The International Journal of Coaching in Organizations

IJCO

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Frode Moen And Einar Skaalvik

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Journal information:
www.ijco.info

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2008

ISSN 1553-3735

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Professional Coaching Publications, Inc.

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The Triggering Effect of Business Coaching on Performance Psychology

FRODE MOEN AND EINAR SKAALVIK

In this study, the authors investigated the effects of a business coaching program on important performance psychological variables. One hundred and twenty seven executives and middle managers from a branch leading Fortune high-tech 500 company participated in an experiment over a period of one year. Findings indicate that there are significant effects from coaching on psychological variables effecting performance. These psychological variables are self-efficacy, successful intra-personal causal attributions and need satisfaction, especially through the need for autonomy and competence. The authors also investigated the impact of coaching on goal setting, but could not find evidence for a significant effect from the coaching program. The authors' findings also indicate that raised need satisfaction seems to be a key to achieving growth and development for others through these important performance psychological variables.

INTRODUCTION

Coaching is based on values that encourage the coachee to be more independent (autonomy) and responsible (competence) in his or her own learning and development. The self-determining nature of coaching should therefore facilitate values based on autonomy and competence. *Self determination* theory states that social environments which fulfil basic psychological needs for individual growth and development will result in motivated, engaged and successful individuals, who achieve the desired outcomes in specific, achievement- related tasks (Deci & Ryan, 2002). Deci and Ryan emphasize the importance of three main groups of psychological needs forming the foundation for a persistant and enduring intrinsic motivation. These three psychological needs are: (a) the need for competence, (b) the need for autonomy and (c) the need for relatedness. Deci and Ryan especially argue for the importance of the first two, the need for competence and the need for autonomy. The main purpose of this study was to assess whether or not the self-determining nature of coaching is the triggering key to drive growth and development for others. In order to do so, we first investigated the impact of coaching in business on psychological variables related to human performance. Secondly, we explored relations between need satisfaction and performance psychological variables.

THEORETICAL APPROACH

"Coach" is a term often used as a metaphor for someone who

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takes people to a desired place (Zeus & Skiffington, 2002; Gjerde, 2003). Coaching is therefore about establishing a helping relationship between the coach and the person with whom the coach is engaged, a coachee. In coaching, individuals are accepted and respected as capable of finding solutions to their problems with the help of a facilitating coach (Moen & Kvalsund, 2008). This approach is influenced by client-centered therapy and *humanistic psychology*, which emphasize the importance of listening to the subjective beliefs of the client (Rogers, 1951; Kahn, 1996). This optimistic and trusting view of human nature is central to the field of coaching today. From this perspective, coaching differs from counseling, consultation, teaching, mentoring and other helping relationship roles (Downey, 1999; Whitmore, 2002; Flaherty, 1999). In the present study, we defined coaching as a method aimed to achieve self-actualization by facilitating learning and developmental processes to promote the resource base of another person. The method is characterized by its active involvement of the coachee through powerful questioning and active listening (Moen & Kvalsund, 2008).

The basic means for achieving self-actualization is through the coachee's active involvement and participation in his or her learning process as facilitated by the coach. It is about helping people to learn (Gallwey, 2000), emphasizing self-directed learning (Wilson, 2007). Throughout the relationship, the coach's goal is to increase the coachee's self-awareness related to his or her own potential and to the choices and associated actions necessary for improvement. Thus, both the coach's and coachee's responsibilities in the process are clear and the relationship between the coach and the coachee is therefore a central element in coaching. Building awareness, choice and responsibility through empowering the coachee are therefore key principles of coaching (Moen & Kvalsund, 2008; Whitmore, 2002; Gallwey, 1997).

Business coaching is primarily concerned with improving performance at work in general and facilitating professional development (Zeus & Skiffington, 2002). In business, coaching is usually delivered by two different types of people (Hall, Otazo & Hollenbeck, 1999); those who are internal to the organization and those who are external consultants. The present study focuses on both external coaching of executives in business and internal executives who are coaching line managers for whom they have management responsibility. The main purpose of this study is to explore the importance of the self-determining principle in coaching in order to promote growth in others. For the purpose of this particular study, the activities delivered by these two different types of coaches are considered to be business coaching.

Self-determination theory

Deci and Ryan (1985, p. 8) define intrinsic motivation as the life force or energy for the activity and for the inward pursuit to feel competent and self-determining and to enjoy the activity. Deci and Ryan (2002) argue for the existence of basic psychological needs that must be satisfied in the individual's environment in order to achieve personal growth and development. These psychological forces are: (a) the need for competence, (b) the need for autonomy, and (c) the need for relatedness. *Competence* refers to the general feeling of functioning effectively in one's social and achievement environment. It highlights the importance of experiences, or the lack of experiences, where the individual has the opportunity to optimally utilize and display their strengths and capacity (Deci, 1975; Harter, 1983; White, 1959). *Self-determination*, or autonomy, refers to the individual's perception or understanding of being the source to, or origin of, the achievement behaviour (de Charms, 1968; Deci & Ryan, 1985; Ryan & Connell, 1989). Self-determination implies that actions originate from one's own interests and values and emanate from personal initiative. *Relatedness* highlights the feeling of connectedness and attachment to other people. It carries a dual view that the individual is taking care of others and that others are caring for the individual (Baumeister & Leary, 1995; Bowlby, 1979; Ryan, 1995).

In order for individuals to proactively engage in their own learning and development, intrinsic motivation is a requisite and desirable component of achievement pursuits. A major responsibility for the coach is to encourage coachee self-discovery (ICF Professional Coaching Core Competencies[1]; Whitmore, 2002). The overarching goal for the coach is to raise the coachee's self-consciousness so that he or she can be self-directed in his or her own growth and learning (Gallwey, 1974; Whitmore, 2002; Wilson, 2007; Moen & Kvalsund, 2008). Successful coaches engage the coachee's individual power by encouraging ccoachee-generated answers and strategies. Thus, the coachee should be empowered through self-determination and competence values. The first purpose of this study was to test the expectation that business coaching would have a significant effect on need satisfaction (competence, autonomy, relatedness).

Goal setting

Locke and Latham (2002) highlight several factors that are essential for goals to positively affect performances (Locke & Latham, 1990). The first factor concerns specificity of the goal—this factor is referred to as goal setting clarity in the present study. The second factor is concerned with the perceived level of difficulty of the specific task and the goal that is to be achieved. This factor will be referred to as goal setting difficulty in the

[1] International Coach Federation, www.coachfederation.org

present investigation. The third factor concerns the relationship between performance and goal setting (this relationship is typically strongest when the individual is deeply committed to the goal) (Seijts & Latham, 2000a), This third factor will be referred to as goal setting commitment in this study. The fourth factor concerns feedback:, in order for goals to be effective, specific, ongoing feedback must be provided regarding one's progress in relation to goal achievement (Locke & Latham, 2002). This is referred to as goal setting feedback in the current investigation. The fifth factor is concerned with complexity of the tasks that must be performed in order to achieve a particular goal. As the task increases in complexity, the individual's capability to possess and effectively implement efficient and effective goal attainment strategies is essential. This factor will be referred to as goal setting strategy. Locke and Latham (2002) defined these five factors as *goal setting moderators.*

Another major responsibility for a coach is to discover, clarify, and align with what the coachee wants to achieve (ICF Professional Coaching Core Competencies). Thus, working with goal setting is another important task for the coach (Whitmore, 2002; Moen & Kvalsund, 2008). Successful coaching should influence the moderators of goal setting. The second purpose of this study was to test the expectation that business coaching would have a significant effect on the moderators of goal setting.

Causal attributions

Intra-personal causal attribution theory focuses on the internal processing done by individuals regarding the thoughts and feelings present during this process of judgement and evaluation (Martinko & Thomson, 1998). Weiner (1989) hypothesized that attributions hinge on three primary dimensions; (1) locus of causality (internal vs. external), (2) stability (whether the causes change over time) and (3) locus of controllability (whether the cause is or is not under the individual's control) (Weiner, 1985).

Self-enhancing attributions generally strengthen an individual's self view and perceptions of competence, ability and control by taking responsibility for one's successes. Because of the tendency toward *self-protecting attributions,* unsuccessful achievements are generally not attributed to low ability or competence abilities (Skaalvik, 1990, 1994). In general, internal, unstable and controllable attributions following failure lead to positive expectancies of future success because the individual believes that they can control the cause of the unsuccessful behaviour (Bandura, 1997).

Two other major responsibilities for a coach are to elicit coachee-generated solutions and strategies, and hold the coachee responsible and accountable in the learning process (ICF Professional Coaching Core Competencies; Whitmore, 2002). Thus, successful coaching should both influence the coachee's ability

to use effective strategies in his or her own work and clarify the responsibility held by the coachee in the coaching process. The successful coach should be able to influence the coachee's awareness of his or her own potential (ability) and the impact which specific strategies have on his or her performance. Throughout the coaching process an internal locus of causality should be emphasized and the coachee should be invited to take control of his or her own learning through the engagement of specific strategies. Effective coaching should therefore influence the coachee's causal attributions to specific internal, unstable and controllable factors, such as strategy and effort, but also the coachee's attributions to internal, uncontrollable factors, such as ability (because of raised awareness about own potential). When explaining unsuccessful achievement however, we should expect that the executives avoid causal attributions to ability, because of the need for self-protection. However, because of raised awareness about the case and the coachee's responsibility in the situation, increased causal attributions to internal and controllable factors, such as strategy and effort, are expected when explaining unsuccessful achievement. The third purpose of this study was to test the expectation that business coaching would have a significant effect on causal attributions to strategy and effort when a coachee is explaining successful achievement.

Self-efficacy

Self-efficacy refers to a specific aspect of the self, concerned with what the individual can do with the skills and capabilities he or she possesses. Bandura defined self-efficacy as follows: "Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). Thus, self-efficacy, often called task-specific self-confidence, is the aspect of self which refers to how certain (or how confident) the individual is that he or she can successfully perform requisite tasks in specific situations given one's unique and specific capabilities. Self-efficacy is linked strongly to a variety of behavioural outcomes such as engagement, persistence, strategy use, reduced anxiety and task performance (Bandura, 1997; Pajares, 1996; Pajares & Schunk, 2001; Schunk, 1989, 1995). High self-efficacy is also associated with greater cognitive flexibility, for example through effective use of goal setting, resistance to negative feedback, and self-regulation in academic situations even when ability is controlled (Bandura, 1993; Zimmerman & Bandura, 1994). Thus, of all the thoughts that affect human functioning, self-efficacy beliefs stand at the very core of social cognitive theory.

Since coaching is about building competence (Kvalsund, 2005, p.19), successful executive coaching should lead to raised self-efficacy beliefs when it comes to specific leadership capabilities. Thus, the forth purpose of this study was to test the expec-

tation that business coaching would have a significant effect on self-efficacy.

The self-determining nature of coaching

Coaching invites the coachee to explore the potential for personal growth and development with the help of the coach. Thus, the central element in coaching is the empowerment of the coachee by inviting him or her to take control of his or her own learning. It is the coachee's competence which is the origin of the solutions and strategies used to solve his or her problems. This raises a major question: is the humanistic nature of coaching, based on autonomy and competence needs, the triggering effect on performance psychological variables?

The coachee is invited to explore possible future goals for his or her own growth and development. Thus, we expect that need satisfaction predicts goal setting through influencing the goal setting moderators. Locke and Latham (2002) highlight the importance of working with the entire goal setting moderators for goals to positively affect performance. When goals positively affect performance, this should affect self-efficacy, since performance accomplishments are the essential source of self-efficacy (Bandura, 1997; Pajares, 1997). Therefore, we expect that raised awareness and responsibility, considering the moderators of goal setting, should predict self-efficacy.

Further, the coachees' responsibility regarding their own learning is clear in coaching, which aims to increase causal attributions to internal dimensions such as ability, strategy and effort. Since causal attributions of success to internal dimensions are self-enhancing (especially attribution to competence dimensions such as ability and strategy), we may expect internal attributions of success to positively predict self-efficacy. Further, we may expect that attribution of failure to internal dimensions will predict self-efficacy negatively.

We also expected that need satisfaction would predict self-efficacy because of the influence from coaching on competence and autonomy needs. Thus, the coachee should conclude that he or she is the origin of his or her own learning. Effective coaching provides an opportunity for the coachee to be self-determining regarding his or her own learning, and to optimally utilize and display his or her own strength and capacity. The last purpose of this study was to test a theoretical model and to determine if the relations between the variables in the model are stronger as a result of the experiment. The model is shown in Figure 1.

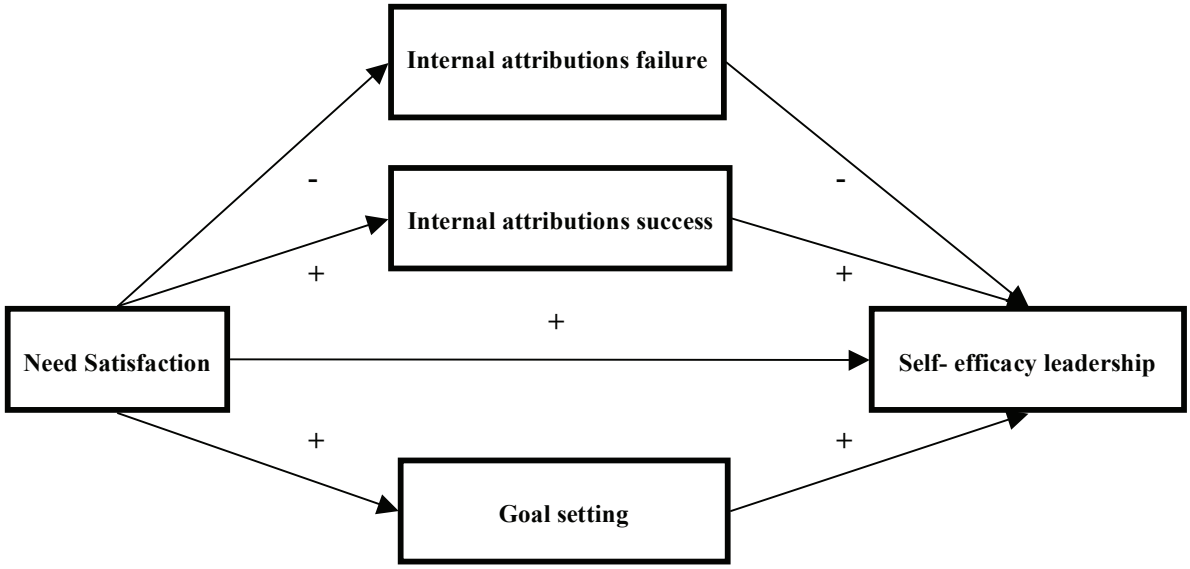


Figure 1. The theoretical model in the study with the expected relations between the variables

METHOD

One hundred and forty-four executives and middle managers in a branch leading Norwegian Fortune 500 company participated in an exploratory programme over a period of one year. We randomly assigned seventy executives and middle managers to an experiment group, while the reminding seventy-four were assigned to a control group. The executives in the study were the company's executive officers. They were all in the company's top management group. The middle managers were the second line of leadership in the company, and they were all managers for whom the executives had management responsibilities. They were office managers in different departments in the company. Thus, all of the participants in this study served in leadership roles.

Pre-test- post-test control-group design

After the assignment of the executives and middle managers to experimental and control groups, both groups completed a pre-test. We measured psychological variables concerning their thoughts, feelings and actions at work by means of an online questionnaire. The experimental group undertook a business coaching programme for a period of one year. After one year, both groups completed a post-test. Out of the 144 executives and middle managers who participated in the project, 127 completed the post-test (88%).

The *business coaching programme* was completed at two levels. At level one, the executives completed both individual and group coaching with external coaches. The executives were divided into three groups and each group completed four group coaching

sessions (each lasting for about 3 hours). Also, each executive completed at least seven individual coaching sessions through the programme (1- 1 ½ hour each). In their training as coaches, the executives completed five coach training programs, each lasting for 2 days (about 16 effective hours). At the second level, the middle managers completed ten to fifteen coaching sessions with those executives who had management responsibility for their performance. The aim of the coaching at both levels was to support the executives' and middle managers' development and progress as leaders.

Instruments

Two of the instruments used in this study were based on previously developed scales (causal attribution and self-determination). Two other instruments were developed for the purpose of this particular study (self-efficacy and goal setting). The two instruments having been used successfully and appropriately in previous research studies were translated into Norwegian by the authors, with minimal adjustments as a result of the translation.

Self-efficacy. The importance of reflective and accurate conceptual analysis and expert knowledge of what it takes to succeed in a given pursuit is essential in constructing self-efficacy scales (Bandura, 1997; Pajares & Urdan, 2006). Therefore, we conducted an analysis of the most important requirements viewed by participants in order to succeed in their specific and demanding achievement oriented environment. This process of inclusion of items was done in close co-operation with the executive leadership group in this particular company. Through this process we developed a 32-item scale measuring self-efficacy related to the role specific capabilities which were viewed as important in this particularly company (leadership capabilities). For example: "How certain are you that you can manage reorganisations and be in charge of internal changes without causing any particularly turbulence." "How certain are you that you can pay attention to and challenge employees through encouraging and constructive feedback?" "How certain are you that you can cooperate in an effective and constructive manner with employees, for instance through establishing effective and efficient teams?" The participants were asked to consider how certain they were that they could manage these different tasks and situations on the seven point scale ranging from not at all certain (1) to very certain (7). The tasks and situations represented challenging obstacles to overcome for the participants (see Bandura, 2006). The measurement is treated as a one dimensional scale because of a high Cronbach's Alpha (see Table 1) and difficulties finding more than one factor during factor analysis. In order to assure high validity we developed a measure of perceived importance of the content of each item. An example of an item is: "How important do you think it is to manage reorganisations and be in charge of internal changes without causing any

particularly turbulence?" Importance was measured on a seven point scale ranging from not important (1) to really important (7). The mean score for 'perceived importance' for the total scale was 6.2 with a standard deviation of .65, indicating that the participants perceived that the leadership capabilities described in the self-efficacy scale were truly important for them in their roles as executives.

Goal setting. The importance of goal setting moderator variables in order for goals to have a desirable and positive effect on performance is quite clear from the goal setting literature (Locke & Latham, 2002). A measure of goal setting based on these important moderators was subsequently developed, resulting in a 15 item questionnaire, measuring the five sub scales. Examples of items are: "I have specific, clear goals to aim for in my job" (Clarity), "An average individual will think my goals at work are difficult" (Difficulty), "I receive concrete feedback related to my goal attainment at work" (Feedback), "I have concrete plans which tell me how to reach my goals at work" (Strategy), and "It's difficult for me to be serious about my goals at work" (Commitment). All sub scales had three items. The participants were asked to consider how true each statement was on a seven point scale ranging from completely untrue (1) to completely true (7). The Cronbach's Alpha of the instruments is shown in Table 1.

Attribution. In order to measure intra-personal attributional style in specific work related situations we used and adjusted the 20-item, forced choice Attributional Style Assessment Test (ASAT – I) developed by Anderson, Jennings, and Arnoult (1988). The adjusted instrument was a six item questionnaire for specific work related situations (three for positive outcomes and three for negative outcomes). Four different choices were offered for each item, relating to strategy, ability, effort and circumstances, which yielded eight different sub-scales. The participants were asked to consider the causality of their performance at work on a seven point scale, for each of the 4 variables (strategy, effort, ability and circumstances). For example (item 1, positive outcome): "You have just received successful feedback on tasks performed at work." (a) "I used the correct strategy to achieve it", (b) "I'm good at this", (c) "I worked really hard to achieve it", (d) "Other circumstances (people, situation, etc.) influenced the result".

Need satisfaction. Need satisfaction was measured by means of the Basic Psychological Need Satisfaction at Work Scale (Baard, Deci, & Ryan, 2004). The scale was originally a 21 item questionnaire measuring three need satisfaction sub-scales. The authors translated the questionnaire into a 20 item questionnaire, including: autonomy (6 items), competence (6 items) and relatedness (8 items). Participants rated their feelings about their

job during the last year and indicated how true the 20 statements were on a seven point scale. For example (Autonomy): "I feel like I can make a lot of input in deciding how my job gets done." (Competence): "People at work tell me I am good at what I do." (Relatedness): "I really like the people I work with." The reliability for the total need satisfaction scale was reported to be .89, and, .79, .73 and .84, respectively for autonomy, competence and relatedness (Deci et al., 2001).

RESULTS

Table 1 shows the Cronbach's Alphas, the statistical means and standard deviations of the psychological variables in this investigation. The table also marks significant p-values from paired sample t-tests between the pre- and the post-test. Separate values are presented for the experimental and the control group. In the experimental group we found significant increases from pre-test to post-test for self-efficacy, need satisfaction at work (autonomy and competence), and attribution of successful achievement to strategy and ability. We also found significant changes in means in the control group; however, all changes were negative: goal commitment and need satisfaction at work (autonomy, competence and relatedness), decreased from pre-test to post-test.

The observed variables in the theoretical model proposed in the study were: need satisfaction (autonomy, competence and relatedness), *internal attribution of success and failure* (attribution to ability, strategy and effort), *goal setting* (clarity, difficulty, commitment, feedback, strategy), and *self-efficacy* (general capability as leader, capability as leader related to development, learning and motivation of employees, capability as leader in order to build relationships, capability as leader to execute management by objectives). These observed variables were analysed by multiple regression analysis using the enter method, where leadership self-efficacy was the dependent variable and internal attributions of successful and unsuccessful achievements, goal setting and need satisfaction were the predictor variables.

The path models in Figures 2 and 3 show standardized regression coefficients between observed variables before and after the experimental treatment (coaching), respectively. The analysis of data from the pre-test (Figure 2) shows significant direct relations between need satisfaction and both goal setting (.32) and self-efficacy (.41). High need satisfaction was predictive of higher scores on goal setting and self-efficacy. Internal attribution was also positively related to internal attribution of success and negatively related to internal attribution of failure; however, these relations were not statistically significant.

Table 1. Means, standard deviations (SD), p-values and Cronbach's Alpha (N=127)

Study variables	Experiment group					Control group					Cronbach's Alpha	
	pre		post			pre		post			pre	post
	mean	SD	mean	SD	p	mean	SD	mean	SD	p		
1. Self-efficacy	181.6	20.2	**191.9**	19.2	**	179.3	28.4	182.7	23.6		.97	.97
2. Goal clarity	17.5	2.9	17.8	3.1		17.5	2.8	17.3	3.0		.70	.82
3. Goal feedback	16.8	3.6	17.0	3.5		16.9	2.9	16.8	2.8		.77	.79
4. Goal difficulty	16.2	3.4	16.7	3.1		15.5	4.3	16.3	3.7		.90	.91
5. Goal strategy	17.0	2.3	17.5	2.6		16.6	2.9	16.6	2.9		.76	.86
6. Goal commitment	26.1	2.2	25.9	2.1		25.9	2.3	**25.0**	3.2	*	.49	.69
7. Need satisfaction at work	105.4	9.2	**109.0**	9.4	**	106.9	9.7	**103.8**	12.0	**	.83	.86
8. Autonomy	25.0	2.7	**25.8**	2.1	*	25.1	2.4	**24.4**	3.0	*	.71	.78
9. Competence	35.9	4.1	**37.2**	3.8	*	36.8	3.5	**35.7**	4.5	*	.71	.71
10. Relatedness	39.6	4.1	40.6	4.8		40.2	5.1	**38.8**	5.8	*	.67	.75
11. Attribution success strategy	17.6	2.2	**18.5**	2.2	**	17.8	2.2	18.0	2.3		.85	.90
12. Attribution success ability	17.3	2.2	**18.4**	2.2	**	17.6	2.1	17.6	2.3		.85	.90
13. Attribution success effort	16.8	3.1	17.5	3.0		17.0	3.1	17.1	3.5		.88	.93
14. Attribution success circumstances	15.0	3.7	14.5	4.0		14.7	3.4	14.6	3.8		.83	.91
15. Attribution failure strategy	14.1	3.6	15.2	4.8		15.3	3.6	15.4	3.7		.80	.85
16. Attribution failure ability	9.7	4.2	9.1	4.5		9.5	4.0	10.0	4.6		.82	.90
17. Attribution failure effort	12.8	4.6	12.1	5.1		12.1	5.3	12.8	4.9		.88	.88
18. Attribution failure circumstances	12.0	3.9	12.3	4.1		11.3	3.8	11.9	3.6		.84	.88

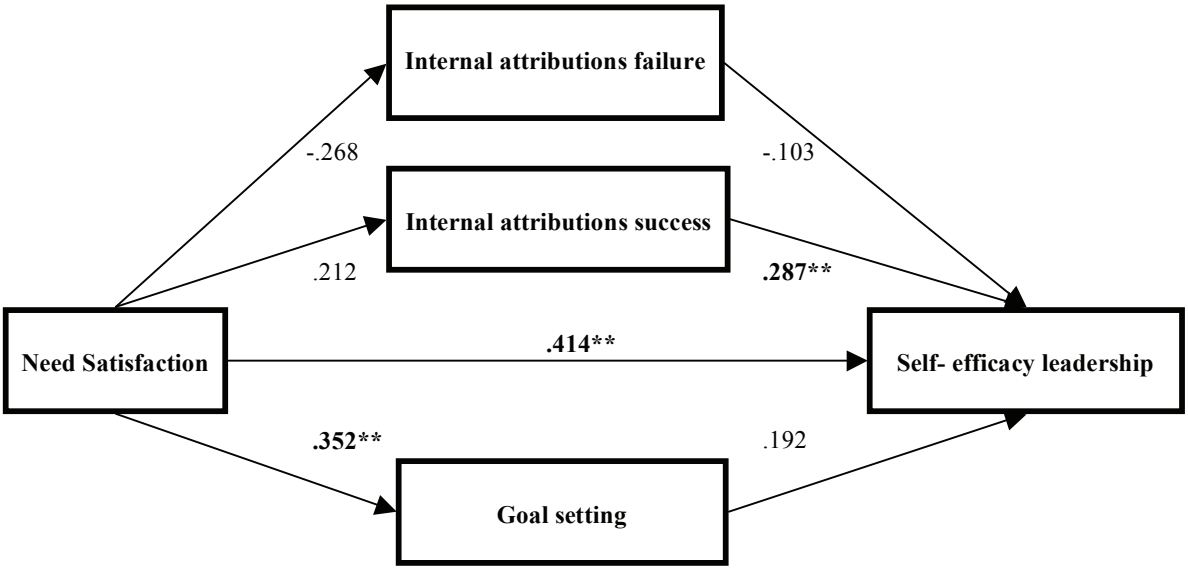
Note. Significant changes in variable values between the pre- and the post-test are marked with bold ((* = $p < .05$) and (** = $p < .01$)).

The results from the post-test showed that several of the relations were stronger than on the pre-test. The relations between need satisfaction and both goal setting (.59) and internal attribution of success (.56) were stronger. Both relations were significant on the post-test. Also, the relation between goal setting and self-efficacy (.23) was significant on the post-test. All regression coefficients were significant on the post-test with the exception of relations with internal attribution of failure.

The model from the pre-test counted for 52% of the variance in self-efficacy (Figure 2). The total effect from need satisfaction on self-efficacy yielded a standardized regression coefficient of .57, when adding all the direct and the indirect effects from need satisfaction on self-efficacy. The model from the post-test counted for 64% of the variance in self-efficacy (Figure 3). The total effect from need satisfaction on self-efficacy from the post-test model gave a standardized regression coefficient of .73, when adding the direct and all the indirect effects from need satisfaction on self-efficacy.

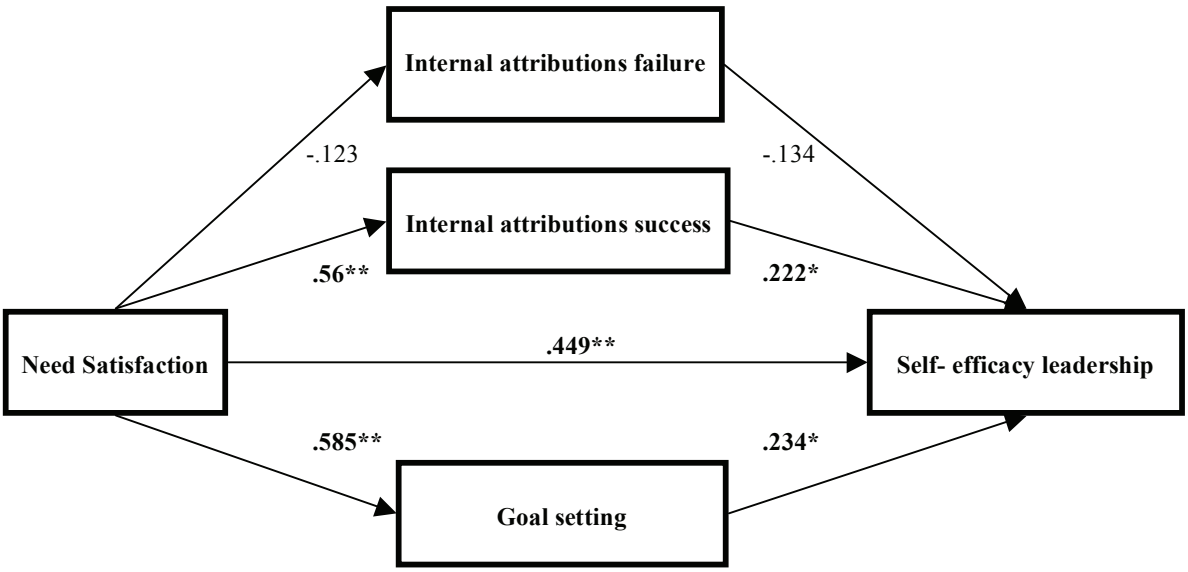
DISCUSSION

The main purpose of this study was to determine if the self-determining nature of coaching appears to be the triggering key to drive growth and development for others. In order to explore this problem, we investigated the effect of business coaching on important performance psychological variables. Three out of the four first expectations were confirmed. First, we expected a positive change in need satisfaction among the participants in the experimental group. This expectation was confirmed: there was a positive change in the total need satisfaction among the participants in the experimental group, especially regarding the needs for autonomy and competence (Table 1). Our second expectation concerned a positive change in goal setting through four important moderators: clarity, difficulty, commitment, feedback and strategy. This expectation was not confirmed. Our third expectation concerned a positive change in causal attributions to internal, unstable and controllable factors (strategy and effort), when explaining successful performances. This expectation was partly confirmed in that causal attributions to strategy increased during the experiment (Table 1). As predicted, attribution of success to ability also increased.



Note. Significant Beta coefficient values are marked with bold ((* = p < .05) and (** = p < .01)).

Figure 2. Linear regression analysis using the enter method testing the theoretical model on the pre-test



Note. Significant Beta coefficient values are marked with bold ((* = p < .05) and (** = p < .01)).

Figure 3: Linear regression analysis using the enter method testing the theoretical model on the post-test

Our fourth expectation concerned a positive change in self-efficacy as a result of the experiment. The finding from the paired sample t-test (Table 1) supports the prediction that effective business coaching increases self-efficacy, whereas we found no positive significant changes on performance psychological variables in the control group.

The fifth expectation was that the theoretical model of relations between the variables would be supported by the data. Analysis of data from the pre-test, revealed positive and significant relations between need satisfaction and self-efficacy, between need satisfaction and goal setting, and between internal attribution of success and self-efficacy (Figure 2). On the post-test (Figure 3) all relations were stronger except between internal attribution of success and self-efficacy and between internal attribution of failure and self-efficacy. All relations were significant except relations with internal attribution of failure.

Findings

We must balance the power of the individual to make important decisions for themselves without being influenced by others (autonomy and competence), or being influenced by the demands in the working environment for results and certain behaviours. This is the true challenge in business coaching (Moen & Kvalsund, 2007). We first predicted that business coaching would have a positive effect on the coachees' perception of need satisfaction. This expectation was confirmed: need satisfaction increased for the feeling of autonomy and competence. This may be explained by the nature of coaching which facilitates coachee-generated strategies and solutions. Thus, the coachee is responsible for his or her learning. Increasing intrinsic motivation as a result of greater need satisfaction is important in order to achieve growth and development. This result is worth noting and should be of great interest for future researchers. Goal setting theory states the importance of working with the entire set of goal setting moderators for goals to positively affect performance (Deci & Ryan, 2002). Coaching is about making changes and building competence, thus making coachees aware of what (goals) to achieve in the future. Coaching also enables coaches to explore and agree upon specific actions (strategies) in order to improve. Coaches should be especially aware of the importance of working with the different moderators of goal setting (Whitmore, 2002; Moen & Kvalsund, 2008; Grant & Greene, 2001).

Our second expectation was that coaching would have a positive effect on moderators of goal setting: clarity, difficulty, commitment, feedback and strategy. This expectation was not confirmed: no significant changes were found from the pre-test to the post-test for any of the goal setting moderators (Table 1). This is interesting and worth noting. A possible explanation is that the participants worked in an extremely demanding, achieve-

ment-oriented environment where the demands for results were strong and the focus on goal setting was heavily emphasized even prior to the experiment. The focus on goal setting as part of the coaching might therefore not have made any change. A problem with goal setting theory, emphasizing clarity, difficulty, commitment, feedback and strategy, may also be that it does not include the full nature of goals. In contrast, goal theory discriminates between mastery and performance goal structures. *Goal structure* is defined as the signals an environment emphasizes as important and valuable in order to achieve (Ames, 1992). Research has focused on two types of goal structures: *mastery goal structure and performance goal structure (*Lau & Nie, 2008). Mastery goal structure emphasizes learning, task mastery and trying hard to improve one's skills, whereas performance goal structure emphasizes results and the importance of demonstrating competence. Researchers tend to recommend a mastery oriented goal structure in order to enhance motivation and performances (Meece, Anderman & Anderman, 2006). In order to fully understand the results related to goal setting an investigation of the goal structure in the environment would have been helpful. Coaching is focused on growth and development (Moen & Kvalsund, 2008); thus, coaching is often focused on the mastery of behaviours leading to accomplishment of specific goals. This should be important to keep in mind regarding future research.

Our third expectation was that coaching would increase the attribution of successful achievement to internal, unstable, and controllable factors, such as strategy and effort. Additionally, we expected that successful achievements would be attributed to ability, because effective use of strategy might be perceived as dependent on ability. These expectations were partly confirmed in that successful achievements were attributed more to strategy and ability on the post-test than on the pre-test for the experimental group. However, an increased attribution to effort did not reach statistical significance. A possible explanation may be that the participants worked in an extremely demanding corporation where high effort was seen as a normal state.

Implications

In order to be efficient and effective, such that organisations are more competitive and successful, business coaching should lead to improved coachee performance regarding the coachee's role in the company (Morgan et al., 2005). Since performance accomplishments are the most important source to self-efficacy (Bandura, 1997), raised self-efficacy is a natural consequence from business coaching when it comes to important capabilities regarding the coachee's role in the company. Our findings support this: self-efficacy was strengthened among the coachees in the coaching programme. This could indicate that participants in the experiment improved their performances. However,

the relation between performance and self-efficacy is mutual (Bandura, 1997). Our findings could also indicate that self-efficacy increased and that performance will be enhanced as a consequence. It is also worth noting that the self-efficacy level was high to begin with in both the experimental and the control group (mean= 5,7, SD=.64 and mean= 5,6, SD=.90 respectively[1]). Thus, the participants were very certain that they could manage their most important tasks in their roles in the company, even though they faced considerable obstacles related to the tasks. The results are therefore worth noting.

Self determination theory states the importance of basic needs that must be fulfilled in the individual's environment in order to achieve growth and development through intrinsic motivation. Individual need satisfaction is therefore essential in order to achieve growth and development. This is what coaching really is about (Moen & Kvalsund, 2008; Kvalsund, 2005). The results confirmed that coaching facilitates an increase in the coachees' sense of individual power. As a result, the coachee is empowered through self-determination and competence values (Table 1). Moreover, the path analysis based on the post-test revealed that self-efficacy was positively related to need satisfaction, both directly and indirectly. The indirect relation was mediated through internal attribution of successful achievements and goal setting (Figure 3). A possible interpretation of these results is therefore that coaching led to an increase in need satisfaction which in turn resulted in increased self-efficacy beliefs. The post-test, compared to the pre-test, showed that some relations between variables were stronger after the coaching process than prior to this process. This was true for the relations between need satisfaction and both goal setting and internal attributions of successful achievements. A possible interpretation of these results may be that when coachees are stimulated to take control and to use their own competence in the learning process (important principles in coaching), their intrinsic motivation, self-awareness and responsibility regarding the focal case increases. During coaching coachees are encouraged to raise their awareness regarding own goal setting, and it is their own competence that is the origin in the process. Therefore, as the results show, need satisfaction has increased as a result from the experiment, and need satisfaction predicts goal setting. Interestingly, this relation is considerably stronger after the experiment (Figures 2 and 3, .352 and .585, respectively). Further, since coaching is based on self-determinination and competence values it should encourage internal attributions of successful achievements. Thus, coaching emphasizes the importance of a coachee's responsibility for their own learning (Moen & Kvalsund, 2008). Awareness about one's own potential (ability) in the situation, necessary actions in order to achieve desired outcomes (strategy), and the amount of effort necessary to complete decided actions (effort), are critical

to effective coaching. Therefore, as the results show, need satisfaction predicts internal attributions of successful achievements (Figures 2 and 3) and the relation is considerably stronger after the experiment (.212 and .56, respectively). As expected, the relation between need satisfaction and internal attributions of unsuccessful achievements is negative because of the need for self-protection. Importantly, the positive effect on need satisfaction from the experiment came mainly through the most important needs; autonomy and competence.

The need for competence refers to the individual's feeling of being effective in the environment, optimally utilizing and displaying one's own strengths and capacity. Specifically, in this study, it means that an individual's contribution is of significant importance to the organization, and that the individual has the opportunity to use his or her capacity and unique strengths within the organization. The need for autonomy refers to the individual's perception of being the source of their actions. Specifically, this means that the coachees are given both the opportunity (autonomy) and the confidence (competence, self-efficacy) to influence their own planning at work and to carry out those plans. This should directly support raised self-efficacy, because the coachees are given the opportunity to work with challenging tasks which are originated by their own personal initiative facilitated by a coach. Importantly, the coachee's competence and initiative are the origin of their own growth and development. As discussed earlier, Bandura (1986) argues that accomplishments on challenging tasks have an especially desirable and enhancing effect on self efficacy. Interestingly and importantly, the results indicate that need satisfaction might be an important source of self-efficacy.

Based on the findings, need satisfaction seems to be a key variable that contributes to individual growth and development. It seems to do this both directly by influencing self-efficacy, and indirectly through contributing to effective goal setting and functional causal attributions in order to influence self-efficacy. Coaching might be an efficient and effective tool in order to achieve this. This is however complex and it needs further studies in the future to be fully understood.

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ABOUT THE AUTHOR

Frode Moen

Email:
frmoe@online.no

Frode is currently a Ph.D. student in the Department of Education, Norwegian University of Science and Technology, NTNU. He is a former high school teacher and was the head coach responsible for the national first team in Norway in Nordic combined, through the Olympic Games in Torino 2006 (silver and bronze) and world championship in Oberstdorf 2005 (gold, silver and bronze). He has been a sport coach for thirteen years, now combining work as the leader of the Olympic organization in mid-Norway with his Ph.D. studies.

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ABOUT THE AUTHOR

Einar Skaalvik, Ph.D.

Email:
einar.skaalvik@svt.ntnu.no

Dr. Skaalvik teaches in the Department of Education, Norwegian University of Science and Technology, NTNU. He received his Ph.D. in education from University of Oslo in 1974. He specializes in self-concept, self-efficacy, and motivation. He has done basic research related to conceptual analysis, how self-concept and motivation are affected, relations between self-concept and motivation, and how self-concept and motivation affects emotional responses, behavior and achievement. Dr. Skaalvik has reviewed articles for 15 international journals and serves as consulting editor for *Journal of Educational Psychology.*

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