern personal or career advancement, growth, accomplishments or aspirations (Boyatzis et al., 2015).

ICT also claims that sustainable change and progress toward the goals are least likely to occur when the personal vision is instead driven by a sense of social or self-imposed obligation reflecting what the person ought to be or ought to achieve (i.e., the ought self) (Boyatzis, 2006, 2008). In this case, the visioning process activates the negative emotional attractors (NEA), an alternative psycho-physiological state to the PEA, which makes the person less adaptable and less open to new ideas and as a result more risk averse (Boyatzis, 2008; Boyatzis et al., 2015). Goals driven by the ought self tend to have a prevention focus and usually concern short-term actions to prevent loss or negative outcomes (Higgins et al., 1997). And since change implies a certain loss of the status quo, change effort is unlikely to be sustained in the long term (Boyatzis et al., 2015).

The emotional attractor score, i.e., the degree to which goals are leveraged in the PEA (i.e., the ideal self) or in the NEA (i.e., the ought self), is the variable that most contributes to the assessment of goal-setting quality, and therefore a key one for our intervention.

5.3.2 Goal setting theory: goal specificity

Extensive research in goal setting has consistently shown that conscious goals affect what one achieves (Latham, 2004). More precisely, goal setting theory (Locke & Latham, 1990, 2002) states that there is a positive relationship between goal difficulty and task performance, and that difficult specific goals lead to higher performance that vague, *do-your-best* goals. Difficult specific goals (1) divert direction of action toward goal-directed behaviors, (2) increase people's effort and (3) persistence in their pursuit of the goals, and (4) encourage people to discover task-specific knowledge and strategies on how to better achieve the goals (Locke & Latham, 1990). Goal specificity therefore plays a central role in this self-regulation process, as these four causal mechanisms leading to higher performance are more likely to be activated if goals are difficult but also specific as opposed to just vague. Goal specificity is one of the six variables that contributes to the assessment of goal-setting quality and is therefore also considered for our intervention.

5.3.3 Goal setting theory: goal interdependence

Setting multiple goals may lead to goal conflict if individuals are forced to make a trade-off between the time, effort and resources devoted to each goal. Research shows that goal conflict has a negative impact on goal commitment, and in its turn, it negatively affects engagement in goal-directed behaviors (Dalton & Spiller, 2012; VandeWalle, Cron, & Slocum, 2001). However, this is not the case if goals are interconnected in a way that the achievement of one goal contributes to the achievement of another. Setting a proximal goal to a more distal goal is the most obvious example of goal interdependence, and one whose benefit on goal attainment has gathered considerable evidence (Latham & Seijts, 1999; Louro, Pieters, & Zeelenberg, 2007). There are however, other types of goal interdependence that research on multiple goals also shows to have a positive effect on progressing toward the goals, such as multiple goals that are sequentially interdependent and parallelly interdependent (Sun & Frese, 2013). Together with the previous two variables, goal interdependence is also taken into consideration for our intervention.

5.3.4 Goal setting theory: information seeking

As goal setting theory holds, acquiring task-relevance knowledge and discovering new strategies or processes for better attaining the goals is one of the mediating mechanisms that explains how setting challenging, specific goals leads to higher performance (Locke & Latham, 1990, 2002). This mechanism is especially salient when goals are new and complex (as is often the case in the context of leadership development programs), and individuals do not possess all the knowledge or skills necessary to adequately progress toward the goals (Latham & Locke, 2007; Seijts & Latham, 2005). Research on multisource feedback also indicates that discussing and clarifying feedback, goals or action plans with raters has a positive impact on rating improvement over time (Smither, et al., 2004; Toegel & Conger, 2003), and on goal attainment (Hazucha, 1993; Smither et al., 2004). Planning to seek information also contributed to the assessment of goal-setting quality and was thus considered for the design of our intervention.

5.3.5 Goal setting theory: implementation intentions of how

Planning how to achieve the goals is also critical to the enactment of goal-directed behaviors and striving to achieve the goals (Gollwitzer & Sheeran, 2006). Goal setting is the outcome of

a cognitive process characterized by a deliberative mindset, in which individuals decide *what* they intend to achieve by choosing between different wants and wishes. During deliberation, the individual usually ponders the expected benefits of goal attainment (value) and the feasibility of attaining the goal (expectancy). Once goals are set, the cognitive process moves to an implemental mindset, in which individuals plan *how* they intend to achieve the goal (Gollwitzer, Heckhausen & Steller, 1990). Planning has significant volitional benefits (Gollwitzer & Brandstätter, 1997), since mental anticipation of how actions are to be implemented increases the likelihood of them being enacted, and thus, of goals being attained. In particular, forming implementation intentions (i.e. specifying how, when, how often, where, or with whom the individual intends to implement the action) acts as a self-regulatory mechanism (Gollwitzer, 1993; Sheeran, Webb, & Gollwitzer, 2005). Implementation intentions help prompt action without conscious intent, and protect goal pursuit in the face of adversity (Gollwitzer, 1999). The recent study on goal setting in leadership development programs (Velasco, Emmerling, & Batista-Foguet, 2019) adds to the mounting evidence of the positive effects of implementation intentions on goal striving (Gollwitzer, 1999; Gollwitzer & Sheeran, 2006). Specifically, the study reveals a positive correlation between forming implementation intentions of *how* and goal progress. This particular aspect of implementation intentions was therefore the one considered for the intervention.

5.3.6 Goal setting theory: measuring progress

Monitoring progress toward the goals is a source of feedback regarding the discrepancy gap between the present state and the goal (desired end state). This information is useful for individuals to self-regulate their behaviors as it facilitates decisions on whether additional effort is needed or whether a change in the course of action is appropriate for making better progress toward the goals (Locke, 1996; Locke & Latham, 1990). A recent meta-analysis (Harkin et al., 2016) shows that monitoring goal progress has a larger impact on goal attainment when the evaluation results are made public, when they are physically recorded, and when the measurement frequency is high. Planning actions to measure progress also contributed to assessing goal-setting quality and was thus also relevant for our intervention.

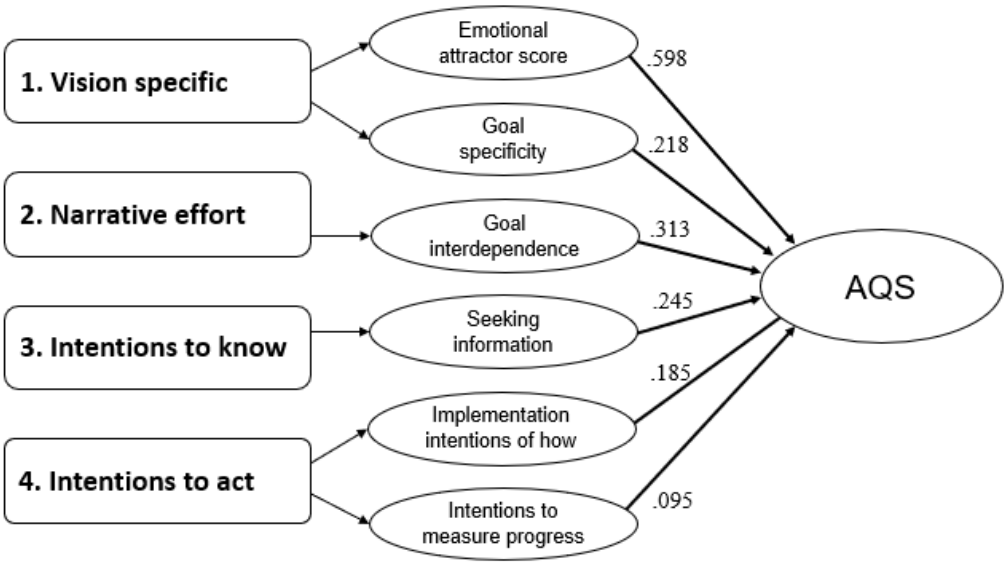
5.3.7 Assessment of goal-setting quality

In the reference study for our research (Velasco, Emmerling, & Batista-Foguet, 2019) the authors developed and validated a code to assess goals and action plans (AGA code) based on the six aforementioned variables. The AGA code specifies how the assessment of each variable is operationalized into a single score at the participant level. Goal-setting quality score, which the authors name AGA Quality Score (AQS) is then calculated as a linear combination of the six variables, with discriminant scores as coefficients. Goal-directed behaviors (GDB), an indicator of progress toward the goals measured a few months after program completion, was the criterion variable used for the discriminant analysis.

Additionally, factor analysis revealed four underlying goal-setting quality dimensions that explain AQS: (1) vision specific, (2) narrative effort, (3) intentions to know, and (4) intentions to act. The first dimension explains both the emotional attractor score and goal specificity, and therefore the label **vision specific** reflects that quality is characterized by goal setting being driven by a specific vision goal. The second dimension explains only goal interdependence, a variable that reflects the degree of goal integration into a single goal narrative, hence the label **narrative effort**. The third dimension also explains one variable: seeking information, which the authors labelled **intentions to know.** Finally, the fourth dimension explains both implementation intentions of *how* and intentions to measure progress, which is interpreted as **intentions to act.** For conceptual clarity of how all variables and dimensions are integrated, we reproduce the AQS model in Figure 1.

In view of all the above, when applying a goal-setting intervention based on the aforementioned conceptualization of goal-setting quality, we expect that individuals will write higher quality goals and action plans and that, in turn, these will help individuals engage in goal-directed behaviors. We therefore hypothesize that, in the context of leadership development programs:

Hypothesis 1. Such a goal-setting intervention will positively impact AQS
Hypothesis 2. Such a goal-setting intervention will positively impact GDB
Hypothesis 3. AQS will explain (mediate) the increase in GDB after intervention



AQS as a weighted average of the six goal-setting quality variables. Values are the weights for each variable, which correspond to discriminant scores based on a measure of goal-directed behaviors. (Velasco, Emmerling & Batista-Foguet, in preparation)

***Figure 1**. Dimensional model of the AGA Quality Score (AQS)*

5.4 Method

5.4.1 Context

This study was conducted with business professionals participating in an Executive MBA program at a leading European business school. The program includes a leadership development course that involves five monthly half-day seminars with all participants and five monthly one-on-one coaching sessions. The course is designed to help participants with a broad variety of needs that range from personal development (e.g., development of intrapersonal or interpersonal competencies) to longer-term personal or professional transitions (e.g., obtaining a job promotion or exploring new career directions and life options).

The structure of the program is based on Intentional Change Theory (Boyatzis, 2006, 2008). First, participants are encouraged to articulate their long-term personal vision and aspirations (ideal self). Participants then receive multisource feedback based on a set of leadership competencies (real self), by means of a software platform that the program provides.

Finally, upon reflection on the real and ideal selves, participants write the goals and action plans that they think are most appropriate for attaining their vision. The program manager delivers all instructions for the process, explains the theoretical framework that guides it, and provides some practical guidelines on how to proceed at every step. Additionally, five one-on-one coaching sessions are planned to help each participant with every step of the process.

5.4.2 Measures

AGA quality score (AQS). Goal-setting quality was measured by AQS (Velasco, Emmerling, & Batista-Foguet, 2019), a score that is calculated as a weighted average of the AGA assessment of six goal-setting characteristics, as previously explained and indicated in Figure 1.

Goal-directed behaviors. To measure the impact of the leadership development program we used a general scale of goal-directed behaviors (GDB) (Velasco, Batista-Foguet, & Emmerling, 2019), a scale that was developed and validated for this purpose. This scale measures the enactment of four behaviors that are found to facilitate goal attainment: (1) sharing goal intentions and the action plan with others, (2) seeking information or discover new courses of action to better achieve the goals, (3) revising or adapting the plans based on the information obtained, and (4) starting to enact the action plan. The scale is shown to have good psychometric properties: for all subscales, reliabilities with Cronbach's alpha were .86 and above, and the overall scale had good construct validity. Data was collected via a survey delivered three months after goals were established. The survey also measured goal-commitment and collected qualitative information about the goal-setting process through open-ended questions[1].

Goal commitment. Given the extensive evidence of the positive effects of goal commitment on performance and goal attainment (Latham, 2004; Latham & Locke, 2007; Wofford, Goodwin, & Premack, 1992), and hence on goal-directed behaviors (Earley, Shalley, & Northcraft, 1992; Slocum, Cron, & Brown, 2002), we included in the survey a target-free measure of goal-commitment (Klein, Cooper, Molloy, & Swanson, 2014) to use it as a control variable in our statistical analysis.

Learning styles. As part of the leadership development program, participants were asked to assess their learning styles using the Learning Style Inventory (Kolb, 1981; 1999).

Based on Experiential Learning Theory (Kolb & Kolb, 2005), experiential learning in higher education is assessed using two indicators: one concerning the way individuals tend to grasp experience (through Concrete Experience or Abstract Conceptualization) and the other concerning the way individuals transform experience (through Active Experimentation or Reflective Observation). These indicators determine the preferred learning style of an individual, which affects not only setting and managing goals, but also goal-setting behaviors such as a preference to take action and learn through experimentation, or a preference to first seek information (e.g., by talking to people) before running into action (Boyatzis & Kolb, 1995). Given the relevance of the learning styles, we also used both indicators (grasping and transforming experience) as covariates for our study.

Open-ended questions. Besides the aforementioned measures, we also collected qualitative information about the goal-setting intervention. The survey given to the experimental group included two open-ended questions. The first one asked to name the three aspects of the goal-setting process that most helped define the goals and action plans (and to justify the answer). The other question was specific to a goal-setting template we introduced as part of the intervention. The question asked participants about the features of the template they liked the most and why. Additionally, we asked the four coaches assigned to the experimental cohort to provide an account of the most relevant changes and the repercussions of such changes throughout the goal-setting process. The four coaches had long experience in working with the same leadership development program and therefore were in the privileged position of being able to compare processes pre- and post-intervention.

5.4.3 Sample 1: control group

To collect pre-intervention data, we targeted 170 managers from four different cohorts of the same Executive MBA program. From those who completed their goals and action plans in the software platform, seventy-seven responded to the survey (response rate of 45%) three months later. This sample had written 206 goal statements and planned 1,420 actions. The gender split was 30% women and 70% men, the mean age was 35.2 (SD=4.4), the mean work experience was 10.3 years (SD=4.2) and 11 nationalities were represented (83% from Spain).

5.4.4 Goal-setting process prior to the intervention

Prior to the intervention, the goal-setting process would start with an in-class session, where participants would be briefly introduced to the software module where participants were to write their goals and action plans. Then participants would individually access the software module and would write as many goals as they deemed necessary and for each goal as many actions as they wanted. The software module would provide participants with a list of generic ideas for developing each of the competencies assessed by the multisource feedback. An option in the software program allowed participants to download with a simple click any of these ideas into their action plan. Prior to the intervention, this was an option quite extensively used among participants. Therefore, actions attached to goals regarding the improvement of competencies often involved a mix of personalized actions (i.e., personally written) and generic actions (i.e., downloaded from the list). Participants had therefore full discretion in writing their goals and action plans as there was no restriction or even guidance to follow in this process. Finally, in the one-on-one session, coaches would also have full discretion to discuss and review the goals and action plans of the participants assigned to each coach.

5.4.5 Sample 2: experimental group

The goal-setting intervention was applied to a cohort of 47 managers of the same Executive MBA program, from which 26 had both completed the goals and action plans and responded to the survey (response rate of 55%). This sample had written 227 goal statements and planned 237 actions. The gender split was 31% women and 69% men, the mean age was 34.2 (SD=3.74), the mean work experience was 9.5 years (SD=3.77) and six nationalities were represented (74% from Spain).

5.4.6 Goal-setting intervention

The design of the intervention was based on the goal-setting quality characteristics as revealed in the recent study on goal setting in leadership development programs (Velasco, Emmerling, & Batista-Foguet, 2019). The intervention targeted all actors and steps involved in the goal-setting process, namely (1) an in-class session imparted by the program director, (2) the participants' exercise of writing the goals and action plans, and (3) the one-on-one session with the coach to discuss the goals and action plans for a possible final revision.

Material for the in-class session. In collaboration with the Program Director, a one-hour presentation on the new goal-setting guidelines was prepared for the in-class session. The presentation started with an overview of the theoretical framework and an introduction of the goal-setting quality characteristics, it included some examples of goals and action plans that illustrated such quality characteristics, and it concluded with five questions to guide participants through the goal-setting process. These were the following:

(1) *What do you wish to accomplish in the next 2 to 5 years in order to make your vision come true?*

This first question aimed at guiding the students to start the goal-setting process with a vision specific goal as a driver for the rest of the goal-setting process, and thus at meeting the first goal-setting quality characteristic: **vision specific.**

(2) *In order to make your wish a reality, define 1 or 2 objectives that will help you get there*.

This second question was aimed at helping them to start a goal narrative with well interconnected goals leading to the previously set vision-specific goal, and hence at contributing to fulfil the second quality characteristic: **narrative effort.**

(3) *If appropriate, what do you need to learn or improve that helps you achieve the objectives or make your wish come true?*

With this third question, we aimed at influencing the choice of competencies to develop. Once having set aspirational and high-end goals, students, upon reflection on learning objectives, are more likely to focus on competencies that most help them achieve previously set goals, rather than solely on competencies that need fixing. This question therefore encourages students to further expand the goal narrative with learning goals that are linked to the vision, which would reflect an even higher **narrative effort** and contribute to a more **vision specific** goal-setting process.

(4) *What specific actions or specific new habits do you propose to engage in, in order to achieve your objectives?*

(5) *How will your personal agenda change from next week on, as a consequence of this process?*

While the last two questions were purposefully broad to avoid forcing participants to write all three types of actions (actions to seek information, actions with implementation

intentions of *how*, and actions to measure progress toward the goals), the questions were directed to help participants move from the deliberative mindset (*what* goals to choose), to the implemental mindset (*how* they intend to achieve them) (Gollwitzer et al., 1990). By directing participants to anticipate a high level of action specificity, we expected to stimulate higher quality action plans. First, forcing a mental anticipation of the right course of action with such degree of specificity is likely to reveal (especially in complex goals) the need for seeking more information on how to best achieve such goals (Latham & Locke, 2007; Seijts & Latham, 2005). Second, since the questions called for a high degree of specificity, they are likely to lead to more specific actions that may include implementation intentions of *how*. And third, specific actions are more likely to be measurable and as such facilitate monitoring progress. In conclusion, the last two questions were thought to encourage planning to **seek information** to better achieve the goals, specifying actions with **implementation intentions of *how***, and planning to **measure progress,** the three characteristics of good quality action plans.

Goal-setting template for individual work. At the end of the in-class session, participants were given an A-3 cardboard template structured in four layers (Figure 2). The top three were reserved for the goals and the bottom one for the action plan. The five guiding questions were written on the right so that the cognitive goal-setting process would follow the goal-sequence as explained in the class. Participants were asked to write their goals on post-its, stick them on the corresponding layer in the template, and connect the post-its with arrows according to their interdependence. The template would therefore facilitate the design of a vision-driven, well interconnected goal roadmap, supported by well thought through, specific and personalized actions. Once the template was completed, participants were then asked to upload a photo of the finished template onto the software system for the records of the leadership program. Additionally, the program suggested that participants transfer the action plan into an Excel file[1], set initial and final dates for each of the actions, and use color coding to visualize progress (i.e., a different color for action initiation, progress, and action completion).

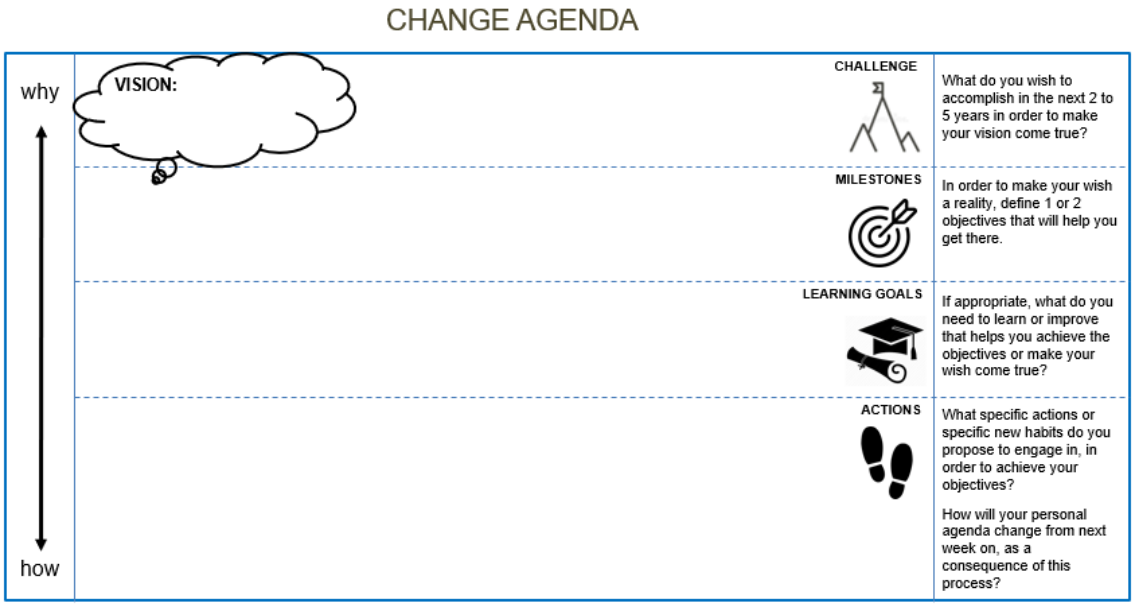


Figure 2. *Template for writing the change agenda*

Training and material for coaching session. The third part of the intervention targeted the coaches as they also play a key role in the goal-setting process. In the last one-on-one session, each participant and their coach review the goals and action plans together and discuss their coherence and their contribution to the achievement of the longer-term vision initially established by the participant. As a result of the intervention participants attended the one-on-one session with a well elaborated plan on the template. In order for the coaches to review and discuss the template with more theoretically based criteria, we provided them with a four-hour training session on the theoretical underpinnings leading to the six relevant quality characteristics. The training included some practical exercises in assessing the quality of goals and action plans based on the AGA code and provided some examples of good goal-setting quality to familiarize coaches with the template.

5.5 Results

5.5.1 Goal-setting quality

Differences between pre- and post-intervention values for the variables that determine goal-setting quality were assessed. A T-test for equality of means revealed that the increase in mean

value was statistically significant in four out of the six variables that form AQS (see results in Table 1). The increase was considerably large for the emotional attractor score (which went from -.58 up to 1.85) and for goal narrative score (an increase from 1.18 to 5.77). The score for goal specificity increased 50% (from .40 to .61) and it doubled for seeking information (from .07 to .14). Although the scores also increased for the other two variables (i.e., intentions on *how* to implement and intentions to measure progress), the increase was not significant. As a result, the overall goal-setting quality (measured by AQS) significantly increased from .42 to 6.00. Such outstanding increase in quality led to a more homogenous quality level across all individuals, as shown by a decrease in the standard deviation in four of the six AQS variables.

Table 1. *Changes in goal-setting quality due to intervention. T-tests for equality of means*

	Group 0		Group 1		Mean			Sig.
Quality features	Mean	SD	Mean	SD	difference	SE	t	(2-tailed)
AGA Quality Score (AQS)	.42	3.06	6.00	1.25	**5.58**	.43	13.11	.000
Emotional attractor score	-.58	2.46	1.85	.83	**2.43**	.32	7.50	.000
Goal specificity	.40	.60	.61	.26	**.21**	.09	2.49	.014
Goal narrative	1.18	2.08	5.77	1.56	**4.58**	.45	10.30	.000
Intentions to seek information	.07	.17	.14	.22	**.07**	.07	1.67	.099
Intentions of *how* to implement	.11	.20	.16	.17	.05	.04	1.21	.230
Intentions to measure progress	.08	.27	.12	.33	.04	.06	.58	.563
Nº of goals	3.26	2.80	7.04	1.43	**3.78**	.57	6.59	.000
Nº of clusters	1.75	.85	1.08	.27	**-.68**	.11	6.14	.000
Average nº goals per cluster	2.06	1.94	6.73	1.59	**4.67**	.42	11.06	.000
Goal nature								
Proportion of personal goals	.05	.16	.02	.07	-.03	.02	1.46	.147
Proportion of career goals	.22	.33	.29	.16	.07	.05	1.46	.149
Proportion of performance goals	.08	.20	.15	.16	**.07**	.04	1.90	.064
Proportion of learning goals	.43	.39	.36	.21	-.07	.06	1.19	.239
Proportion of task goals	.20	.32	.15	.13	-.04	.04	1.00	.321

Note: *Sample size: N=77 (Group 0), N=26 (Group 1)*
Proportions are in reference to the total number of goals by individual

Individuals wrote more goals on average (from 3.26 to 7.04), but they were more focused on a single goal cluster (from 1.75 clusters per individual to 1.08), which meant that goals were better interconnected and formed a roadmap to a longer term personal or life aspiration.

Finally, an analysis of the nature of goals revealed a logical increase in the number of career, performance, learning and task goals (as individuals wrote more goals than before), but only the proportion of performance goals per individual changed significantly, increasing from .08 to .15, thus establishing a better connection between learning goals and longer term career goals. In sum, results largely support hypothesis 1.

5.5.2 Impact on Goal-Directed Behaviors

Three out of the four GDB increased after intervention. *Seeking information* increased by 9,3%, *revising the plan* by 6,2% and *enacting the plan* by 2,0%. However, this increase was only significant for *seeking information*. This result is confirmed in the regression analysis with Group as the intervention variable, and with the three key covariates (goal commitment, grasping and transforming experience indicators), and the usual control variables age and gender in the equation. Intervention continues to have a significant impact (β=.604***) on *seeking information* beyond (as expected) the significant influence of goal commitment and of both experiential learning indicators (see Table 2). In view of these results, hypothesis 2 is only partially supported, as it only holds for Seeking Information.

Table 2. *Impact on the intervention on Goal-Directed Behaviors (GDB)*

Goal-Directed Behaviors	Sharing information		Seeking information		Adapting the plan		Enacting the plan	
Unstandardized coefficients	β	SE	β	SE	β	SE	β	SE
Group	.003	.35	**.604*** **	.22	.348	.26	.165	.13
Goal commitment	**.675*** **	.22	**.889*** **	.14	**.479*** **	.16	**.528*** **	.08
Transforming experience	-.007	.14	**-.023** **	.01	.000	.01	**-.011** **	.01
Grasping experience	**-.028** *	.15	**-.021** **	.01	-.012	.01	-.001	.01
Age	-.042	.04	.003	.02	.018	.03	.007	.01
Gender	.139	.35	.056	.22	-.064	.26	-.043	.13
R^2	.116		.330		.099		.312	
Adjusted R^2	.070		.295		.051		.276	

***. Correlation is significant at the 0.01 level (2-tailed).
**. Correlation is significant at the 0.05 level (2-tailed).
*. Correlation is significant at the 0.10 level (2-tailed).

Regressors for both indicators of experiential learning were also expected to be negative. Transforming experience is operationalized as *active experimentation – reflective observation* and grasping experience is operationalized as *abstract conceptualization –*

concrete experience. The negative sign of both regressors is explained by the fact that it is the negative side of the equation (i.e., *reflective observation* and *concrete experience*) that relates to talking to people and gathering information behaviors as the preferred learning style (Boyatzis & Kolb, 1995).

5.5.3 Mediation role of AQS

Finally, to test hypothesis 3 (i.e., AQS mediates the effect of the intervention on GDB) we tested the fit of our mediation model with Seeking Information (the dimension of GDB that was significantly higher). CFA resulted in good global fit indices (Figure 3), all being above the usual thresholds (Hu & Bentler, 1999). The correlation between Group and Seeking Information, once AQS was introduced in the model as mediator, stopped being significant. We therefore conclude that the increase in Seeking Information is explained by the increase in the quality of goals and action plans (AQS), a result that supports the third of our hypotheses.

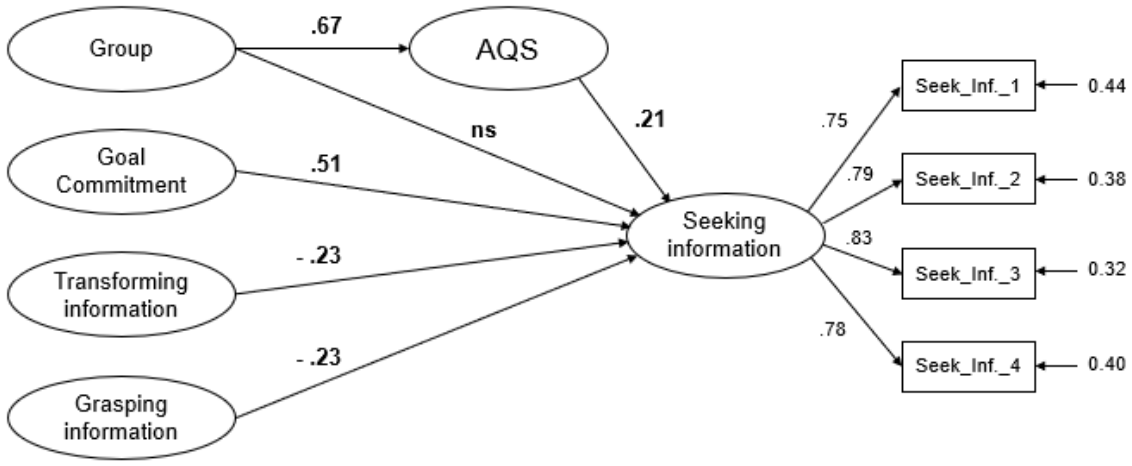


Figure 3. *Model fit test with Seeking Information, and AQS as mediation*

5.5.4 Qualitative results

The replies provided by participants to both open-ended questions were analyzed and classified under different categories using initial coding (Saldaña, 2016). Regarding the first question

(i.e., what features of the goal-setting template were most liked by participants and why), the coding process revealed all answers to be related to one of the three following features:

The first feature was content (i.e., the questions written on the right-hand side of the template) since participants claimed it helped them with goal definition (e.g., *the questions helped me define the objectives in a better way*). The second feature was structure (i.e., the four goal hierarchies: challenge, milestones, learning goals and action plans). Participants largely agreed that the structure not only helped them with goal definition (e.g., *it helps with the definition of the goal*), but also facilitated interconnecting goals to form a goal narrative (e.g., *helps to structure the change: milestones prior to the end goal*), connecting the goal narrative to the vision (e.g., *helps taking appropriate decisions to reach the vision; Facilitates a clear path to the final goal*), and helped define the action plan (e.g., *allows classifying new actions*). And the third feature was visual format (content and structure visually displayed in an A-3 cardboard), which individuals claimed also helped with goal definition (e.g., *avoids goals from different hierarchical levels being confused*) and goal narrative (e.g., *you can map all relevant things you have to do to achieve the goal*).

Besides the perceived advantages of the goal-setting template in facilitating goal definition, building a goal narrative, linking the goal narrative with a specific vision, and facilitating a final action plan, participants and coaches asserted two additional benefits: the goal-setting process facilitated self-reflection and more meaningful discussions with others. The more structured process seemed to have encouraged participants to be a lot more self-reflective. Coaches underlined this benefit as critical to the new process. Some examples of what coaches observed: *they have reflected a lot more and the work they have done is at a much deeper level; they come to the coaching session a lot more convinced of their plans; they have reflected more and now arrive a lot more prepared, with a more defined plan.* Participants claimed that having a template on the table during the group session facilitated sharing their plans with others, and therefore they were able to get new ideas and receive feedback from others (e.g., *role-plays with others in the class were very enlightening; getting feedback from other classmates on my action plan was a great way to broaden my perspective*).

The second additional benefit observed by coaches and recognised by participants is that the process facilitated discussions with others (mainly with the coach and career services).

Coaches found the one-on-one session a lot more fruitful (e.g., *they came with their template and we were able to focus on clarifying doubts or developing a specific topic; this session has become more powerful; we talked more about the learning objectives that were most helpful to achieve the higher goals*). Likewise, participants recognised how the template had facilitated conversation with the coach (e.g., *working together on the template helped me improve and complete the plan*).

The three relevant template features, their benefits in facilitating specific goal characteristics critical to goal-setting quality, and the outcomes regarding the increase in self-reflection and more meaningful discussions are all integrated in a model represented in Figure 4. Results from both this quantitative and qualitative analysis are discussed in the following section.

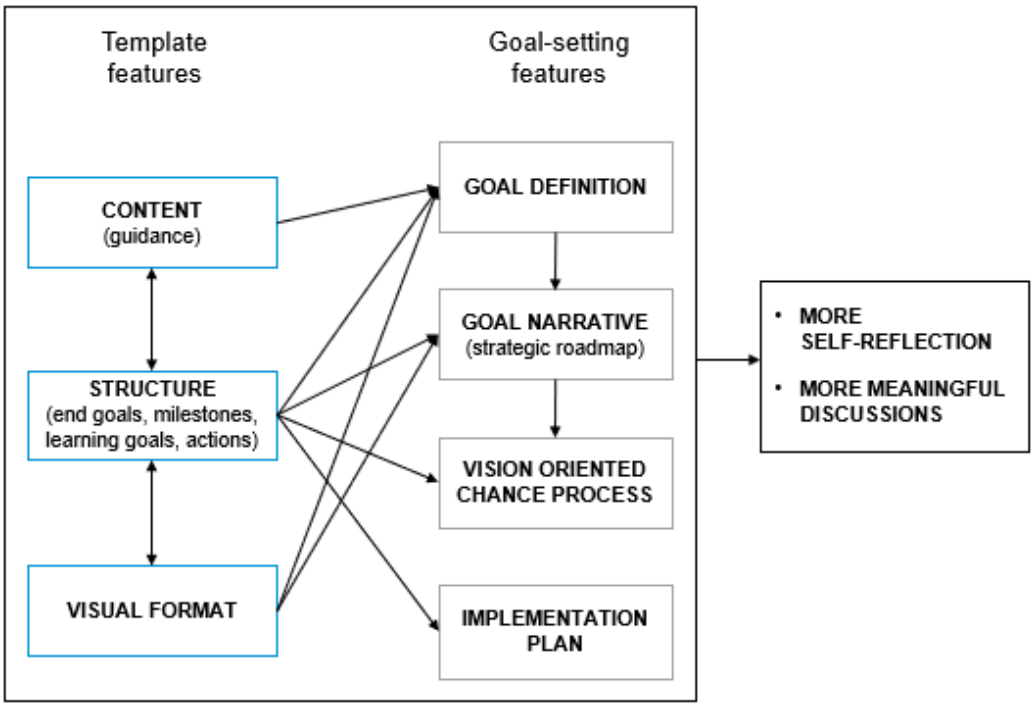


Figure 4. *Benefits of the goal-setting process using the goal-setting template*

5.6 Discussion

It is increasingly common for business schools to acknowledge the fact that managers often enroll in leadership executive programs as an opportunity to re-evaluate their personal and professional lives (Kets De Vries & Korotov, 2007). Consequently, these programs often aim at having a longer term impact and create spaces for participants to discover their vision and design their own change agenda (Russon & Reinelt, 2004). This process usually encourages managers to leave the school with a set of goals and action plans which ideally help achieve their life and career aspirations. The purpose of this research was to make this final goal-setting process more effective in increasing self-engagement in goal-directed behaviors and facilitating goal pursuit. To this end, this study evaluates the impact (both quantitatively and qualitatively) of a goal-setting intervention based on a measure of goal-setting quality expressly developed in the context of a leadership development program (Velasco, Emmerling, & Batista-Foguet, 2019).

After the intervention participants wrote goals and action plans of a substantially higher quality. Before the intervention participants engaged in the goal-setting process still with the 360-degree feedback strongly present in their minds, and thus set many goals around the competencies that most needed improving. The intervention made participants reconnect with their vision as a starting point of the goal-setting process. Consequently, they wrote a greater number of aspirational goals, and these goals were more specific and better linked to their vision statements, thus resulting in a much higher emotional attractor score and higher goal specificity (the first two indicators of goal-setting quality).

The intervention also helped participants to derive a more coherent, detailed goal roadmap, with well-interconnected goals of different natures (career, performance, learning and task goals). The use of a goal-setting template as guidance for building the goal narrative fostered more self-reflection during individual work and during the discussions with classmates and the coach. This may explain the fact that they incorporated more performance goals to bridge the gap between the more distal career goals and the more proximal learning goals. It may also explain the fact that these learning goals were more carefully chosen as instrumental for achieving the performance goals as opposed to just being a list of competencies that most needed improving. In sum, the greater effort in the design of a coherent

goal roadmap produced a substantial increase in the goal narrative score, the third indicator of goal-setting quality.

Finally, plans contained more actions involving the search for information on how to best achieve the goals. An increase in self-reflection may have made the difficulty of accomplishing long-term personal or career aspirations more salient to individuals, which may have enhanced the need for acquiring knowledge and strategies to make goal attainment easier (Locke & Latham, 1990, 2002). This consequently resulted in a higher seeking-information score (the fourth indicator of goal-setting quality).

Post-intervention values of implementation intentions of *how* and intentions to measure progress (the last two of the six indicators of goal-setting quality) were also higher, although the mean difference was non-significant. We have a statistical and a substantial explanation for such results. From a statistical viewpoint, the low number of intentions found in the plans made it difficult for the effect to appear as statistically significant. From a substantial viewpoint, the use of post-its and the use color-code Excel files in fact limited the verbalization of intentions. Elaborating action statements that include how actions are to be performed requires lengthy statements difficult to fit on a post-it. Action statements were therefore succinct which may explain why implementation intentions may not have increased as expected. Additionally, since actions were then translated to an Excel file with a color-coding system for visualizing progress, individuals may not have felt the need to add specific actions for measuring progress.

To sum up, the intervention considerably helped increase the quality of goals and action plans, with four out of the six indicators of goal-setting quality being significantly higher. The intervention also led to a significant increase in Seeking Information (one of the four GDB) measured three months after goals were set. The effect of the intervention on Seeking Information is explained by the increase in goal-setting quality (AQS), which, as hypothesized, fully mediates the relationship (see Figure 3). The fact that the intervention had no effect on *Sharing Information* may be explained by the fact that the intervention unintentionally[2] involved translating the action plans into a list of steps in an Excel file, a level of detail that may have made it difficult for participants to share their plans with others. Regarding *Revising the Plan* and *Enacting the plan*, we attribute the non-significant increase to two reasons. First,

the fact that during the three months before data collection, participants were still involved in the leadership program while attending their working and family responsibilities. Such a busy period may have limited the possibilities to use the information obtained to revise and enact the plan. Second, goal-setting quality increased significantly but to similar values across all individuals, which narrowed the variability of AQS. The narrow range in AQS values together with the small sample size negatively affected the statistical power of the tests. While under such low power a significant increase in *Seeking Information* is conclusive, the non-significant effect on *Revising the Plan* and *Enacting the Plan* may be inconclusive.

5.6.1 Theoretical and practical contributions

This study contributes to the literature of goal setting in contexts of individual intentional change. First and foremost, it contributes to further validating a measure of goal-setting quality (AQS) specifically developed for assessing goals and action plans in leadership development programs (Velasco, Emmerling, & Batista-Foguet, 2019). Results provide evidence of the positive effects of goal-setting quality (AQS) on engagement in goal-directed behaviors (i.e., seeking information), thus strengthening the criterion (predictive) validity of the AQS construct.

In light of the theoretical framework of the study, AQS could be seen as a proxy for the cognitive-emotional processing triggered by the goal-setting intervention. First, findings of the study seem to be consistent with Intentional Change Theory (ICT) (Boyatzis, 2006, 2008). An increase in AQS indicates that the change process is better leveraged on a specific vision, hope and aspirations, thus arousing more positive emotions (Boyatzis, 2006, 2008) which make individuals be cognitively more open to new ideas and possibilities (Boyatzis, 2008; Fredrickson, 2001). This cognitive openness is likely to facilitate self-reflection and more meaningful discussions with classmates and coaches on how to optimally approach the complex goal pursuit (Passarelli, 2015). Vision-based change processes generate more goal-directed energy and resilience (Mosteo, Batista-Foguet, Mckeever, Serlavós, 2015), and more intrinsic motivation (Boyatzis, 2008; Boyatzis et al., 2015; Howard, 2015). Altogether, this may explain why, despite the lack of time (most participants work while still completing the MBA), results show a higher engagement in seeking information behaviors after the intervention.

Second, this research also contributes to goal-setting theory and most particularly to the literature of multiple goal pursuit (see Sun & Frese, 2013). An increase in AQS reflects a higher cognitive effort made to establish a well-interconnected goal roadmap, with more proximal goals leading to more distal, aspirational goals. Proximal goals are easy to achieve and increase perceptions of self-efficacy (Latham and Seijts 1999; Bandura & Schunk 1981), which is likely to increase commitment to the goals (Locke & Latham 1990) and hence also explain the higher effort in seeking information. A main tenet of goal-setting theory is that searching for task-appropriate strategies is one of the mechanisms that helps individuals progress toward difficult goals that involve complex tasks (Locke & Latham 1990, 2002). This was often the case for the goals in our study. The intervention is also likely to have induced a state of learning orientation (Payne, Youngcourt, & Beaubien, 2007) through an increase in self-reflection on what needs to be learned and developed for achieving higher end goals. This induced learning orientation is likely to have triggered more intentions to seek information, which were then written into the action plans, and later translated into the corresponding seeking-information behaviors. In conclusion, the findings of this study exemplify Bandura's (2001, p. 8) statement that "progress toward valued futures is best achieved by hierarchically structured goal systems combining distal aspirations with proximal self-guidance."

The fact that the intervention was applied in the real setting of an executive leadership program makes the study have a strong external validity, and consequently its findings have immediate implications for practice. To encourage replication, the study provides a comprehensive guide for practitioners on how goal setting should be optimally designed to be most effective in helping participants engage in goal pursuit and advance in their change process.

All stakeholders of the program (business school managers, coaches, career service, and participants themselves) positively valued the benefits of the intervention. First, participants benefit as they come out with a meaningful, well-structured and coherent roadmap for reaching their aspirations, which seems to facilitate engagement in the first steps of goal-pursuit. The process minimizes the common mistake of focusing on fixing weaknesses which often leads goal setting to generate a list of competencies (from the 360 feedback) that need improving, at best combined with some aspirational long-term goal. Second, the coaching process is more fruitful. Participants' self-reflection, preparatory work, and openness to new

ideas facilitate more practical and meaningful discussions on how to improve their learning agenda and overall plan. Coaches, as well as Career Services (for participants in the job market) can be of greater help and enjoy the process more. Finally, business schools that leave goal setting to the participant's own discretion now have the opportunity of guiding participants during this key process and thus of increasing the impact of their leadership development programs on the change process of their participants.

5.6.2 Limitations and Future research

To ensure maximum response rate, survey data for all samples was collected just before the end of the leadership development program, only three months after goals were set. During this period individuals were still involved in the Executive MBA program while attending to their daily job obligations, and consequently the spare time to enact their plans was limited. Therefore, the fact that one of the four GDB (i.e., seeking information) was significantly higher after intervention is very relevant, even more so given the low statistical power derived from the modest sample size. This may explain why the effect on the two subsequent GDB (revising the plan and enacting the plan), was smaller and hence non-significant. Attempts to replicate this quasi-experimental study should be made with goal progress measured months beyond program completion. Such replications may yield stronger effect sizes and higher variability in the dependent variable (GDB), and consequently the statistical tests would have more power to detect significant effects.

Causal inferences from the intervention must be made with caution. The study has some threats to internal validity since the control group (prior to intervention) and the experimental group (after intervention) are different cohorts, and although both samples are fairly homogeneous (they are all managers of the same Executive MBA program) selection threats are present.

To avoid fatigue from lengthy surveys, besides the 18 items of GDB and the open-ended questions, we only included a measure of goal commitment as the variable that the literature has consistently shown to be highly influential on goal-directed behaviors (Earley et al., 1992; Latham, 2004; Latham & Locke, 2007; Shah, Friedman, & Kruglanski, 2002; Slocum et al., 2002; Wofford et al., 1992). However, other variables that are also within the nomological network of GDB, and not controlled for in this study, could also explain

differences in GDB. This could be the case of self-efficacy (Bandura, 2001, 2013; Latham, 2004; Slocum et al., 2002), goal orientation (Payne et al., 2007; VandeWalle et al., 2001; Taing, Smith, Singla, Johnson, & Chang, 2013), or feedback orientation (Braddy, Sturm, Atwater, Smither, & Fleenor, 2013). Future research should include these variables not only to diminish selection threats, but also to explore their possible influence on the different indicators of goal-setting quality and its final quality score.

Since the intervention was a molar treatment package (see Shadish, Cook and Campbell, 2002) consisting of different parts (slides, goal-setting template, Excel file, training to the coaches), causal explanations must be made with caution, as it is not possible to identify the effect of each part on the different outcomes measured in the study (the mediating role of goal-setting quality, and its final effect on goal-directed behaviors). Future research should study, for example, the effect of coaching on the goal-setting quality and its outcomes. Positive results would reinforce the need for coaches to be trained in assessing goal-setting quality for optimal success of such interventions.

5.7 Conclusion

Executive education programs in business schools are increasingly responding to their participants' need for re-evaluating their personal lives and professional careers. To this end, these programs include leadership development modules that not only promote the development of leadership competencies (typically through 360-degree feedback tools), but also create spaces for participants to define their future life and career aspirations. They often incorporate a sophisticated combination of presential classes, group workshops, and one-on-one coaching sessions all leading to the design of a final change agenda. However, it is not uncommon for participants to end up writing a list of goals and action plans at their own discretion, which in the best-case scenario might end up being SMART, and in the worst case a purposeless array of competencies that need improving. With the present study we assessed the benefits of a smarter way of going about setting goals and action plans through a real intervention in the goal-setting process of a leadership development program. Through a considerably greater cognitive effort, participants produce hierarchically structured goal roadmaps that connect action plans, carefully chosen learning goals and performance goals with the more distal life and career aspirations. The change agenda seems to be more

meaningful and produces higher engagement in goal-directed behaviors, an engagement that manifests within a few months after goal setting is completed. We hope this study encourages business school managers of similar programs to re-evaluate their goal-setting processes given the positive impact that good quality goal setting may have on the individual change process their participants are about to start.

Endnotes

1. Open-ended questions were added to the survey only for the experimental group.
2. The transfer of action plans into an Excel sheet was not originally planned as part of the intervention. However, we took this last exercise into account as program management allowed this initiative to be implemented on the same cohort of the intervention, and in the eyes of the participants this tool was seen as part of the goal-setting process.

6

6. Discussion and conclusion

In executive education, leadership development programs increasingly help participants engage in their personal and professional transitions (Kets de Vries & Korotov, 2007; Russon & Reinelt, 2004). Therefore, these programs often lead participants to establish not only goals that relate to the development of specific competencies, but also goals that relate to career advancement or to achieving a more general life aspiration. Since individuals usually have full discretion in writing their goals and action plans (at best they may be reminded that goals should be SMART), goal-setting characteristics end up varying greatly from individual to individual.

Given the fact that goal setting is a keystone in such intentional change processes (Boyatzis, 2006, 2008), it constitutes a good opportunity for these programs to exert a positive impact on their participants. The main purpose of this doctoral thesis was therefore to discover how the goal-setting process can be improved to make this final step of the leadership development programs more impactful. To this end, the three studies aimed at answering the following overarching question: how can goal setting be most effective in helping participants progress toward their goals?

To accomplish our research objective, we first developed a measure of goal progress (Study 1) and a measure of goal-setting quality (Study 2). Results from this second exploratory study indicate that individuals who most engage in goal pursuit share four goal-setting

characteristics. First, they seem to specify an aspirational goal that is closely connected with their vision. Second, they appear to make an effort to develop a roadmap of well-interconnected goals that lead to the previous aspirational goal. Performance goals (e.g., goals involving job-related outcomes) and learning goals (e.g., goals involving the development of competencies) are all woven into a goal narrative that leads to the higher-end career or life aspiration. Third, these individuals seem to recognize the difficulty of some goals and the complexity of some tasks, because they seem to plan more actions that involve seeking information on how to better achieve the goals. Forth, these individuals seem to show a higher intention to act. This is manifested through the description of details of how the actions are to be implemented and how progress toward the goals is to be measured. The final goal-setting intervention (Study 3) helped us further validate these results and provided a more nuanced understanding of the advantages of a more guided, and hence higher quality, goal-setting process.

6.1 Theoretical and methodological contributions

This research first contributes to fill a gap in the leadership development literature (Hooijberg & Lane, 2009) by providing a proximal measure of goal attainment (i.e., our general scale of GDB), which is developed to assess the short-term impact of leadership development programs. Most specifically, this new scale is most indicated to assess programs designed around Intentional Change Theory (ICT) (Boyatzis, 2006, 2008) as it captures general goal-directed behaviors that such vision-based coaching programs seek to promote.

Second, this research contributes to Intentional Change Theory (Boyatzis, 2006, 2008). Results provide compelling evidence that anchoring goal setting in one's vision (personal or career aspirations) makes the person more cognitively open to new ideas (Fredrickson, 2001), facilitates self-reflection and discussion with others on how to optimally approach goal pursuit (Passarelli, 2015), and leads to an increase in effort and engagement in the change process (Mosteo, Batista-Foguet, Mckeever, Serlavós, 2015). In fact, among several characteristics of goal-setting effectiveness, leveraging goal setting on positive emotions is the one with the highest influence.

This research also contributes to goal-setting literature by responding to the need for a better understanding on how multiple goals of different natures and characteristics can be best

combined to make goal setting most effective (Locke & Latham, 2007, 2013). The main conclusion from our exploratory study is that not all characteristics that theory claims as required for goal setting to be effective need to be present. And from the one's present, some appear to have a lot more influence than others in helping individuals engage in their personal change process. For example, contrary to previous research (e.g., Slocum, Cron, & Brown, 2002; Wilson et al., 2015), the number of goals or action plans (within the range of our sample) seem to be irrelevant to goal-setting effectiveness.

Besides the benefits of anchoring goal setting in the vision, results show five other characteristics as required for goal setting to be more effective, all supporting some of the main tenets of goal setting theory. First, goals need to be specific (Locke & Latham, 2002; Latham, 2004), but goal specificity is especially relevant for higher end aspirational goals as it makes goal setting more *vision-specific* and therefore more likely to generate positive emotions. Second, findings also support the main tenet of multiple goal pursuit (Sun & Frese, 2013) in that goal setting is more effective when goals do not compete for time and resources, but instead help each other in a form of a structured goal roadmap. It is not the number of goals that matters, but whether they are all well interconnected.

Third, and regarding the implemental phase of goal setting, results show that planning to discover strategies on how to best attain the goals also increases goal-setting effectiveness. Theory indicates that when goals are difficult and require complex tasks (e.g., a career goal, or the development of a leadership competence), seeking task-relevant information is a key mediator to goal attainment (Locke & Latham, 1990, 2002). Fourth, for plans to contribute to effective goal setting they need to contain, as theory predicts, implementation intentions (Gollwitzer & Brandstätter, 1997; Gollwitzer, 1999; Gollwitzer & Sheeran, 2006), but only related to *how* the action is to be implemented (specifying *when, how often*, *where*, and *with whom* was not shown to be relevant). Planning actions responds to *how* goals are to be implemented, and therefore specifying *how* these actions will be implemented responds to yet another *how*. Our findings reveal that not all implementation intentions may be equally effective. Asking oneself *how* the action will be enacted seems to have higher self-regulatory power than the rest (*when, how often, where,* and *with whom*). Fifth, planning to measure goal progress also seem to contribute to goal-setting effectiveness, although to a smaller degree but

still congruent with another main tenet of goal setting theory, the moderating role of feedback (Locke & Latham, 1990, 2002; Harkin et al., 2016).

This research not only enabled us to develop a contextualized understanding of goal setting in leadership development programs, but it also contributed to research methodology. In response to the call for an increase in mixed-method research in the field of leadership (Conger, 1998; Cresswell & Plano Clark, 2011), the second study provides a detailed account of mixed-method research which, based on an exploratory sequential design (Stentz, Plano Clark, & Martin, 2012), shows how qualitative research methods (in our case thematic analysis of rich data) can be combined with quantitative research methods to stay within the positivistic paradigm.

6.2 Practical implications

Results from this research have important practical implications. First, the new general scale of Goal-Directed Behaviors offers the possibility for business education institutions to assess the short-term impact of their leadership development programs. Schools will be able to measure the degree to which participants engage in their personal change process as early as a few months after goals are set. Such a short timeframe is likely to increase the response rate as participants are more likely to still be highly engaged with the institution.

The nuanced understanding on how to make goal setting more effective has a direct implication on how stakeholders of these programs (program managers, coaches and participants) may approach goal-setting processes in the future. Although participants engage in goal setting with the 360-degree feedback strongly present in their minds, teachers or coaches of the program should help participants reconnect with their vision as a starting point of the goal-setting process. Writing purposeless lists of goals on the competencies that most need improving should be avoided at all costs. With this research we also challenge the conventional and universally accepted prescription of writing specific, measurable, attainable, relevant, and time-bound (SMART) goals. Consistent with recent research (Bjerke & Renger, 2017), setting SMART goals may not always be possible or even necessary as a first step. Instead, stakeholders may consider the six characteristics of goal-setting effectiveness as guidance for the goal-setting process. For example, while it is important for aspirational goals

to be SMART (e.g., *I want to become marketing director of a pharmaceutical multinational company by the year 2022)* it is less relevant if learning goals are not SMART, as is often the case (e.g., *to improve conflict management*). Our research shows that what is most important is that learning goals should be instrumental in achieving higher end performance or career goals, should be connected to plans that anticipate the search for strategies on how to attain the goal (e.g., *I am going to get advice from my coach on what to do*), and connected to plans that describe actions to attain the goals and specify *how* these actions are intended to be implemented (e.g., *in situations of conflict I will try and focus on points of agreement by asking questions about the other person's point of view*).

Our research already brings to light some of important implications of guiding goal-setting processes based on the six characteristics of goal-setting quality. Our intervention in the ESADE LEAD program reveals the more time participants spend reflecting on the goals and plans, the more they are open to new ideas and to having more meaningful discussions with classmates, coaches and career services. Participants end up designing more meaningful, well-structured and coherent roadmaps for reaching their aspirations, which seem to facilitate engagement in the first steps of goal pursuit.

6.3 Limitations and future research

A first limitation of this research is that construct validation of our dependent variable (i.e., goal-directed behaviors) has only tested convergent and divergent validity. Although the construct is used as a short-term measure of program success (i.e., programs have a positive impact if they engage participants in their change process early on after goals are set) this is no guarantee that goals will be attained. Goal progress is a necessary (but not sufficient) antecedent of goal attainment since, specifically in long-term goals such as a job promotion or a career change, there are many factors that can impede their attainment. Therefore, the construct should be further validated by testing concurrent (predictive) validity. Future research should embrace longitudinal studies that measure goal attainment at later points in time and assess the degree to which goal-directed behaviors predict success in attaining the goals. In view of the results, further research could include more qualitative studies to understand the problem of abandoning goal pursuit (Gollwitzer, Heckhausen, & Steller, 1990). This knowledge may be useful for business schools in helping students to better prepare for

their personal change process. Data collection on goal attainment in longitudinal studies would also open the possibility for future research to further validate the predictive power of the AGA code.

Correlation between goal-setting quality (AQS), as measured by the AGA code, and goal-directed behaviors (GDB) does not mean causation. Although the goal-setting intervention using a quasi-experimental design was aimed at diminishing internal validity threats inherent in the previous correlational study, causal inferences between AQS and GDB must be made with caution. The control group (prior to intervention) and experimental group (after intervention) belonged to different cohorts and therefore may not have been equivalent in some relevant individual variables not controlled for in the study. To diminish selection threats, future research should replicate similar interventions and control for some of these variables that goal setting literature has shown to influence goal-directed behaviors, such as self-efficacy (Bandura, 2001, 2013; Latham, 2004; Slocum et al., 2002), goal orientation (Payne et. al., 2007; VandeWalle et al., 2001; Taing et al., 2013), or feedback orientation (Braddy et al., 2013).

There are also threats to the validity of some statistical conclusions. Data collection after the goal-setting intervention yielded a modest sample size. Additionally, goal-setting quality increased significantly but to similar values across all individuals, which narrowed the variability of AQS. Both the small sample size and the narrow range in AQS values negatively affected the statistical power of the tests. Under such low power, the significant increase in *Seeking Information* is conclusive, but we cannot claim the same for the increase in both *Revising the Plan* and *Enacting the Plan*. Future research should replicate the study to increase post-intervention sample size and further validate the statistical conclusions of the study.

To ensure maximum data collection, surveys were delivered when participants were still involved in the Executive MBA program (three months after the goal-setting session and just before program completion). During this period, students had to attend to their daily job and family obligations while still engaged in the program and consequently the spare time to enact their plans was limited. Future research on similar goal-setting interventions should consider evaluating goal-directed behaviors a few months after program completion as life might offer more possibilities for striving toward the goals.

Future research should also explore the external validity of our results by applying similar interventions in other type of educational programs, such as those devoted to the development of specific soft skills or technical skills. Some of the findings of what constitutes goal-setting quality should also be applicable in those contexts, such as linking learning goals to performance or aspirational goals, and anticipating intentions on how to implement actions that lead to goal attainment. Programs that focus on developing specific soft or technical skills are more likely to be able to assess goal attainment, which could also contribute to the predictive validation of our general goal-directed behavior scale.

Finally, since the intervention was a molar treatment package (see Shadish, Cook, & Campbell, 2002) consisting of slides for the goal-setting class, the use of goal-setting templates, and training for the coaches, future research should aim at studying the effects of each part on goal-setting quality and goal-directed behaviors. Of these three, it would be especially relevant to assess the effects of AQS-based coaching (i.e, coaches trained in goal-setting quality based on our research), which is intrinsically vision-based coaching (e.g., Passarelli, 2015; Mosteo et al., 2015; Howard, 2015) but with the added benefits of additional assistance in making goal setting more effective.

6.4 Conclusion

Goal setting, although it may appear as a last exercise in a leadership development program, should not be undermined and left to the sole discretion of their participants. Goal setting is the cornerstone to the personal change process participants are about to begin and as such, it would be a missed opportunity for business schools not to use it for enhancing the impact they can exert on their participants' personal journey. With the present research we hope to encourage other business schools with similar programs to better assist their participants in making goal setting more effective and thus help them engage in the pursuit of their career goals and life aspirations.

Ethical Review Approval

This study was carried out in accordance with the guidelines regarding the Use of Human Subjects in Research issued by the ESADE Research Ethics Committee, affiliated to the Ramon Llull University of Barcelona. The study has been reviewed and approved by the ESADE Research Ethics Committee. Written informed consent was obtained from all research participants. A copy of the Application Form for Ethical Review (Approval number 002/2017) is available at request to the principal author.

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Annex: the AGA Code

1. Codebook for goal statements

Goal statements typically contain one goal, which is coded according to the first two goal categories: goal nature and goal specificity. However, goal statements may contain more than one goal. Before starting to code for goal nature or goal specificity, it is important to identify the different goals that a goal statement may contain. There are two cases with more than one goal:

- **Multiple separate goals:** A goal statement may have more than one goal. If the goals are coded as separate goals (according to the guidelines in the goal interdependence category of the codebook), each goal is subject to being fully coded as goal nature and goal specificity.
- **Sub-goal (SG) and End-goal (EG):** A goal statement could also contain an initial proximal goal (here called sub-goal) and a description of a final aim, purpose or more distal goal (here called end goal). The sub-goal is coded according to goal nature and goal specificity. Since the end goal may influence the emotional attractors of the goal cluster (one of the goal categories of the code), it should also be coded according to its goal nature.

If there are more than two sequentially interdependent goals, the code is fully applied to the first, most proximal goal (sub-goal), and the remaining goals (end goals) in the sequence are only coded according to goal nature.

The link between a sub-goal and an end goal is usually found in connecting words such as: to / in order to / and as a result / this will allow me to / which will help me to / to be able to. Examples:

- ✓ *To improve self-confidence / self-esteem* (SG)*, which will allow me to achieve my vital purpose in a more efficient and satisfactory way* (EG)
- ✓ *To work my assertiveness* (SG) *to be able to become less doubtful and more confident in my work* (EG1)*, and to achieve a leadership position that is visible and active* (EG2) (this statement involves three goals, a proximal sub-goal that is instrumental to two other – separate – end goals. Only the first goal is fully coded. The other two are only coded for their nature.
- ✓ *To get actively involved in my company's 2025 strategic plan* (SG) *and get to lead a team with a clear global vocation (both from the geographical and multidisciplinary point of view)* (EG). *The change of position also implies to have an international life experience, both personally as well as in the family environment, which would be part of the educational and cultural upbringing of all the family members* (this additional statement seems to specify the consequences of achieving the end goal).

When in doubt, the guidelines in the goal interdependence category of the codebook may help clarification

How to apply the Codebook for Goal Statements

1. Identify if goal statements have more than one goal
2. Each goal is coded according to goal nature
3. Each goal is coded according to goal specificity, except for end goals within a multiple goal statement.
4. Goal interdependence is then assessed at an individual level to form goal clusters.
5. Once goal clusters are identified, emotional attractors at a cluster level are assessed.
6. Goal parsimony is calculated at the individual level by adding all the identified goals.

GOAL NATURE

Goal statements can be classified as achievement goals (learning or performance goals), career goals, personal goals, task goals or others.

a. Learning goal (L): achievement goals that describe a competency-related future end state that the individual is committed to either approaching or avoiding. In contrast to a performance goals, a learning goals focus on acquiring or mastering skills, abilities, knowledge, or competencies, and therefore they are expressed in terms of learning, improving, developing, acquiring or increasing, that knowledge, those skills, abilities or competencies. Typical instances of learning goals are:

- <u>To acquire knowledge.</u> The goal relates to the search for information, knowledge acquisition, or reaching the best strategies, processes or procedures, which will then help to accomplish subsequent goals. This learning process can be done through external sources or through reflection and self-insight. Someone wanting to identify, find out, learn, discover or search for ways to develop a competency, would qualify as knowledge acquisition. It is about learning what needs to be done to improve a competency. Examples: *To reach a professional level of English; To better understand what my strengths are in order to find the right future career path (*i.e., to get self-insight. for better decision making); *To discover five effective strategies to increase market share* (which could be done through an external source or through reflection); *To find out the best plan to develop my communication skills* (learn how to improve a skill).

  Almost but not quite:

  - ✓ When the goal is about achieving a standard of excellence, and therefore it is about achieving the outcome as opposed to the knowledge acquisition per se. Example: *To get the Proficiency Certificate of English* (the intent is not the learning process but the outcome of getting an official certificate). This would be an example of a performance goal.
  - ✓ When the design of strategies, processes or procedures is part of a job routine. *To design the 2017 business strategy* (a routine process that is done on a yearly basis). This would be an example of a task goal.

- <u>To master a task</u>: Expressions using wordings such as to improve, to become better at, to master, or to learn how to do a task. Examples: *To get better at using excel.*

- To master a skill, ability or competency: emotional and social intelligence competencies, cognitive competencies, (see Annex 1) or other work-related competencies or skills. Expressions using wordings such as to develop, to improve, to increase, to raise the level of, or to gain, followed by the description of a skill, ability or competency, would be instances of learning goals. Examples: *To improve speaking in public*; *To gain influence with regards to my bosses; To learn how to listen; To gain experience in the company finances* (develop a context-relevant skill)

  Expressions referring to an increase in use of a **behavior** or the performance of a **task** with a clear **intent** to develop or improve a skill, an ability or a competency. Examples: *To listen more often* (more use of a behavior with the intention of getting better at it, i.e., to improve empathy*); To control my emotions* (the intent is to learn how to better control the emotions, i.e., to improve self-control); *To foster influence on my bosses* (the intent is to learn how to foster influence on my bosses, i.e., improve influence). When in doubt between a task goal or a learning goal, the goal should be coded as a learning goal: *To look for a friend to whom "air the grievances" weekly about one's feelings* (the intent is not clear: it could be to improve self-awareness, which would qualify it as a learning goal, but it could also be to release stress or frustration, which would not imply any learning process, and thus qualify as a task goal. When in doubt, the goal is coded as a learning goal).

- To improve a personal trait, which involves a learning process of how to adapt, learning to change a habit or a behavior in specific situations. Examples: *To improve my self-esteem / self-confidence; To stop being tense waiting to answer* (i.e., the person wants to improve her patience and interrupt less); *To value my own criteria more* (i.e., the person wants to improve her low self-esteem*); To think more about myself and stop always paying attention to others; To learn how to say no more often.*

  When in doubt between coding the goal as the improvement of a personality trait or as the improvement of a competency, the former is to be chosen.

b. Performance goal (P): achievement goals that describe a competency-related future end state that the individual is committed to either approaching or avoiding. Unlike learning goals, performance goals focus on reaching a level of performance in relation to others (appearance-approach), to a standard of excellence (normative-approach), or both (evaluative-approach). Progression or development toward the end state has little or no value unless the end state is reached. Choice, effort, persistence and ability (extant knowledge and skills), are all that is required to achieve the goal. Instances of performance goals are:

- Appearance goal. To show or demonstrate your ability or performance to others. Examples: *To demonstrate the top management that I can lead international teams* (to approach a desired end state, hence an approach performance goal); *To increase my credibility in the company* (in the eyes of others).

- Normative goal. To reach a standard of excellence, which can be a specific standard, or a standard involving a competitive approach in relation to others. The standard of excellence can be self-set or imposed). Examples: *To increase sales to $ 2M a year* (specific standard of excellence)*; To lose 5 kilos* (self-imposed standard of excellence);

To become the best in the class in maths (a competitive approach in relation to others); *Not to miss the monthly sales target* (an avoid performance goal, as the desire is to avoid missing the target).

- Evaluative goal: A goal that combines both approaches: normative and appearance. Example: *To show my team that I am the best manager in the company.*
- Outcome goal: when the goal only describes a specific, positive outcome to be attained. Examples: *To give up smoking* (no knowledge or skill development are required, only effort and persistence, and a more frequent display of behaviors such as self-control or discipline); *To open a new office branch in Canada* (an end goal); To attract good talent to my team (an end goal); *To guarantee the success of the company by capturing new customers* (the focus is on the success, hence the good performance of the company, as opposed to the aspiration of creating or developing a new company)

c. Career goal (C): goals related to the career domain, such as goals related to career advancement, career change, job promotion or getting a new job. Examples: *To approach the fashion world* (i.e., step into or get involved with a new occupation); *To set up a start-up; To get a new job.*

Almost but not quite

- ✓ *To search for a job that is coherent with my vision and with my talent in order to feel self-fulfilled* (the goal is to search, which is instrumental to the implicit goal of getting a new job: the goal should be classified as a task-goal, as it focuses is on the activity that leads to the desired outcome)

d. Personal goal (Ps): goals related to the personal domain. The goal describes the intent to pursue or achieve a desired end state. Goals related to personal well-being or affiliative goals are typical examples of personal goals: *To get married and have children; To live the moment and better appreciate the small things of everyday.*

e. Task goal (T): when the goal refers to performing tasks or doing an activity, using knowledge, skills, abilities or competencies that the individual already possesses. Tasks goals are usually proximal goals (i.e., ones that imply immediacy of action) and are therefore instrumental in achieving subsequent goals. The focus is on the task or activity (hence allocating time to the task or activity is at the core of goal attainment).

- Learning-related tasks. When the task or activity is instrumental in learning. Wanting to do a course or attend a seminar are typical examples of learning-related tasks. Examples: *To go to an English school three times a week; Do a design-thinking course; Participate in a seminar on presentation skills* (the three examples are tasks that are instrumental to learning).

Almost but not quite:

- ✓ Behavioral tasks. When the goal consists of displaying or putting into practice behaviors with a learning intent, the goal would qualify as a learning goal. Typical instances are the practice of behaviors to improve skills and competencies. Examples: *To listen more often* (the goal is to practice in order to become better at it). This would be an instance of a learning goal.

- Work-related tasks. When the task or activity is related to the present work environment. Work related tasks are usually instrumental to performance goals. Examples: *To delegate more non-core tasks* (the objective is not framed in terms of learning how to delegate, but to do more delegation, probably to reduce work-load, to reduce stress, or to be a more effective manager); *To organize weekly follow-up meetings with my team.*
- Career-related tasks. When the task or activity is related to the career domain. This typically relates to tasks instrumental to getting a (new) job, or to advancing one's career. Examples: *To actively search for a new job that is oriented to finance management* (the goal is not to get the job, but to do a more active search, which is instrumental to the implicit goal of getting a new job); *To improve my networking…and use it* (this may be thought of as a learning goal, but it is not about learning how to do networking, but about doing more of it, as instrumental to a career goal: to get a new job).

  Almost but not quite*:*

  - ✓ When the task is aspirational, and therefore the task is the goal in itself. *To set up a start-up* (this is not a routine career-related activity instrumental in achieving any other goal, but the goal itself). Therefore, this would count as a career goal.
- Personal-related tasks. When tasks belong to a personal sphere, such as family, health, sport, or friends. The tasks are framed in terms of performing an activity in the personal sphere. Examples*: To play tennis; To see more of my friends; To donate blood; To spend more quality time with my family.* Tasks that involve improving the personal well-being in different spheres. Example: *To prioritize what suits me over what suits others.*

Exclusion criteria

When in doubt between work-related tasks or behavioral tasks, behavioral tasks take priority and therefore they should be classified as learning goals. Example: *To better convey my emotions at work* (this could be interpreted as either to learn how to better convey emotions – a learning goal -, or just to convey emotions more often – a task goal -). Since both interpretations could be possible, the goal should be classified as a learning goal.

f. Others (O): goal statements that cannot be classified in any of the previous four categories.

- Not a goal: goal statement that is not a goal in nature, but something else (i.e., the expression of a need, a problem, a description of something…). Examples*: I like showing my boss the progress I am making with the project* (a statement that expresses a need); *I find it difficult to focus on my emotions on a regular basis* (a statement of a problem).
- Too vague to be determined: when unable to determine the meaning of the goal. Example: *To grow to convergence* (the goal statement is so vague and could mean so many things, that we are unable to determine the nature of the goal), *To find my space*

to grow (the goal is too unclear as to determine whether it is a learning goal, an aspirational goal, or something else…)

GOAL SPECIFICITY

The degree to which the definition of the goal enables an objective assessment of progression toward goal attainment, or assessment of actual goal attainment.

a. Very specific (VS): the goal is defined with a level of detail that enables objective assessment of goal completion. For a goal to classify as "very specific", details about the "what" and about the "when" (or "by when") need to be specific. A specific "what" is more easily found in performance, personal or career goals than in learning or task goals. For the "what" of a learning or task goal to qualify as specific, the desired end state must provide quantification details, such as "how much" or "by how much" the learning or display of behavior is desired. Examples of very specific goals:

- Performance, career or personal goals, with specifics on "what" and "when". First, the desired outcome (the "what") must be specific enough to make assessment of goal completion possible. The additional specifics about the "when" makes the goal qualify as "very specific". Example: *To get a new job by the end of this year* (the what is to get a new job, the when is by the end of this year).
- Task (non-repetitive) goal, with specifics on "what" and "when". First, assessment of task completion (the "what") must be possible. Additional specifics about the "when" makes the goal qualify as "very specific". Example: *To update my Linked-In profile data by the end of this month* (the "what" is specific as task completion can be easily assessed - when Linked-In profile data are updated -, and the "by when" is also specific)
- Task (of a routine nature), with specifics of "what" and "when". First, assessment of task completion (the "what") must be possible. In the case of a routine task, additional specifics about the "when" can be references to the frequency in which the desired task is to be performed. Example: *To control the accomplishment of the production planning on a weekly basis* (frequency of task performance is provided, which facilitates quantifying the percentage of goal attainment at any moment). Frequency can also be expressed as situational cues, such as in the following examples: *To assign a responsible person to every project* (situational cue: every project); *To send the agenda three days before every meeting* (situational cue: each meeting).
- Learning goal with specifics on "what" and "when". First, the goal needs to specify the level of learning that is required for goal completion. This is easier to do in knowledge acquisition goals than in competency improvement goals. Once this level of learning required is specific, adding a time frame to the goal makes it qualify as "very specific". Examples: *To improve my English up to proficiency level by the end of 2018* (level of learning: proficiency level, and time limit to reach this level: end of 2018); *To get my English to proficiency level starting (classes) in September"* (mentioning the starting time is a reference to "when" as it indicates that the learning process starts in September and finishes once the level of proficiency is reached. The starting date indicates a

timeframe); *To develop a strategy by the end of next month* (level of learning: once the strategy is developed, and timeframe: end of next month).

Inclusion criteria

If the "what" is specific and the "when" is not mentioned, there is one case in which the goal would qualify as "very specific". This occurs when the coder clearly interprets from the context that the individual writing the goal knows exactly the time when the goal needs to be accomplished. Example: *To actively participate in the design of the 2025 strategic plan of the company* (this event takes place at a specific time, with dates fixed by the company, and that seem to be well known by the person stating the goal).

b. Specific (S): the general idea of the goal (the "what") is clear (i.e., the desired end state is detailed), but the temporal details are missing. For the "what" of a learning or task goal to qualify as specific, an explicit effort must be made to define the desired end state. This is usually done by stating "how much" or "by how much" the learning or display of behavior is desired. Since the details of "when" are missing, the goal attainment can be therefore only partially or inconclusively assessed. Instances of specific goals:

- In performance, career or personal goals, with specifics about the "what" but no specifics about the "when". The desired outcome is clear enough for goal completion to be assessed, but the specifics of time are missing. Example*: To get a new job* (assessing goal completion - to get a new job - is easy, but a deadline is missing).
- In task or learning goals, with specifics about the "what" but no specifics about the "when". The "what" needs to be described at a level of specificity that makes goal completion or progress toward the goal easy to assess. In task goals, the task must be well defined. Example: *To delegate 50% of my non-core tasks.* In learning goals, the desired level or degree of learning must be well specified. Examples: *To improve my level of English to proficiency level.*

Exclusion criteria*:*

- ✓ *Vague "what"*. If the "what" is not specific, having the "when" is irrelevant. The goal automatically qualifies as vague. Example *To look for a friend to whom air the grievances weekly* (air one's grievances can be anything from talking in general to talking about the most specific work problem of the week. The reference to a friend is also undetermined. Both make the "what" unspecific); *To lead people, accompanying them in their personal and professional development* (to lead people could be related to a project or to a promotion. When in doubt, it should not be coded as specific).

c. Vague (V): a goal is vague when the "what" is not specific enough and therefore assessment of progress toward goal attainment or assessment of goal completion are not possible.:

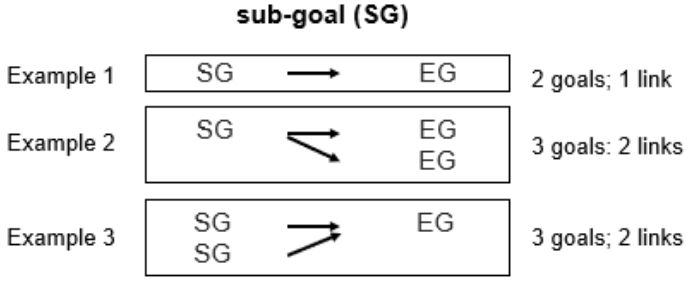
- In performance, career or personal goals. *To increase sales* (we do not know by how much or to what level*); To approach the fashion world; To find my space to grow*, (even though in the thoughts of the participant the idea may be more specific or concrete, the way the idea is expressed is vague, to the point that it makes it difficult to understand what goal completion entails).

- In task goals: *To delegate more* (not stating how much or what needs to be delegated makes the "what" unspecific, and therefore the goal is qualified as vague)
- In learning goals: Improving skills and competencies without further specifics, are typical examples of vague goals. Examples: *To achieve a state of higher self-control, safety and reassurance* (information about "by how much", or "to what level" is not mentioned)*; To improve my English* (here a measure of English improvement would be easier to establish, but no effort has been made to quantify the improvement or the level of English to be reached. Goal completion cannot be fully or accurately assessed).

GOAL INTERDEPENDENCE

This coding category allows coders to establish the typology of multiple goals by assessing possible relationships among goals. In addition to multiple separate goals, sequentially interdependent goals, reciprocally interdependent goals (Sun & Frese, 2013), the code also describes how to assess sub-goals, parallelly instrumental goals, and contingency goals.

a. Sub-goal (SG): when the goal statement includes a proximal goal (also named sub-goal) and a distal or final goal (also named end goal) in the same statement. The goal statement is usually expressed in the lines of: *I want to achieve sub-goal 1 in order to / because I want to / which will help me to / so that I can then / as a result / reach the more distal goal 2.* Sub-goals are proximal, instrumental goals which contributes or are required for achieving a second, more distal, goal. The focus is on achieving the sub-goal first, as instrumental for achieving the end goal later in time. Since the actions derived from this goal statement will most likely relate to the sub-goal, it is the sub-goal (SG) that must be fully coded for nature and specificity. The end goal (EG) will only be coded for its nature.



Examples:

- ✓ *To revise all the notes and related subjects* (SG) *so that I can finish defining my future* (EG) (first focus on revising the notes, the proximal goal, as it will help the definition of the future).
- ✓ *The areas I need to improve are self-confidence* (SG) *and positive outlook.* (SG) *As a result, I will be able to improve my ability to develop others* (EG) (the participant establishes the improvement of self-confidence and a positive outlook as proximal goals, which are instrumental to the improvement of developing others. The focus of attention is first on the proximal goals)

- ✓ *Improve my conflict management skills (SG) to better handle difficult situations in teams and be able to react where the harmonizing leadership style is not the right one (EG)* (the focus is on improving conflict management, the end goal is to better handle difficult situations with employees when they arise).

It is also possible to find both sub-goals and end goals separated by the conjunction "and". This usually happens when they need to occur in a time sequence, and there is a cause-effect relationship between the two. Example:

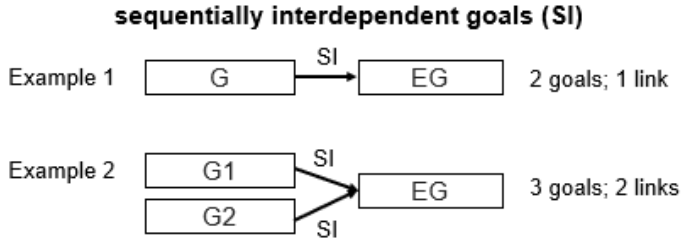
- ✓ *Develop (SG) and implement (EG) a detailed plan to improve public speaking* (The sub-goal is to develop the plan, which is the first step needed before implementation, the end goal. There is a clear, logical temporal precedence of the first goal with relation to the second. The focus will be first on developing the plan. The connector "and" indicates the temporal sequence of both goals).

Sub-goals are also found in goal statement where a distal, complex end goal is explicitly broken down into more proximal goals (sub-goals). Example:

- ✓ *Keep on learning-roadmap 2017:*(EG) *(1) Further improve presentation skills.* (SG1) *(2) Do a design thinking course (professional track). (SG2) (3) RICS certification SG3)* (the participant wants to accomplish a learning roadmap (the end goal) which she breaks down in three steps, each one being a sub-goal).

b. Sequentially interdependent goals (SI): Two separate goal statements that are temporally or instrumentally interdependent are classified as SI. The connection between both goals must be clearly indicated in the wording of one or both of the goal statements or must be logically deduced from the content. As in the previous sub-category, there will be a sub-goal end-goal relationship, but this case the sub-goal and the end-goal are two separate goal statements. The goal that either temporally precedes or is instrumental to the end goal, should be coded as SI (Example 1 below)

There can be more than one proximal, instrumental goal, all being sequentially interdependent with a final, and common, distal goal (Example 2 below). In this case, all proximal goals must be coded as SI. The end goals must be coded as EG



Examples:

- ✓ *Be conscious on what I really want and on what I really do not want* (SI) *Change career path* (EG)

  To decide what one wants must clearly be done first in order to change career path. The participant wants to make a career change, but first she must make her mind up. There is a sequential logic that connects both goals.

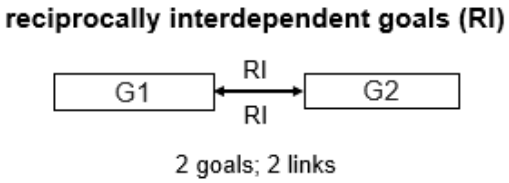
- ✓ *To improve my influence at work* (SI)
  To get promoted to a more senior position (EG)

  This is a typical instance of a learning or a task goal (to develop a competency) that is clearly linked to an outcome goal (a career goal). In this example, developing the competency of influencing others will clearly help the chances for promotion.

- ✓ *Search project in the class group to see which ones I like and can join* (SI)
  Analyze the offer to join Julia's project (SI)
  Analyze type of companies that would fit my vision (SI)
  Find an enterprise to engage in, based on the previous analysis (EG)

  The first three goals are sequentially interdependent with the fourth. This individual has four goals. Three are task goals that will contribute to the fourth, a career goal.

c. Reciprocally interdependent goals (RI). The goals are related in such a way that we can infer that the achievement of one will likely help the achievement of the other. No expressions of causality, purpose or instrumentality need to be present. We can clearly see that there is synergy between the goals. Both goals are coded as RI

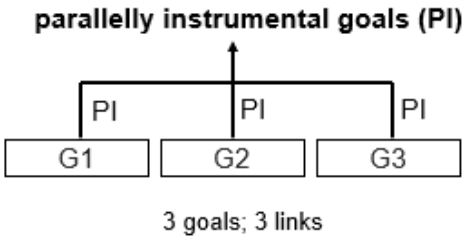


Example:

- ✓ *To stand by my opinion more strongly, so that decisions are taken with more consensus.* (RI) *To be less humble and to see myself equal to others, unless the contrary is proved* (RI). Both goals seem to be intimately related. Achieving one almost automatically helps to achieve the other. They are both about improving self-esteem or self-confidence.

d. Parallelly instrumental goals (PI). When two or more goals clearly indicate that they pursue the same purpose or end, but this purpose or end is not stated in any of the goal statements. They are not reciprocally interdependent since the attainment of one does not help the attainment of the other. But in parallel, they all contribute to a higher, more distal goal.

All parallelly instrumental goals should be coded PI

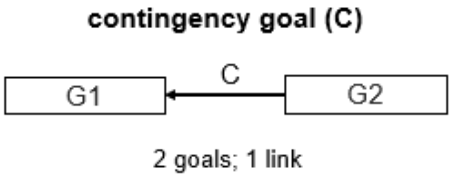


Example:

✓ *To increase my professional networking outside my company* (Pl)
To contact head-hunters and deliver my CV (PI)

Both goals are clearly instrumental to finding another job. The person can work in parallel toward both goals, and each will contribute to the same end goal.

e. Contingency goal (C). When a goal (G2) is part of a contingency plan in case a first goal (G1) cannot be achieved. Only the contingency goal is coded as C.



Example:

✓ *Lead my own company* (G1)
Develop leadership skill in case my own company is not a success (C)

Having developed one's leadership skills may increase the chances to find alternative leadership roles other than leading one's own company if the project tails.

f. Multiple separate goals (MS): when goals are independent of each other, that is, when they are likely to enter into conflict and fight for time and resources. When in doubt about the relationship between two goals, the goals should be assessed as separate. Multiple separate goals are most frequently written as different goal statements. However, it is also possible that an individual expresses two separate goals in the same statement, which are normally separated by the conjunction "and". Only in these cases should the goals in the goal statement be coded as MS, and the number of MS should be taken into account for coding goal parsimony.

Example:

- ✓ *Improve empathy* (G1) *and the capacity to influence other people* (G2). Choosing to improve two different competencies is a typical instance of multiple separate goals in the same statement. (i.e., separated by the conjunction "and"). They should be considered separate as there is no obvious temporal connection or explanation about how the attainment of one helps the attainment of the other).

Clusters. Goals interconnected with arrows constitute a goal cluster. A single goal with no arrows (i.e., no interconnection with any other goal) also constitutes a cluster in itself (a cluster with only one goal in it).

EMOTIONAL ATTRACTORS

Intentional change is more likely to be sustained in time when the focus of the change process is anchored in Positive Emotional Attractors (PEA), and less likely to be sustained in time when anchored in Negative Emotional Attractors (NEA) (Boyatzis 2006, 2008). For each goal cluster the end goal determines the focus of the change process, and therefore it is critical to assessing the presence of PEA (or NEA) themes in the cluster.

The PEA (or NEA) theme can be found in

- ✓ **an explicit end goal within a cluster** (linked to other goals such us sub-goals, sequentially interdependent goals or contingency goals).
- ✓ **each of the "n" parallelly instrumental goals** (each linked to an implicit, not written, end goal of the cluster). If, based on the "n" parallelly instrumental goals, the end goal is judged to be leveraged in the PEA (or NEA), each parallelly instrumental goal should be coded as PEA (or NEA). For a goal cluster with an "n" number of parallelly instrumental goals, there can be as many PEA (or NEA) themes as "n".
- ✓ **each reciprocally interdependent goal,** if both goals constitute the focus of the goal cluster and both are leveraged in PEA (or NEA).

PEA in a goal cluster

A goal cluster is primarily leveraged in PEA when the change process that the goal cluster describes has a promotion focus. That is, the end goal expresses a concern with the presence of positive outcomes, such us the promotion and fulfilment of dreams and aspirations (the ideal self). Goals that typically leverage in PEA are goals that express a desire for personal or professional advancements, accomplishments or aspirations, or an eagerness for something.

The PEA theme is present when the focus of the goal cluster (i.e., the end goal, which can be a single explicit or implicit goal, or two reciprocally instrumental goals) relates to:

a. **Desire for personal or professional growth:** when goals relate to the pursuit of personal or professional advancement

- Desire for career or job advancement: the individual expresses a desire to progress or advance in one's job or professional career. Examples: *To become next general manager of the company.*
- Desire for mastery or lifelong learning: the individual expresses a desire for continual personal, or through continuous development and learning. Curiosity, discovery and desire for learning are the motivation for the goal. Examples: *Keep on implementing my learning-roadmap 2017* (it is a learning goal, but with a promotion focus as it is knowledge advancement as personal growth)

b. Aspirations: when goals relate to desired future ideals, such as long-term dreams and aspirations. Expressions such as*: I aspire to / I always wanted to / I would like to,* are indicative of such types of goals, as well as expressions of enthusiasm and passion, or verbalizing a heartfelt connection with the aspiration through words such as *love.*

- Long term dreams: Example: *I would like to go on a trip across India*
- Desire to enter a new field: desire to assume a new professional identity or enter a new field. Examples: *I would like to become a teacher.*
- Personal or professional accomplishment: eagerness to accomplish something, make a long-lasting impact or change, in a particular field, career or world at large. Example: *to create my own company and my own brand.*
- Desired personal end state: the individual expresses a desire to improve her personal well-being or approach and ideal personal end state, such as general well-being or happiness: *Improvement of time management to find a more stable work-life balance* (the goal does not explicitly state the existence of a problem with work-life balance. The goal focuses on the improvement, getting better at it. Therefore, the PEA theme should be coded). *Be happy with myself*

c. Compassion. Goals that express aspirations through the improvement of relationships. There must be an element of helping others, caring, compassion or emotional closeness underlying the motivation for the goal. Expressions such as*: I would like to / I would love to,* are indicative of such type of goals,

- Wants to help others: desire to help others through their work or life efforts. The goal must refer to people at some level (individuals, special population, community). Examples: *I would like to help and coach my team with my learnings from the EMBA* (it describes the desire to help the team develop through the transfer of one's own learnings. The goal does not reveal any sign of instrumentality or self-interest in the action).
- Desire for caring, loving relationships: desire for relational closeness and caring with others. Examples: *I want to contribute to society through an ONG educational project.*
- Desire for affiliation: the goal expresses the desire to promote or strengthen relationships (personal or professional) for affiliation purposes. Example: *Promote activities with my friends* (this activity is clearly wanted or desired).

Almost but not quite.

*To strengthen the quality of relationships***.** This is a task, instrumental to achieving an end state that is not described. The focus is therefore about improving, strengthen relationships, which seems more indicative of the person having some needs to solve a present issue. The focus is on the now, and not on approaching a desired, ideal end state. Hence, this goal would be coded as NEA

NEA in a goal cluster

A goal cluster is primarily leveraged in NEA when the change process that the goal cluster describes has a prevention focus. That is, the end goal expresses a concern with the absence of negative outcomes. Central to prevention focus is the reduction of anxiety (i.e., moving from anxiety to relief), risk aversion or maintaining the status quo.

Goal clusters that typically leverage in NEA narrowly focus on challenges of the present reality, such us focusing on eliminating problems, overcoming shortfalls, reducing weaknesses, or meeting perceived social and external obligations and expectations.

The goal cluster also leverages in the NEA when the end goals merely describe the consequences of compliance of instrumental goals or sub-goals that are clearly leveraged in the NEA (i.e., the end goal relates to the benefits of compliance of a proximal goal with a prevention focus).

The NEA theme is present when the focus of the goal cluster (i.e., the end goal, which can be a single explicit or implicit goal, or two reciprocally instrumental goals) relates to:

a. Prevention concerns. Goals expressing a concern with the presence of negative states or outcomes.

- Protection or safety. The goals express the need to protect and keep what the individual has. Examples: *To keep my present job until the start-up is launched.*
- Job security. The goal expresses the concern for keeping or recuperating what the individual had. Examples: *To look for a job* (the way of framing this objective is not aspirational, it is merely finding a job as a basic need for financial and personal safety); *Develop a plan for a job (career) in the future. Look at the job market for interesting opportunities and determine what I actually want to do* (there is no aspiration or ideal career that triggers the search. The person does not really know what he/she wants to do but wants to look for a job, i.e., move away from the present status quo).
- Avoidance of undesired states or outcomes: This is usually identified with negative words such as less / fewer / avoid / without / do not / stop from / reduce /… all used in a sense of avoiding a situation, a course of action, the state of affairs, or an outcome. It is also present when the goal revolves around fixing a problem (thus avoiding an undesired situation).

  Examples with end-goals:

  ✓ *To be less perfectionist* (focus of avoidance of a something negative); *To be able to disconnect from work without trying to occupy myself with something*

useful (avoid thinking about work all the time, avoid attempting to occupy oneself);

Examples of sub-goal and end goal:

- ✓ To improve some professional relationships by being more acceptant, less demanding and more empathic (SG). The result of achieving the goal will be that of working in a more relaxing atmosphere (EG) There is clearly a relationship problem and setting an improvement goal is a problem-fixing goal. The end goal is a mere expression of the consequence of compliance of the sub-goal); *Improve my conflict management skills* (SG) *to better handle difficult situations in teams* (EG) (it is about fixing a weakness that prevents from handling situations in teams properly)

Examples of parallelly instrumental goals:

- ✓ The end goal is not explicit, but each instrumental goal express avoidance of an undesired state. NEA theme should be coded for each of the goals expressing avoidance of an undesired state. Examples: *Learn how to control my temper with my work colleagues in tense situations* (G1) (a learning goal that relates to fixing a problem). *Avoid the professional conflicts from affecting me at a personal level (G2)* (a personal goal, also related to fixing a problem). Both goals seem to lead to an improvement of working relationships and working climate.

b. **Reference to expectations.** When the goal expresses the desire to conform to external social expectations. It is also indicated when the goal alludes to an obligation, even self-imposed, usually identified by the wordings*: I need to / I ought to / it is fundamental to / it is important to / I must.*

- o External: the goal reflects the need to respond to perceived external social obligations, duties, responsibilities, pressures or controls. Examples: *I must allow more time for my direct reports as they complain they can never discuss important issues with me.*
- o Self-imposed: the goal is set to meet self-imposed obligations, duties or responsibilities, or self-infringed by one's deep values or beliefs. Examples: *It is fundamental to reduce the level of self-demand;*

c. **Focus on proximal, instrumental goal.** When the goal cluster focuses on a learning goal or task goal that are clearly instrumental to a more distal goal which is not explicitly stated. The proximal, instrumental goal should convey a sense of "ought" (self-imposed duty) rather than a sense of "want" or "desire".

- o Learning goal: when the goal cluster focuses on (typically) one, or (occasionally) two or more learning goals, and the learning is instrumental to another goal which is not stated in the cluster. The learning goal reflects a self-imposed obligation or responds to a sense of "ought to". The learning goal therefore does not constitute an end in itself, as is the case when the learning reflects a desire for mastery or lifelong learning. Typical examples are learning goals that focus on improving a particular competency (most likely as a result of having discovered a development need when analyzing the

360 feedback). Examples: *To develop and put into practice leader-coach abilities in the present job; To move toward a more reflective and visionary leadership style*

Almost but not quite:

- ✓ When we find explicit references that the learning or the enactment of the task constitutes a desired end in itself. The task goal therefore would not be instrumental to any other goal. Expressions such us "love to", "would like to", "want", are indicative of such types of goals, which would then be interpreted as personal advancement and therefore be coded as PEA. Example: *I would like to learn how to play the guitar* (the learning is wanted, no sense of duty or self-imposed obligation)

- o <u>Task goal:</u> when the cluster focuses on (typically) one, or (occasionally) two or more task goals, and all are instrumental to end goal that is not stated in the cluster. Regardless of the domain to which the task is related (learning, performance, job, career, or personal), the task goal must reflect a self-imposed obligation or must respond to a sense of "ought to". Typical examples of proximal, instrumental tasks goals are:

  - ✓ Tasks that relate to a job search with no references to any future desired end state. Example: *Expand my network in multinational companies within the sector, social media, and recruiters.*

  - ✓ Tasks that reflect the need for decision making in early stages of career advancement. The task goal must be driven by self-imposed obligation, a sense of "ought to", a sense of urgency, or by a need for anxiety reduction. *Define a specific professional field in which I want to develop myself in the next 2 years*

  Almost but not quite:

  - ✓ When we find explicit references on how the proximal, instrumental task is linked to future ideal states, desires, or values. In this case, the goal cluster should be coded as PEA. Examples: *Contact the academy, start growing the academic branch of my personal vision* (the task is about advancing toward one's vision: a professional aspiration within the academic world); *Search for a company that allows me to develop both my technical and soft skills with values similar to mine* (the task is explicitly linked to a professional advancement and the statement makes a reference to connecting with one's values*); Put a date to three things from the list of things I would like to do before I die* (task that helps approach a desired personal end state)

  - ✓ When we find explicit references that the enactment of the task constitutes a desired end in itself. The task goal would therefore not be instrumental to any other goal. Expressions such us "love to", "would like to", "want", are indicative of such type of goals, which should be then be coded under PEA (e.g., approach a desired end state). Example: *I would like to play football twice a week with my friends; To promote again activities with my friends; Search and develop individual activities that I like doing;* (tasks are all pleasurable and desired).

Undetermined PEA/NEA in a goal cluster

When the cluster cannot clearly be identified as being leveraged in either PEA or NEA, it should be coded as "undetermined" (UND). Examples:

- Unclear drive for career changes. When the goal cluster relates to a career change, but it is not clear if the need for career change relates to advancing toward a desired end state or relates to escaping from an anxiety-generating present state. Example: *Separate professional life from personal life* (G1). *Change career path* (G2). The two goals are reciprocally interdependent. There is no indication that having no separation between professional and personal life represents a problem and constitutes the drive for the career change. There is no indication either that a particular career change is desired and leading to an ideal end state. There are no strong arguments to code the cluster either as PEA or NEA.

GOAL PARSIMONY

Goal parsimony assesses the total number of goals per individual. This is a numerical code and is the result of counting the number of goals among three different types of goal statements:

- Goal statement with a single goal. Each statement counts as one goal.
- Goal statement with multiple separate goals. The number of goals to be counted is the number of multiple separate goals within the statement.
- Goal statements with sub-goals and end goals. The number of goals to be counted is the number of sub-goals plus the number of end goals assessed within that goal statement.

2. Codebook for action plans

IDEA PERSONALIZATION

In some multisource feedback programs, a guide for competency development may be provided to the participants. This may be done either through the software platform or as part of the coaching material. In our study, the guide is provided by the software program and consists of a list of ideas (i.e., actions, activities, practices) classified by competency, that are likely to help participants in further developing each competency (see Annexes 2 and 3). Idea personalization assesses whether the actions written by the participant are their own original ideas or they are downloads (through a simple click) from the existing list that the software provides.

a. Personalized (P): own elaboration. The action statement does not coincide with any of the ones suggested in the guide. Even if the general idea comes from the guide, if it is expressed in a personalized way, with changes or additions to the original wording, the action should be coded as "personalized".

b. Non-personalized (NP): the idea is taken from the guide with the original wording as if in a "copy and paste". Non-personalized actions are excluded from being coded according to any of the categories.

IMPLEMENTATION INTENTIONS

An action plan expresses what needs to be done to achieve the goal. The statement of an action plan should include, at the very least, a "what" (i.e., the action). To properly code for implementation intentions, the "what" needs to be identified first. Implementation intentions of "when", "how long", "how", "where", or "with whom" the action is to be implemented, are to be found in the rest of the plan statement (outside the "what"). If all implementation intentions were eliminated from the statement, the remaining statement should still be meaningful, as it would express the action (i.e., the "what"), however vague, to achieve the goal. Presence of implementation intentions are assessed when any of the following is explicitly expressed[1]:

a. "When" intention: the part of the action that expresses the time when the action is planned to be performed. In other words, it is the response to "when" the action is to be implemented. Examples of presence of time intention are when:

- Explicit time reference: specific indication of the time when the action is planned to be carried out (i.e., specific date or dates, part of the day, day of the week). Example: *go to English classes on Fridays.*
- Well-known, planned event: a reference to a well-known event when the action is to be performed (i.e., it needs to be obvious that the event is known to the person who sets the action). Example: *to run the Boston marathon* (the what is to run a marathon, the Boston marathon being the well-known event when this action is planned to take place)
- Frequency of action: a reference to the frequency in which the action is to be performed Examples: *three times a week; once a month, or every Monday.*

- Situational cues: description of instances that should trigger action. It clarifies at what moments or in what circumstances the planned behavior or action is to be performed. Examples: *Review the status of the action plan as a first point in the meetings* (situational cue: when the meeting starts)*; When people express different opinions I shall listen until they finish* (situational cue: when people express different opinions)*; To make sure that you provide positive feedback when things go well. Visualize your positive perceptions in the work meetings in order to recognize the best work publicly* (situational cues: when things go well, and to do it during the meetings); *Before starting a project, write down the time expected for completion* (situational cue: before starting a project).

Exclusion criteria:

- ✓ *Vague time references:* when time references are vague, such as expressions with indefinite adverbs of time or imprecise expressions of time, "when" intentions should not count as present. Examples: *To go jogging more often; To always be supportive; To establish regular meetings with my team; To organize meeting on a regular basis.*
- ✓ *Final dates instead of planned dates*: when time reference are dates that clearly indicate deadlines to goal completion, and not the dates in which action implementation is planned for, "when" intentions should not count as present. Example: *To give constructive feedback by October 30th* (giving feedback is not planned for the 30th of October. This date is the final date for feedback to be given. It indicates that action must be done before, but when before is not stated)
- ✓ *Frequency for self-regulatory strategies:* when the action refers to "intentions to measure progress", statements of frequency of the monitoring should be coded as "monitoring frequency" (one of the coding sub-categories of "intentions to measure progress"). Themes for self-regulatory strategies must be coded first and avoid double coding even if the theme also qualifies as an implementation intention of "when". Example: *Every day before the meals, do a self-evaluation from 0 to 8, of the level of confidence shown during my discussions* (since the action is a self-regulatory strategy to measure progress, the statement of frequency – every day before the meals – must be coded as "monitoring frequency")

b. "How long" intention: the part of the action that expresses the specific time duration, as a response to how long the action, or repeated action, is planned to be performed for.

- Specific duration. Example: *To read the e-mails during the first hour of the day* (here both the "when" intention and the "how long" intention are present); *To simulate presentations in public at home. One every week during the next two months* ("during the next two months" is an intention of how long the action is planned for); *To actively network through social media. 20 min/day* (the activity is specified to have a duration of 20 min a day).

Exclusion criteria:

- ✓ Vague duration: when references to duration are vague, "how long" intentions should not count as present. Examples: *To practice presentations during several weeks.*

c. **"How" intention**: part of the action statement that provides specific details about how the action is planned to be performed or implemented. "How" intentions are often expressed in an additional sentence following the "what".

- Specific details of how; Specific details or concrete examples of how the action is to be implemented should be coded as implementation intentions of "how". Examples: *To write the vision of the business unit. Share it regularly with the rest of the people. Invite practical ideas in order to make it possible* (the "what" is to write the vision, the "how" is sharing it and inviting practical ideas); *Attend a school academic seminar to explore ways of delivering effective presentations; Take advantage of the school network to talk to as many people as possible (classmates, alumni, professors, coaches…)* (the individual names concrete examples that illustrate the "what")
- Instrumental actions. Instrumental actions are typical instances of implementation intentions of "how". Example: *I shall record myself doing a presentation in public and see my errors* (the "what" is to see my errors. Recording him/herself doing a presentation in public is instrumental to seeing the errors). *To practice the speech before delivering it. In order to practice it, I shall record myself with a video so that I can improve down to the last detail of the speech* (the "what" is to practice the speech, the "how" is recording myself with a video).
- A virtual mean: Example: *To search in internet for organizations that look for speakers about subjects that I am an expert in* (the action of searching can be physically done in conference events, in the work environment, "using internet" to search is an indication of "how"); *To elaborate an Excel spread sheet with all the target companies, job offers and data* (the what is a list of target companies, a specific detail is provided as how it's going to be done: using an Excel sheet).

Exclusion criteria:

- ✓ *A false "how"*. When one part of the "what" can be misinterpreted as a "how". Example: *To make a plan, every Sunday for the next two months, with the three most important points to work on during the week. The objective is to focus and not get dispersed* ("the three most important points to work on during the week" cannot be the "how", because if we omit this part, the action is *reduced to "make a plan every Sunday for the next two months", which does not make sense as an action to achieve the goal. For the "what" to* be meaningful, we must include the characteristic of the plan as part of it)
- ✓ *A "what" followed by a goal.* Sometimes the action is followed by the expression of the goal that is intended to be attained. This can confuse the action by "how" intentions. The action is the "what" and therefore implementation intentions are to be found elsewhere in the statement. Example: *To show interest in the problems and motivations of my team in order to build a better relationship with them"* ("to build a better relationship with the employees" is the goal of the action of showing interest. There are no intentions of how this action is going to be carried out are mentioned).
- ✓ *A vague how*. If the how is vague, "how" intentions should not be coded. If in doubt, do not code. Example: *To focus on networking by applying social abilities* (to focus on

networking, is the "what", but to apply social abilities is too vague to qualify as the "how"). When in doubt of the meaning, we do not code.

d. "Where" intention: The part of the action statement that provides specific details of where the action is physically planned to be performed or implemented.

- Specific place references. Examples: *To simulate presentations in public at home. One every week during the next two months* (the action "to simulate presentations" is intended to be physically implemented at home); *To speak to people I do not know in the school conference* (the action "to speak to people I do not know" is intended to be physically implemented in the school conferences); *To identify that I have put one of the system thinking attitudes into practice in my work environment* (the action "to identify that I have put an attitude into practice" is to be done in the work environment).

Exclusion criteria

- ✓ *Vague place references*: when references to the place are vague, such as when expressed by indefinite adverbs or expressed in imprecise terms, "where" intentions should not count as present. Examples: *To keep a priority list at hand* (to qualify as a "where" intention it would need to be a concrete place, such as "keep a priority list on my desk / in the outlook / in my folder…); *To practice bargaining in a market* (even though there is a reference to where, the place is "a" (any) market, not a specific one in the mind of the participant – as would have been the case if expressed as "in my market").
- ✓ *A false "where"*. When the participant refers to a place as a reference to the people associated with the place. Example: *To send my CV to the career service dpt. of my school for it to be revised* (although the career service refers to where the CV is sent, this is in fact not a "where" intention but a "with whom" intention, since it refers to the people with whom the participant wants to revise the CV). Also a false "where" is when the participant refers to a generic place as a reference to "how" the goal is to be achieved. Example: *To attend a school academic seminar to explore ways of delivering effective presentations* (a school academic seminar is not a specific place, but an intention of how to explore ways of delivering effective presentations: i.e., a school seminar as opposed to a webinar).
- ✓ *Virtual means as an indication of "how"*. *To do a Coursera course in team management* (the action of doing a management course can be done at home, in a school, or in the office. Details of the mean used (i.e., using internet) or type of course (i.e., a Coursera course), are indications of "how" intentions); *To search in internet for organizations that look for speakers about subjects that I am an expert in* (the action of searching can be physically done in conference events, in the work environment, "using internet" to search is an indication of "how").

e. "With whom" intention: The part of the statement that provides specific details about "with whom" the action is planned to be performed or implemented. Examples:

- Specific people. When the "whom" refers to specific people. *To discuss with each team member the performance that is expected from him/her, inviting their contributions in order to ensure their acceptance and commitment* (the participant knows who each of

her team members are); *Talk to my family about the feedback* (she knows who her family is); *To discuss the feedback with friends* (she knows who her friends are).

- Specific collectives, organizations, institutions. *To start to practice my assertiveness in the MBA* (MBA is not a place, but a specific collective of people with whom to perform the action planned); *To send my CV to my trade union career services for it to be revised* (career services is a specific organization that my trade union provides, who will revise the CV).

Exclusion criteria

- ✓ *Unspecific people, collectives, organizations or institutions* would not count as "with whom" intentions. Example: *To send my CV to professionals for it to be revised* (professionals is an undetermined collective: which professionals is not stated, and therefore this is too general to count as "with whom" implementation intentions).
- ✓ *"With whom" as part of the reason that originates the action.* Sometimes "with whom" is part of the reason that originates the action, and therefore should be considered part of the "what". The "what" would not otherwise make sense (no other person can replace the "who" as the action is exclusive to the person being mentioned). Example: To recognize my wife's efforts and help her more on her day to day routine (It is not about recognizing anyone's effort, but only his wife's. A problem with the wife which needs resolving). *Talk more with the team, understand their needs, get to know them better* ("with the team" cannot be with whom. There is a problem with the team which is intended to be resolved by talking more to them).

General exclusion criteria:

- ✓ *Alternative possibilities:* Intentions expressed by offering alternative possibilities, normally expressed by "or". Example: *To invite feedback from a partner or a friend* ("with whom" intention would not count as present, since there is no concrete person with whom the action has been planned, and therefore this decision is yet to be made).
- ✓ *Not an action*: sometimes action statements are not actions, i.e., expressions of goals (another goal, or a more proximal goal). No implementation intentions can be inferred from a statement that is not an action.

SEEKING INFORMATION

Statements of intentions to obtain further information about one's feedback, goals or action plans. The purpose is to better understand one's current state or to discover ways of closing the gap between the current state and the ideal state expressed by the goal. Information seeking should be distinguished from attempts to monitor progress toward the goal, which should be coded as a "intentions to measure progress". Participants usually seek information from:

a. Discussing with others: statements of intentions to discuss one's feedback, goals or action plans, with people other than the coach, with the purpose of obtaining useful information that helps correct or improve the plans and attain the goals. Example: *To maintain a conversation with John about my professional situation and my career plan within my*

company (the intent is clearly not only to share, but to obtain John's thoughts and opinions, or to get some piece of advice).

b. Self-reflection: thinking back, memory search, analysis of past occurrences or incidents, self-analysis of previous experiences or reflective self-observations, with the intention of generating information that can be used to better achieve the goals, or to have a better plan to attain them. Example: *To reflect about moments when I lost control and think about ways I could have avoided them.*

c. Self-recording: statements of intentions to observe oneself to obtain further information about one's strengths and weaknesses, to be able to better act on them. Examples: *To record a job meeting to observe my verbal and non-verbal behavior in my communication* (explicit intent to seek further information about the person's display of behaviors).

d. **External sources**: when the goal relates to the development of a behavioral competency (i.e., influence, developing others, empathy…), actions related to information acquisition from external sources (i.e., web sites, courses, seminars, books, conferences…) with the intent of discovering the most suitable behaviors to develop the competency, should be coded as information seeking. Example: *To go to a school conference to observe effective ways of presenting and communicating* (to learn from others first before putting the action into practice); *To read the book "Effective communication"* (the goal was to improve inspirational leadership).

Almost but not quite

- ✓ *Repetitive feedback seeking* is a self-regulatory strategy (to measure progress toward the goal) and therefore cannot be double coded as information seeking.
- ✓ *External source when the goal is cognitive:* when the goal is to acquire knowledge per se, attending seminars, courses, reading books or attending conferences are instrumental actions that help achieve the goal, and therefore should not be coded as information seeking. Example: *To attend English classes* (when the goal is to learn English). *To attend a seminar on innovation* (when the goal is to learn how to foster innovation in organizations. Since the goal is to learn, the action implies an immediate progress toward goal achievement, as it implies learning, and therefore should not be coded as information seeking).

INTENTIONS TO MEASURE PROGRESS

Intentions to measure progress are self-regulatory strategies that relate to the evaluation of the progress toward the goal or of plan implementation. The following are themes that would count as intentions to measure progress:

a. Progress monitoring: statements of intentions about measuring the progress toward goal attainment. It can focus on either measuring the tasks or behaviors that lead to goal attainment, or on measuring the gap to the desired outcome. Examples: *To keep track of the new product sales by salesperson; To find a person who would give me feedback every two weeks.*

b. Monitoring frequency: statements of how often or when the progress toward goal attainment is intended to be measured. Example: *To record myself in a meeting once a month* (the monitoring frequency is "once a month").

c. Progress self-recording: statement about intentions to keep track of the evaluations on any format (paper, electronic format, video…), which can range from a simple counting, to updating visual scorecards. "Progress self-recording" should only be coded when self-recording is done multiple times, and there is an additional statement expressing the intent to maintain evidence of the progress in any written form. Example: *To analyse the recordings and the feedback received after every recording, and write it down* ("write it down" expresses the intent to maintain evidence for oneself of the progress toward the goal).

d. Public monitoring: explicit intentions to sharing the progress toward goal attainment with others. Example*: I shall share the progress with my team.*

General rule

If the action is not coded for **"a"** (progress), it cannot be scored for subcategories **"b", "c",** or **"d"** either. Since **"b"**, **"c"** and **"d"** are specifics of **"a"**, if **"a"** is not present, the rest cannot be present.

Almost but not quite

- ✓ *Non-repetitive assessment*: Intentions to measure progress are actions of a repetitive nature. If the measurement is planned to be done once, the intention cannot be that of measuring progress but that of assessing one's current state, and therefore it should be coded as information seeking. Example: *"I will record myself in a video and analyze what I need to improve"*. Here, recording oneself in a video has the purpose of better understanding what needs to be improved, to then act on it. Only when the statement expresses that the recording will be done multiple times (i.e., to analyze how this gap diminishes over time), can we code it as "intentions to measure progress", in this case under the subcategory of "progress monitoring".
- ✓ *Technique for competency improvement:* writing down one's experiences, feelings, thoughts, on a regular basis is a technique to improve one's self-awareness. Planning to do so is therefore the action that leads toward the goal, and therefore it should be coded neither as "intentions to measure progress" nor as "information seeing". Example: *To write down, at the end of the day, the impact that situations of conflict have had on my emotions, in order to increase my self-awareness and be able to act on them in the future.*

ACTION PARSIMONY

Action parsimony assesses the total number of personalized actions per individual. This is a numerical code and its assessment is objective, as it is the result of counting the number of actions coded as personalized.

3. Intercoder reliability

To avoid single-rater bias in the application of the AGA code, two expert coders should independently apply the code and should ensure that their assessments reach an acceptable level of inter-coder reliability (ideally above 80%). When this is achieved, differences between coders should be discussed until agreement is reached. The final agreement will be then used to convert the assessment of such qualitative rich data into quantitative data for subsequent statistical analysis.

The methods proposed for calculating inter-coder reliability vary according to the nature of the coding category.

RELIABILITY CALCULATION METHOD

The assessments between both coders match when they assess the same theme, or they classify the statement (goal or action) within the same sub-category (as in the case of goal nature, or goal specificity, when only a single classification is possible). Calculation methods will be a function of the number of matches (coincidences) and total number of assessments.

The total number of assessments for each goal category may vary between coders, as they need to assess first if a goal statement has multiple goals. If we name Coder 1 as C_1, and Coder 2 as C_2, then:

a. **Goal nature** ➔ (nº of matches x 2) / (total nº of goals as assessed by C_1+C_2)
b. **Goal specificity** ➔ (nº of matches x 2) / (total nº of goals as assessed by C_1+C_2)
c. **Goal interdependence** ➔ (nº of matches x 2) / (total nº of themes coded by C_1+C_2)
d. **Emotional attractors** ➔ (nº of matches x 2) / (total nº of themes coded by C_1+C_2)
e. **Goal parsimony** ➔ (nº of matches x 2) / (total nº of goals as assessed by C_1+C_2)
f. **Personalization** ➔ objective coding. Hence only one coder is needed.
g. **Implementation intentions** ➔ (nº of matches x 2) / (total nº of themes coded by C_1+C_2)
h. **Seeking information** ➔ (nº of matches x 2) / (total nº of themes coded by C_1+C_2)
i. **Intentions to measure progress** ➔ (nº of matches x 2) / (total nº of themes coded by C_1+C_2)
j. **Action parsimony** ➔ objective coding. Hence only one coder is needed

4. Operationalization for statistical analysis

OPERATIONALIZATION OF CODING CATERGORIES

The following operationalizations allow the assessments for each of the coding categories to be reduced to a single score per individual.

a. Goal nature
Score = Number of goals for each nature category

b. Goal specificity
Score = Weighted average among goals
(Weights = 2 for very specific goals, 1 for specific goals, and 0 for vague goals)

c. Goal interdependence
Score = Average nº of interdependence links per cluster

d. Emotional Attractors: PEA/NEA
Score = nº PEA themes – nº of NEA themes
(Purely PEA or purely NEA states at an individual level would get an extra point. This is done to discriminate goals being leveraged on one single emotional state from goals being leveraged on mixed states: e.g., 3 PEA's would lead to a score of 4, whilst 4 PEA's & 1 NEA would lead to a score of 3).

e. Goal parsimony
Score = Total nº of goals
(including sub-goals and multiple goals within the goal statement)

f. Personalization
This category is relevant for calculating the score in Action parsimony

g. Implementation intentions of "how"
Score = nº of themes present / nº of personalized actions

h. Seeking information
Score = nº of themes present / nº of personalized actions

i. Intentions to measure progress
Score = nº of themes present / nº of personalized actions

j. Action parsimony
Score = nº of personalized actions
(Personalized actions are the only ones that are subject to assessment)

OPERATIONALIZATION OF THE AGA QUALITY SCORE

Both goal parsimony and action parsimony are values needed to operationalize other categories. The assessment of goal nature helps assessment of other categories, such as goal interdependence or emotional attractors. Its operationalization was useful to inductively deduce these two subcategories but is no longer used for the final calculation of the AGA Quality Score (AQS).

- PEA/NEA score = x_1
- Goal interdependence score= x_2
- Goal specificity score= x_3
- Seeking information score= x_4
- Implementation intentions of "how" score= x_5
- Intentions to measure progress score = x_6

$$AQS = .598\ x_1 + .303\ x_2 + .218\ x_3 + .254\ x_4 + .185\ x_5 + .095\ x_6$$

The coefficients correspond to the discriminant coefficients for each of the variables as a result of a discriminant analysis using goal-directed behaviors as a criterion variable (Velasco, Emmerling, & Batista-Foguet, 2019).

Endnotes

1. Although research has shown that only implementation intentions of "how" have a significant relationship with goal-directed behaviors, the authors decided to leave the complete code for this category. The reasons are two-fold. First, the boundaries that the code establishes between "how" and other subcategories of implementation intentions (i.e., "where") help the assessment of "how". Second, the complete code allows further validation in future studies (i.e., whether only "how" or more types of implementation intentions revealed to be also relevant).