Perceptions of Coach Competence and Perceived Need Satisfaction: Assessing a Norwegian Coach Competence Scale

Frode Moen and Roger A. Federici

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INTRODUCTION

The marketplace for coaching in today’s competitive market in business is considerable and still growing: In 2006 it was estimated to be a global $2 billion per annum (Fillery-Travis & Lane, 2006). Interestingly, the field has still not developed standardized professional education such as it is for psychologists, doctors, teachers, and other professional helping relationships. However, there are trade organisations that work to advance the coaching profession by setting high professional standards, providing independent certification, and building a network of credentialed coaches. The leading global organisation is the International Coach Federation (ICF), formed in 1995, with over 17,000 members around the world. Education is the key activity for the ICF, and they have developed core competencies for coaches to support greater understanding about the skills and approaches used within today’s coaching profession. Theorists in the field argue that more empirical studies need to be conducted to extend the knowledge within the field (Passmore & Gibbes, 2007; Grant, 2006). Particularly, studies which examine coach competencies are missing (Grant, 2006).

Coaching is based on values that encourage the coachee to be independent (reflecting autonomy) and responsible (reflecting competence) for one’s own learning. The self-determinant nature of coaching should facilitate values based on autonomy and competence. Thus, it is the individual’s competence that is the origin for strategies and solutions, facilitated by a coach, which will improve the coachee’s competence. Self-determination theory emphasizes the importance of three main groups of psychological needs, forming the foundation for a persistent and enduring intrinsic motivation (Deci & Ryan, 2002): a) competence, b) autonomy, and c) relatedness. Research found increased need satisfaction as a result of

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PEER REVIEW

Perceptions of Coach Competence and Perceived Need Satisfaction: Assessing a Norwegian Coach Competence Scale

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One purpose of the present study was to develop and test the factor structure of a multidimensional and hierarchical instrument for measuring coaches’ competence called the Coach Competence Scale (CCS). Another purpose of the study was to validate the CCS through an inspection of the relation with the three psychological needs proposed by self-determination theory (SDT). The CCS was developed to capture important coach capabilities at five dimensions in terms of different competencies which coaches must possess in their roles as coaches. Need satisfaction was measured by a modified version of the Basic Psychological Need Satisfaction at Work Scale (BPNSWS). Confirmatory factor analyses supported both a first and second-order model of the CCS constituting the five dimensions of coach competencies. The structural model had an acceptable fit to data and revealed that the CCS was positively related to need satisfaction. The present study extends the literature on coach competence and its relation to other concepts. The results of the study are discussed together with limitations and suggestions for further research.
executive coaching over a period of one year. Relations between need satisfaction and other important variables impacting human performance (self-efficacy, goal setting, causal attributions) were also found (Moen & Skaalvik, 2008). The results indicate that need satisfaction could be the triggering key to affect the other variables. Empirical research argues that the self-determinant value of coaching is the triggering key to achieve growth and development (Moen & Skaalvik, 2009).

The first purpose of this study was to develop and test the factor structure of a multidimensional and hierarchical Coach Competence Scale (CCS) to meet the claim for empirical studies of coach competencies. This scale is intended to measure coachee’s perceptions of a coach’s competencies. A second purpose was to validate the CCS through an inspection of its relation to the three psychological needs proposed by self-determination theory. Data in the present study were collected from executives and middle managers in a high-tech Fortune 500 company who voluntarily participated in a coaching project over a period of one year. The initial data collection was conducted before the coaching project started, the second after six months, and the last after 12 months. All in all, the data were based on three data collections, totalling 395 respondents.

**THEORETICAL APPROACH**

*Coach* is a term often used as a metaphor for someone who takes people to a desired place (Zeus & Skiffington, 2002; Gjerde, 2003). Therefore, coaching is about establishing a helping relationship between the coach and the person with whom the coach is engaged, the coachee. Theorists tend to describe coaching as a new route to growth and development, which means that at least some people agree that coaching is different from counseling, consultation, teaching, mentoring, and other helping relationship roles (Downey, 1999; Whitmore, 2002; Flaherty, 1999). Coaching emphasizes the power of the individual as capable of finding solutions to his or her problems facilitated by a coach (Moen & Kvalsund, 2008). This approach to the field is a client-centred one influenced by humanistic psychology, which emphasizes the importance of listening to the subjective beliefs and interpretations of the client (Kahn, 1996). This optimistic and trusting view of human nature is central to the field of coaching today. In this study, the following definition is used: Coaching is a method which aims to achieve self-actualization by facilitating learning and development processes to promote the resource base of another person. The method is characterized by the 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 participation in his or her learning process, facilitated by the coach who asks open-ended questions and listens actively. It is about teaching people how to learn (Gallwey, 2000) in a self-directed manner (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 actions necessary for improvement. Thus, both the coach’s and coachee’s responsibilities in the process are clear. The relationship between the coach and the coachee is based on mutuality and therefore is a central element in coaching. Building awareness and responsibility by empowering the coachee are two key principles of coaching (Whitmore, 2002; Gallwey, 1997).

**Core competencies for coaches**

In 1998, a “Portfolio Committee” was established in the ICF, consisting of the founders from the eight best known coaching schools at that time. The main goal for this group of experts was to agree upon important basic competencies for coaches, based on their experiences within the field. *Competence* is defined by Lai (2004, p. 48) as “the total knowledge, skills, abilities, and attitudes enabling people to perform particular tasks and functions according to defined goals.” The work established by the ICF resulted in the coaching core competencies which were published in 1999, consisting of 11 competencies (ICF, n.d.). These competencies are categorised into four groups which logically belong together: 1) *Setting the foundation* by establishing the coaching agreement, and meeting ethical guidelines and professional standards; 2) *Co-creating the relationship*, by establishing trust and intimacy with the client, and
coaching presence; 3) Communicating effectively, through active listening, powerful questioning, and direct communication; and 4) Facilitating learning and results, through creating awareness, designing actions, planning and goal setting, and managing progress and accountability. Auerbach (2005) confirmed the importance of these competencies when he found that nine of them were ranked by professional coaches to be among the top twelve most highly important coach competencies.

<table>
<thead>
<tr>
<th>ICF Core Competencies</th>
<th>Auerbach (2005) Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting ethical guidelines and professional standards</td>
<td>Lifelong Training and development</td>
</tr>
<tr>
<td>Establishing the coaching agreement</td>
<td>Establishing trust and intimacy with the client</td>
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<td>Establishing trust and intimacy with the client</td>
<td>Coaching presence</td>
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<td>Coaching presence</td>
<td>Powerful Questioning</td>
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<tr>
<td>Active listening</td>
<td>Designing Actions</td>
</tr>
<tr>
<td>Powerful questioning</td>
<td>Managing Progress and Accountability</td>
</tr>
<tr>
<td>Direct communication</td>
<td>Direct Communication</td>
</tr>
<tr>
<td>Creating awareness</td>
<td>Active Listening</td>
</tr>
<tr>
<td>Designing actions</td>
<td>Creating Awareness</td>
</tr>
<tr>
<td>Planning and goal setting</td>
<td>Thought Partner</td>
</tr>
<tr>
<td>Managing progress and accountability</td>
<td>Planning and Goal Setting</td>
</tr>
<tr>
<td>Managing obstacles</td>
<td>Managing Obstacles</td>
</tr>
</tbody>
</table>

The top twelve competencies identified by professional coaches shown in Table 1 did not include “meeting ethical guidelines and professional standards” and “establishing the coaching agreement” (Auerbach, 2005). These competencies were considered to be a standard operating procedure in any professional helping relationship and not a core competency unique to coaching. Three competencies in Auerbach’s study were not included in the ICF core competencies: “managing obstacles,” “thought partner,” and “lifelong training and development.”

The coaching process is the mechanism that influences the outcome of the helping relationship between a coach and a coachee. The principles characterizing the process are what facilitate the outcome. In general, the process defines the coachee’s experience and knowledge related to the case in focus (Kvalsund, 2005). To acquire and reveal necessary and important information, communication is fundamental; the conversation is therefore at the heart of the coaching process (Hargrove, 2003). Three activities are important in the process: 1) Utilizing the information which emerges from the whole self during the process; 2) Increasing awareness of oneself and one’s own relationship to what’s being investigated; and 3) Exploring and developing the potential for growth which the investigation reveals (Moen & Kvalsund, 2008; Kvalsund, 2005). In order to meet these demands the coach must develop his or her competency in accordance with the competencies in Table 1.

**Communication, attending skills.** The ability to ask the right questions followed by the use of active listening are key techniques in coaching (Moen & Kvalsund, 2008). The hope is that the coachee, through powerful questioning and active listening, recognizes his or her potential and responsibility. The coach’s attending skills are supposed to give the coachee an impression that he or she has the coach’s full attention. Listening skills, both active and passive, are important as they enable the coachee to continue to talk and explore the case in focus (Ivey & Ivey, 2006). The passive listener doesn’t provide as many obvious and visible responses as the active listener (Kvalsund, 2006). Paraphrasing is a technique used to reflect the coachee’s comments back to him or her. The words are different, but the meaning remains the same. This gives the coachee an opportunity to evaluate whether the message got through as intended. The coachee can then modify or expand the message if the paraphrasing wasn’t correct...
Body language represents an added dimension of language during communication. This could be a smile, a nod, or facial expressions. They are all visible non-verbal signals containing important information related to the verbal message. Being capable of using attending skills is therefore defined as a core competency for coaches. Attending skills are supposed to assure that the coachee is seen, heard, and understood by the coach.

**Co-creating the relationship.** Attending skills are important in order to create an optimal coaching relationship with the coachee. The true nature of the coaching relationship is based on mutuality, in which both parties are equal in the relationship and promote each other’s independence while working and learning together (Zeus & Skiffington, 2002; Gjerde, 2003; Kvalsund, 2005; Moen, 2009). To achieve this, the use of attending skills are a necessity. Creating this mutual relationship with the coachee is essential for coaches. In order to create such a relationship, the coach must be able to meet the coachee with trust and respect. Thus, being able to establish a relationship built on mutuality is therefore defined as a core competency for coaches.

**Communication, influencing skills.** Once the coachee’s stories have been truly heard and understood, the coachee will be much more open and ready for change (Ivey & Ivey, 2006). The coach’s influencing skills are supposed to influence the coachee’s motivation and behaviour in order to help the coachee to achieve change. Asking questions that are open (begins with an interrogative who, what, how, where, and when) are important since such questions encourage descriptive and detailed answers (Røkenes & Hanssen, 2002; Ivey & Ivey, 2006). This gives the coachee the power to generate rich descriptions with regards to his or her own experiences, feelings, and interpretations regarding the case. In this way, the coach is given the opportunity to achieve a deeper understanding of the coachee’s world. Further, powerful questioning invites the coachee to enter into a mental exercise, establishing awareness, reflecting, considering, evaluating, and making decisions related to what is being discussed. Being able to use important influencing skills are therefore defined as a core competency for coaches.

**Facilitate learning and results.** The overarching goal of coaching is to actualize the coachee’s potential capacities, abilities, and talents (Moen & Kvalsund, 2008). The basic means for achieving this is through stimulating the coachee to be active, involved, and to participate in his or her learning process as facilitated by the coach. The aim is to explore the current case from many different perspectives, so that the coachee becomes aware of his or her relationship to the case in focus and the potential for growth and learning in the situation. Another important core competency for a coach is defined as the ability to facilitate learning and results for the coachee. Thus, it is the coachee’s perspective, solutions, and strategies which are in focus in the learning process.

**Make the responsibility clear.** Awareness building is an important goal in coaching. Importantly, awareness is a prerequisite for being able to take responsibility (Moen, 2009). One cannot take responsibility for something of which one is unaware. It’s essential for coaches to clarify that the coachee is responsible in his or her learning process. In addition, greater use of attending skills, especially at the beginning of the relationship when trust is being established, stimulates the coachee to open up, speak up, and explore their situation. Then, influencing skills can enhance mutual, deeper understanding of the case and how it came about. Thus, they are both better prepared to take responsibility and draw optimal conclusions. Therefore, another core competency for a coach is defined as the ability to make the responsibility clear between the coach and the coachee.

These ICF core competencies (ICF, n.d.) are included in the study among professional coaches discussing the most important coach competencies (Auerbach, 2005), and theoretical research studying the coaching process (Moen, 2009; Moen & Kvalsund, 2008).
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, self-determining and to enjoy the activity.” Deci and Ryan (2002) argue for the existence of basic psychological needs which must be satisfied in the individual’s environment to achieve personal growth and development. These psychological needs are for competence, autonomy, and relatedness.

- **The need for competence** refers to the general assessment of functioning effectively in one’s social and achievement environment. It highlights the importance of having experiences where the individual can optimally use and display their strengths and capacity (Deci, 1975; Harter, 1983; White, 1959).

- **The need for self-determination, or autonomy**, refers to the individual’s perception or understanding of being the source or origin of their 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.

- **The need for 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). Thus, in order for individuals to proactively engage in their own learning and development, intrinsic motivation is a requisite and desirable component of achievement-related pursuits.

Coaching and self-determination
Coaching invites the coachee to explore the potential for growth and development by the help of the coach. This process builds upon values of autonomy, competence, and relatedness. Thus, the coach, through active listening, powerful questioning, and invitation, empowers the coachee to take control of their own learning. It is the coachee’s competence which is the origin of solutions and strategies used to solve his or her problems. The coachee is the focus of the conversation and is encouraged to talk about a situation and their experiences and perceptions of it. Thus, all needs which are central in self-determination theory are stimulated in effective coaching (Moen, 2009; Moen & Skaalvik, 2008, 2009).

One purpose of this study was to develop a scale for measuring important coaching competencies and to validate the instrument. Because of the self-determinant nature of coaching, we expect that the Coach Competence Scale will relate to need satisfaction. A relation between these concepts may contribute to the validation of the Coach Competence Scale.

METHOD
Participants in the present study were executives and middle managers in a high-tech Fortune 500 company who voluntarily participated in a coaching project over a period of one year. The executives and middle managers participated in an online questionnaire which measured psychological variables concerning their thoughts, feelings, and actions at work. The initial data collection was conducted before the coaching project started; 144 executives and middle managers participated. The second occurred after six months and included 124 executives and middle managers. The last data collection was conducted after 12 months and 127 executives and middle managers participated. This totals 395 respondents.

The Coach Competence Scale
We developed a Coaching Competence Scale (CCS) based on the ICF core competencies. The validation study examined coach competencies (Auerbach, 2005), and a theoretical review of the coaching process and needed skills (Moen & Kvalsvik, 2008). We did not include the first category of competencies defined by the ICF in our scale (setting the foundation), since this was not a prioritized competency among the coaches in the validation study (Auerbach, 2005). The CCS consists of five dimensions with different numbers of items on each subscale: 1) creating the relationship, 2) communication-attending
skills, 3) communication- influencing skills, 4) facilitating for learning and results, and 5) making the responsibility clear. It is important to note that the instrument primarily was designed to measure the coachee’s perception of a coach’s competencies based on his or her experiences from a coaching relationship. Responses were given on a 7-point scale ranging from 1 (not at all) to 7 (absolutely).

- Creating the relationship consisted of two items with a Cronbach’s alpha of .86. An example of an item is “My coach expresses a fundamental trust and respect in me.”
- The second dimension focused on Communication- attending skills. This dimension consisted of three items with a Cronbach’s alpha of .89. An example of an item is “My coach seems to understand me well when we speak together.”
- Communication- influencing skills consisted of two items. An example of an item is “My coach asks mainly open and direct questions.” The Cronbach’s alpha for this dimension was .82.
- Facilitating for learning and results consisted of three items with a Cronbach’s alpha of .86. An example of an item is “My coach brings out my solutions on challenges that I meet.”
- The last dimension was Making the responsibility clear. This dimension consisted of two items. An example of an item is “My coach puts a clear responsibility on me in my learning process.” This dimension had a Cronbach’s alpha of .83.

Self-determination
Since the concept of the basic psychological needs is central to self-determination theory, we developed an instrument based on the most often implemented tool used for this study, the Basic Psychological Need Satisfaction at Work Scale (BPNSWS; Baard, Deci, & Ryan, 2004). The instrument was originally a 21-item questionnaire measuring three need satisfaction dimensions. The authors translated the instrument and reduced it to a nine-item questionnaire, consisting of three items apiece for autonomy, competence, and relatedness. For the sake of clarity, we named it the Reduced Need Satisfaction Scale (RNSS). The participants were asked to consider their feelings about their job during the last year and to indicate how true the nine statements were on a 7-point scale. Examples of items are “I feel like I can make a lot of input in deciding how my job gets done” (autonomy), “People at work tell me I am good at what I do” (competence), and “I really like the people I work with” (relatedness). The reliability for each dimension was .74, .75, and .69, respectively.

Data analysis
The data were analyzed by means of confirmatory factor analysis (CFA) and structural equation modelling (SEM) using AMOS 18 software. This methodology takes a confirmatory approach to the analysis of data (Byrne, 2010; Jackson, Gillaspy, Jr., & Purc-Stephenson, 2009). Since CFA is part of the larger SEM family, it usually plays an essential role in evaluating the measurement model before a structural analysis is conducted. Structural analysis is then used for specifying and estimating models of linear relationships between both observed and latent variables (Jackson et al., 2009; MacCallum & Austin, 2000).

The collected data constitute an empirical covariance matrix. This matrix is the foundation for structural equation modeling. When conducting SEM, the analysis produces an estimated population covariance matrix based on the model specified. A key element of SEM is to assess whether the model produces an estimated matrix that is consistent with the sample matrix (Tabachnick & Fidell, 2007). This consistency is investigated through different measurement indices of goodness of fit. If goodness of fit is adequate, it supports the plausibility of the model specified. Different measures of fit are available and are assessed through indices such as CFI, IFI, TLI and RMSEA, as well as the chi square test-statistics. For the CFI, IFI and TLI indices, values greater than .90 are typically considered acceptable and values greater than .95 indicate a good fit to data (Byrne, 2010; Hu & Bentler, 1999). For well-specified models, an RMSEA of .06 or less indicates a good fit (Hu & Bentler, 1999). Since AMOS 18 doesn’t provide
standard errors (SE) and confidence intervals (CI) for all estimates, a bootstrap analysis was performed to estimate approximate SE and CI for the indirect effects. The bootstrap method is a versatile method for estimating the sampling distribution of parameter estimates (Arbuckle, 2009; Byrne, 2010).

In the present study we first conducted confirmatory factor analyses to investigate the measurement model of the CCS and the RNSS, respectively. We then used structural equation modelling to investigate a theoretical model of the relation between the concepts.

**RESULTS**

**Measurement model: CCS**

Three theoretical models of the Coach Competence Scale were tested. Model 1 defined CCS as a single first order factor with loading on the 12 observed items. This model was tested to ascertain whether the coach competencies could be treated as a one-dimensional construct. Model 2 defined five correlated primary factors corresponding to the five theoretical dimensions. Model 3 defined five primary factors and one second-order factor underlying the primary factors. The three theoretical models are presented in Figure 1.

Model 1 did not fit the data ($\chi^2$ (54, $N = 395) = 512.58, p < .001, CMIN/DF = 9.492, RMSEA = 0.147, IFI = 0.866, TLI = 0.836, and CFI = 0.866). Models 2 and 3 had good fit to data with goodness of fit indices of ($\chi^2$ (44, $N = 395) = 98.13, p < .001, CMIN/DF = 2.230, RMSEA = 0.056, IFI = 0.954, TLI = 0.976, and CFI = 0.984) for Model 2 and ($\chi^2$ (49, $N = 395) = 145.84, p < .001, CMIN/DF = 2.976, RMSEA = 0.071, IFI = 0.972, TLI = 0.962, and CFI = 0.972) for Model 3, respectively. None of the

$^1\chi^2 =$ Chi-Square statistics
error variances was allowed to be correlated. All regression weights in Model 2 and 3 were significant at \( p < .001 \). The correlations between the primary factors in Model 2 are presented in Table 2.

### Table 2. Correlations between the latent variables of the CCS

<table>
<thead>
<tr>
<th>Latent variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating the relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication attending skills</td>
<td>.858***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication influencing skills</td>
<td>.759***</td>
<td>.784***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitation for learning and results</td>
<td>.777***</td>
<td>.814***</td>
<td>.805***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making responsibility clear</td>
<td>.827***</td>
<td>.662***</td>
<td>.715***</td>
<td>.688***</td>
<td></td>
</tr>
</tbody>
</table>

*Note.*** \( p < .001 \)

Results from the confirmatory factor analyses verified that coach competencies are a multidimensional construct. In the present study, the Coach Competence Scale consisted of five correlated primary factors with 12 corresponding items. The correlations varied from moderate to strong. Coach competencies can be regarded as both domain-specific and multidimensional.

As stated above, Model 1 did not fit the data \( (\chi^2 (54, N = 395) = 512.58, p < .001, \text{CMIN/DF} = 9.492, \text{RMSEA} = 0.147, \text{IFI} = 0.866, \text{TLI} = 0.836, \text{and CFI} = 0.866) \). The second-order analysis also indicated that the concept may be experienced as a more general exercise of coach competence.

**Measurement model: RNSS**

Need satisfaction was measured by the Reduced Need Satisfaction Scale (RNSS), consisting of nine items that constituted the three dimensions of autonomy, competence, and relatedness. Three theoretical models of the RNSS were tested. Model 1 defined RNSS as a single first order factor with loading on the nine observed items. As for the CCS, this model was tested to ascertain whether the need satisfaction could be treated as a one-dimensional construct. Model 2 defined three correlated primary factors corresponding to the three theoretical dimensions (in accordance with theory and previous research). Model 3 defined three primary factors and one second-order factor underlying the primary factors. The three theoretical models are presented in Figure 2.

**Figure 2. Three hypothesized models of the RNSS**

*Figure 2. Model 1: One primary factor with regression weights on the nine observed items. Model 2: Three correlated primary factors and their respective items. Model 3: Three primary factors and one second-order factor.*

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Model 1 did not fit the data ($\chi^2 (27, N = 395) = 135.15, p < .001, \text{CMIN}/\text{DF} = 5.005, \text{RMSEA} = 0.101, \text{IFI} = 0.891, \text{TLI} = 0.855, \text{and CFI} = 0.891$). Models 2 and 3 had a good fit to data with goodness of fit indices of ($\chi^2 (23, N = 395) = 64.45, p < .001, \text{CMIN}/\text{DF} = 2.802, \text{RMSEA} = 0.068, \text{IFI} = 0.959, \text{TLI} = 0.936, \text{and CFI} = 0.958$) for Model 2 and ($\chi^2 (23, N = 395) = 64.45, p < .001, \text{CMIN}/\text{DF} = 2.802, \text{RMSEA} = 0.068, \text{IFI} = 0.959, \text{TLI} = 0.936, \text{and CFI} = 0.958$) for Model 3, respectively. None of the error variances was allowed to be correlated. All regression weights in Model 2 and 3 were significant at $p < .001$. The correlations between the primary factors in Model 2 are presented in Table 3.

### Table 3. Correlations between the latent variables of the RNSS

<table>
<thead>
<tr>
<th>Latent variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Autonomy</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Competence</td>
<td>-.748***</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3 Relatedness</td>
<td>-.793***</td>
<td>.735***</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note.*** $p < .001$

Results from the confirmatory factor analyses support previous research that need satisfaction is constituted by three dimensions. The dimensions are correlated and the correlations are strong. The second-order analysis also indicates that the concept is constituted by a more general experience of need satisfaction. Further analysis focused on the relation between the Coach Competence Scale and the Reduced Need Satisfaction Scale.

**SEM: Relation between the CCS and the RNSS**

One purpose of the present study was to develop and test the factor structure of the multidimensional Coach Competence Scale. A second purpose was to validate the CCS through an inspection of its relation to RNSS. We therefore tested one theoretical model by means of SEM. Based on the results from the CFA and for validation purposes, the theoretical model specifies both the CCS and RNSS as second-order models. In the model we let the CCS predict the RNSS. The theoretical model is shown in Figure 3 on the following page.

The model had acceptable fit to data ($\chi^2 (181, N = 395) = 530.34, p < .001, \text{CMIN}/\text{DF} = 2.930, \text{RMSEA} = 0.070, \text{IFI} = 0.927, \text{TLI} = 0.915, \text{and CFI} = 0.927$). None of the error variances was allowed to be correlated. All regression weights in the model were significant at $p < .001$. In this model the CCS predicted the RNSS with a standardized regression weight of $\chi = .67, p < .001$, explaining 45% of the variance of RNSS.

We also asked for the indirect effects from the second-order CSS on the three dimensions of the RNSS. A bootstrap analysis (2000 samples) was performed to estimate approximate SE and CI for the indirect effects to determine whether these effects were significant. The results are presented in Table 4 on the following page.

The analysis shows that all indirect effects are significant at $p < .05$, based on the estimates from the bootstrap analysis. These values are also supported by the bias-corrected confidence intervals (CI$_{99}$) provided from the bootstrap analysis which all contained the respective estimate.
In spite of a fast growing market within the coaching discipline and several international trade organizations which claim that education is their core activity, little attention has been given to address the issue of measuring coach competencies among practicing coaches. The first purpose of the present study was therefore to develop and test the factor structure of a multidimensional and hierarchical Coach Competence Scale. A second purpose was to validate the CCS through an inspection of its relation to need satisfaction.

The CCS was developed based on the core competencies defined by the ICF (ICF, n.d.), a validation study examining important coach competencies (Auerbach, 2005), and a theoretical study examining needed skills and competencies in executive coaching (Moen & Kvalsund, 2008). We first investigated a CFA model defining CCS as single primary factor to ascertain whether the coach competencies could be treated as a one-dimensional construct (Figure 1, Model 1). This model did not have an acceptable
fit to data. However, a model defining five primary factors had good fit to data (Figure 1, Model 2). This analysis clearly supports the conceptualization of coach competencies as a multidimensional construct consisting of five separate, but correlated, dimensions.

We also found support for a strong second-order factor underlying the five dimensions of coach competencies. This finding makes the instrument particularly useful for research purposes analysing coach competencies as a latent trait (Figure 1, Model 3). The analyses clearly support the argument that coach competencies should be regarded as domain-specific, multidimensional, and hierarchical. The second-order analysis also indicates that the concept is constituted by a more general domain-specific experience of coach competencies. These findings make the instrument suitable to examine how a second-order factor relates to other concepts. It can also be used to explore whether or not the separate dimensions relate differently to other constructs.

Need satisfaction was measured by the Reduced Need Satisfaction Scale (RNSS) consisting of nine items constituting the three dimensions of autonomy, competence, and relatedness. We initially tested a single primary factor to ascertain whether the RNSS could be treated as a one-dimensional construct (Figure 2, Model 1). This model did not fit the data. However, we found strong support for both a model consisting of three correlated primary factors and a second-order model underlying the three dimensions (Figure 2, Models 2 & 3). The analyses clearly support the argument that need satisfaction should be regarded as multidimensional and hierarchical in accordance with self-determination theory (Deci & Ryan, 2002).

One theoretical model was tested by means of structural equation modelling to investigate the relation between the CCS and the RNSS (Figure 3). In the model we let the second-order CCS factor predict the second-order RNSS factor. The result from this analysis revealed a positive relation between perceptions of coach competencies and need satisfaction. In the model CCS predicted RNSS with a standardized estimate of .67 explaining 45% of the variance of RNSS. This estimate can be interpreted as a strong relation and is in accordance with prior research showing that coaching has a positive effect on need satisfaction (Moen, 2009; Moen & Skaalvik, 2008, 2009). Thus, these results indicate a satisfactory validation of the CCS.

Implications. Both the first and second-order model of the CCS support the conceptualization of five different dimensions of coach competencies: (1) Creating the relationship, 2) Communication - attending skills, 3) Communication - influencing skills, 4) Facilitating for learning and results, and 5) Making the responsibility clear. The results also reveal that these dimensions are clearly connected (Table 1). An interpretation of these results may be that it is fundamental for a coach to act so that mutual trust with the coachee is established in the relationship. Disturbance does not encourage openness. Since mutuality describes the relationship between the coach and the coachee, the coach must be able to influence the coachee to talk about the focused situation so that he or she and the coachee can discover the coaching-related issue(s). Thus, building awareness is the essence of good coaching (Whitmore, 2002). Creating the relationship based on mutuality seems to be key to creating an optimal coaching process (Moen & Skaalvik, 2008). Importantly, communications skills are needed to influence the coachee to reflect on, investigate, and talk about their situation (Moen & Kvalsund, 2008). Attending skills are therefore critical as they enable the coachee to continue to talk and explore the case in focus. They also give the coachee an impression that the coach is paying attention and understands what the coachee has communicated. Attention to the coachee’s world as he or she experiences it is necessary for developing trust. Thus, these coach competencies are related.

Further, coaching is aimed at improving performance and the process requires the involvement of the coachee. A coach must therefore be able to facilitate learning, performance improvement, and related results. In fact, some coaches in the market are practicing pay for performance: They only get paid if the coachee improves his or her performance that ties with the organisational strategy (Goldsmith & Lyons, 2006). To achieve learning and better results, the coach’s influencing skills are necessary since they can stimulate change.
Finally, coaching is about helping the coachee to learn instead of teaching him or her. Thus, it is important that the coach is able to put the responsibility for learning upon the coachee throughout the coaching process (Moen, 2009). The coach cannot achieve this without asking powerful questions that put the learning responsibility on the coachee.

Our theoretical model showed a strong relation between CCS and RNSS. This should be an important finding in order to validate the CCS. The true nature of coaching is based on empowering the coachee so that he or she can make important decisions without being unduly influenced by others. Thus, the coachee is responsible for his or her learning which should stimulate the need for autonomy. Previous research has shown that executive coaching with external coaches over a period of one year has a positive significant effect on autonomy (Moen & Skaalvik, 2009). When controlling for effect sizes using Cohen’s $d$ (Cohen, 1988), the effect on autonomy is large ($0.8$).

Another important principle in coaching is the coach’s facilitation of coachee-generated strategies and solutions regarding the coaching issue(s). This should stimulate the need for competence, since it is the coachee’s developing competence that is the origin for solutions and strategies. The same study discussed above (Moen & Skaalvik, 2009) showed a positive effect from coaching on competence as well, with a Cohen’s $d$ of $0.5$. While considered to be a medium effect, this was not statistically significant. Another study showed that business coaching (both external and internal coaching) over the same period had a positive significant effect on competence (Moen & Skaalvik, 2008).

Conversation is central in the coaching process. The coach’s active use of attending skills helps to establish trust and mutuality with the coachee, and should stimulate the need for relatedness. Our finding confirms the relationship between the needs and coaching competence; however, there are some variations concerning what needs have the strongest relation (Table 3). Interestingly, the effect from external executive coaching was found to be very large (Cohen’s $d$ of $1.7$) and statistically significant for relatedness (Moen & Skaalvik, 2009).

It seems that researchers and practicing coaches lack a well-established, reliable, and valid instrument for measuring coachees’ perceptions of coaches’ coaching competencies. The development of the CCS may contribute to this concern. Also, the CCS could easily be adjusted to measure coaches’ perceived competence as well, which could be an important contribution with regards to measure the effect from coaching educational programs. The CFA and SEM analyses conducted in the present study contribute to the validity of the CCS. The instrument appears to have several advantages. First of all, the instrument allows SEM analyses both of the five primary factors and of the second-order factor underlying the primary factors. Analysis of primary factors allows the examination of how the different dimensions of coach competencies may be related to other relevant concepts, for example, self-efficacy and attribution. Analysis of a second-order factor can be particularly useful in more complex models where several concepts are included.

The results from the present study should be an important contribution to the field of coaching. However, this study has several limitations and further studies need to be conducted before clear conclusions can be drawn. One limitation is the probability that sample size has influenced the results. Both the factor structure of the CCS and RNSS should be verified with larger samples. Another limitation is that the CCS is yet not tested in other cultures than Norwegian. Also, the CCS should be considered as a preliminary scale measuring coaching competence. We consider that the five dimensions constituting the CCS may apply to all coaches but other possible dimensions of coach competencies should also be explored in future research.
RESOURCE
International Coach Federation: www.coachfederation.org

REFERENCES


Hu, L.-t., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: 
Conventional criteria versus new alternatives. Structural Equation Modeling, 6(1), 1-55.

http://www.coachfederation.org/icfcredentials/core-competencies/


factor analysis: An overview and some recommendations. Psychological Methods, 14(1), 6-23.

Kahn, E. (1996). The intersubjective perspective and the client-centred approach: 
Are they one at their core? Psychotherapy, 33, 30-38.


Moen, F. (2009). Coaching and performance psychology (Doctoral dissertation, Norwegian University of 
Science and Technology, Trondheim, Norway).

Moen, F., & Kvalsund, R. (2008). What communications or relational factors characterize the method, 
skills and techniques of executive coaching? The International Journal of Coaching in Organizations, 
6(2), 102-127.

International Journal of Evidence Based Coaching and Mentoring, 7(2), 31-49.


literature tell us and what’s next for coaching research? International Coaching Psychology Review, 
2, 116-128.

Journal of Personality, 63, 397-427.


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