

Active ingredients in executive coaching: A systematic literature review

Camillo Pandolfi

This critical review has examined the evidence of active ingredients (antecedents, mediators and moderators) through which outcomes are produced in executive coaching (EC) engagements. Most literature suggests EC interventions are generally effective (e.g. Grover & Furnham, 2016). However, there is a paucity of rigorous research investigating how EC works (Bickerich et al., 2018). Various authors have called for research to fill this gap and to further EC as evidence-based practice (Athanasopoulou & Dopson, 2018). A systematic search was conducted to identify recent meta-analyses, reviews and articles through five databases, selecting peer-reviewed articles published globally between 2009 and June 2019. A stepwise analysis identified 46 active ingredients cited in 28 included articles. Evidence of EC active ingredients is still in its infancy and focused on coachees's and coaches' characteristics, and coaching relationship (respectively 32 per cent, 25 per cent and 20 per cent of citations). This confirms the key role of individual characteristics and importance of building a solid alliance. On the flipside, the coaching process (17 per cent citations) and contextual elements (seven per cent) remain largely unexplored areas. This review also shed some light on neglected aspects like the need for coaches to be competent in dealing effectively and ethically with all the stakeholders in the triangular EC relationship. Methodological limitations and research-gaps are discussed, and recommendations are made for research and practice.

Keywords: executive coaching; active ingredients; systematic literature review; coaching impact; coaching relationship; antecedents; mediators; moderators; leadership coaching.

EXECUTIVE COACHING (EC), as a one-to-one intervention in which an external professional coach supports an executive attaining specific developmental goals in an organisational context, emerged as a distinct consultative practice in the 1990s. By the early 2000s, EC had become one of the most commonly employed leadership development practices in workplaces (Burt & Talati, 2017). Whilst EC practice developed at pace, empirical research has only taken off in recent years (Grover & Furnham, 2016), with the publication of more rigorous studies, reviews and meta-analyses which showed high variability of results, as EC is an intervention tailored to coachees' and clients' objectives and circumstances. Moreover, most included studies are published Western countries, and there is insufficient harmonisation in measurement methods and a lack of repli-

cations. Overall, this literature supports the efficacy of EC with low to moderate effect sizes on various outcomes, including individual performance, skills, wellbeing, attitudes, self-efficacy, goal-attainment, engagement of supervised team, and others (Athanasopoulou & Dopson, 2018; Burt & Talati, 2017). However, if it is safe to claim 'EC works' according to at least five recent meta-analyses including one of RCTs, to date, there is a paucity of rigorous research investigating the active ingredients and mechanisms, that is how it works (Athanasopoulou & Dopson, 2018).

What is executive coaching

In the published literature, researchers have adopted various definitions of EC (Passmore & Lai, 2019; Grant, 2012). Here, EC is defined as 'a helping relationship formed between a client who has managerial

authority and responsibility in an organisation and a consultant who uses a wide variety of behavioural techniques and methods to help the client achieve a mutually identified set of goals to improve his or her professional performance and personal satisfaction and, consequently, to improve the effectiveness of the client's organisation within a formally defined coaching agreement' (Kilburg, 2000; cited in Passmore & Lai, 2019). It is important to remark that EC is a one-to-one intervention in which an external professional coach supports an executive attaining specific developmental goals, in an organisational context. In EC, there are three key stakeholders forming a triangular relationship: the executive (coachee), the coach, and the organisational stakeholders (e.g. line manager, HR, others). Typically, the EC is paid by the organisation and the coaching goals must link back to the organisational objectives (Ennis & Otto, 2015). This definition excludes manager/supervisor as coach, peer-coaching and team-coaching, as these relationships are qualitatively different from EC. Whilst the boundaries between coaching and other one-to-one interventions are blurred, in this article, as in most literature, coaching is conceptualised as distinct from counselling and psychotherapy, mentoring, training, and business consultancy.

Research question

What are the active ingredients (antecedents, mediators and moderators) through which change happens and outcomes are produced in EC engagements?

Relevance for practice

EC is a commonly used development practice that requires a significant investment: an executive coach costs on average \$398 per hour, added to the cost of highly paid executives' time (Sherpa coaching, 2019; Sonesh et al., 2015a). Therefore, an improved understanding of how EC works is crucial to tailor specific interventions and ensure maximum effectiveness and efficiency. Understanding EC mechanisms and

processes would have numerous benefits: organisations could better select and match coaches and coachees; coaches could adapt their approach to specific circumstances and individuals, gaining more credibility through rigorous and evidence-based practice; coaching organisations could improve coaches' training and certifications (Grover & Furnham, 2016).

Relevance for research

This question addresses a gap in research, as various authors have highlighted the need to develop an understanding of antecedents, mechanisms and process factors that influence the outcomes (Bickerich et al., 2018; Grover & Furnham, 2016). Taken all together, reviews and meta-analyses suggest EC interventions are generally effective (Grover & Furnham, 2016). Therefore, research has shifted its attention towards how EC works, with a recent stream of systematic reviews including a broad base of qualitative and quantitative evidence. However, these reviews converge to the conclusion that research investigating active ingredients, moderators and mediators remains scant. For instance, a recent review listed 25 research gaps in this space (Athanasopoulou & Dopson, 2018).

Literature search

In this critical review, a pragmatist worldview has been adopted, with a focus on what works in the real world, and how. A systematic search was conducted to identify recent meta-analyses, literature reviews and examples of studies to ground the investigation on consolidated academic knowledge.

1. The terms '(leadership or executive or work-place or workplace) and coaching' were searched through four databases (Business source complete, academic search complete, psycArticles, and psycINFO) selecting peer-reviewed articles published between 2009 and June 2019, tagged as 'meta-analysis', 'systematic review' or 'literature review'. This search yielded 18 records which were screened

- by reading the abstracts, retaining five articles (e.g. Grover & Furnham, 2016) and excluding 13 articles not addressing EC as defined here (e.g. team coaching).
2. Additional searches on Google Scholar were conducted with the terms ‘(executive coaching) and (systematic review)’ and ‘(executive coaching) and (meta-analysis)’ considering only the results returned in the first five pages. 15 additional articles were included (e.g. Bozer & Jones, 2018) and 85 were excluded (not matching the EC definition, not literature reviews, duplicates).
 3. A search of recent EC handbooks was conducted in Google Scholar to identify main theoretical accounts and additional references. Two literature review chapters were included: *The APA organizational psychology handbook*, included for its reference to theoretical frameworks (Peterson, 2010), and the most recent handbook (English et al., 2019), for an updated review.
 4. Six additional studies were included from citations of reviewed articles, including two published before 2009 added as exceptions, for their frameworks and research agendas, one review and three articles representatives of studies included in reviews.

Overall, 28 articles were included: 18 qualitative reviews, two qualitative studies, four quantitative studies, and four mixed-methods.

Method

Based on the analytical matrix, 240 (duplicated) citations of independent variables (IVs) were identified and 49 from moderator/mediator analyses (Table 1).

Results

Based on the analytical matrix, coachee’s variables were most frequently cited, followed by coach’s, and coach–coachee relationship. Process variables, organisational variables, and methodological effects were cited by fewer studies, suggesting these might be areas of research gaps (Table 2).

Coachee’s characteristics and behaviours

Motivation

The concept of motivation can be defined as a set of ‘psychological processes that cause the arousal, direction and persistence of behaviour’ (Ilgen & Klein, 1988; cited in Meyer et al., 2004). Motivation for coaching is the most frequently cited coachee’s factor: 10 studies reported it as an important factor generally influencing coaching outcomes, and four studies found it to be a significant moderator, with a moderate quality of evidence

Prisma – Literature search.

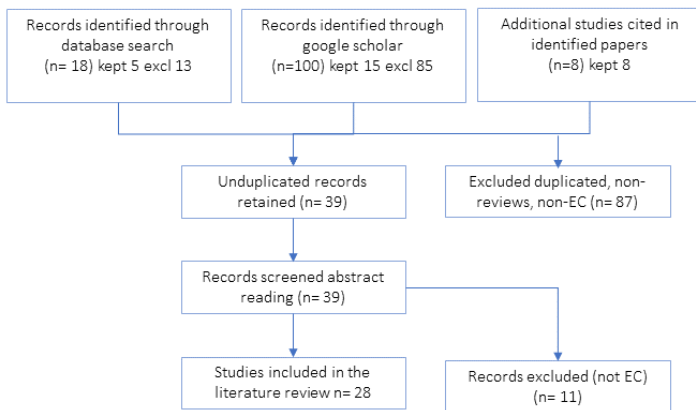


Table 1: Analytical method

Analytical steps	Outcomes
(1) Concepts and frameworks 28 studies were read and key concepts and frameworks noted.	As most authors categorised input and moderating variables as related to coach, coachee, client organisation, coach-coachee relationship, methodology, this framework was adopted in this review.
(2) Coding of variables In the second step, the articles were analysed and coded ¹ regarding 20 characteristics, including year of publication, methodology, research questions, key findings, quality of evidence and others.	46 active ingredients/moderators/mediators were identified and clustered at this step.
(3) Analysis of active ingredients An analytical matrix was built with 29 rows (studies and totals) and 144 columns (general factors, moderating/mediating variables, and totals), to identify all studies citing each variable, corresponding quality, and citation frequency (excel sheet, 4002 data points ²).	Based on the analytical matrix, 240 (duplicated) citations of independent variables (IVs) were identified and 49 from moderator/mediator analyses.

¹ The coding procedure and analysis were completed by the author of this article under the supervision of Dr David Morrison, Lecturer of Psychology Research and Practice at The Open University, UK.

² Excel files are available upon request.

Table 2: Number of citations of variables influencing EC.

	Factors influencing EC outcomes		Med/mod		Total	
	#	%	#	%	#	%
Coachee	58	30%	18	37%	76	32%
Coach	52	27%	9	18%	61	25%
Coaching relationship	42	22%	6	12%	48	20%
Process	26	14%	11	22%	37	15%
Organisational	13	7%	3	6%	16	7%
Resesarch design	–	0%	2	4%	2	1%
Total	191	100%	49	100%	240	100%

(3.5 on a scale 1–5). Motivation for coaching and motivation to transfer learnings to work are linked to commitment and are positively associated with outcomes (Athanasopoulou & Dopson, 2018). However, motivation is defined in various ways and is not always distinct from readiness to coaching, commitment, goal-oriented behaviour and receptivity (Bozer & Jones, 2018). One problem is the time of measurement, as motivation can be influenced by various factors and fluctuate over time. Further, much of the evidence relies on coachees' self-reports, which limit internal validity (e.g. social desirability bias). In a quantitative study (Sonesh et al., 2015b), motivation influenced goal attainment and insight in a sample of students, but not in a sample of executives, possibly due to low variability (e.g. sample of highly motivated executives). This has implications on the importance for coaches to assess and help regulating motivation, particularly in novice coachees, before, during and after coaching. Further research should seek to replicate the findings for executive samples, further explore the interdependencies between motivation and other related concepts in EC (e.g. commitment) and include repeated measurements at different times of the coaching process.

Self-efficacy (SE)

'Perceived self-efficacy refers to beliefs in one's capabilities to organise and execute the courses of action required to produce given attainments' (Bandura, 1977; cited in Bong & Skaalvik, 2003). Seven of the included studies report SE as an important factor influencing EC outcome. Moreover, with four studies out of 12, SE is the most frequently investigated moderating variable. Overall, the quality of these studies is slightly higher than average (3.8), with four studies rated above 4.0. In some research, SE was conceptualised as a proximal individual outcome. These studies suggest coaching improves general or specific SE at least partially (Grover & Furnham, 2016; Page & de Haan, 2014). However, in most studies, SE has been

considered a predictor. For example, SE was one of the antecedents of EC outcomes cited by an extensive systematic review, noting that general SE might differ from SE for specific behaviours in its predicting power (Athanasopoulou & Dopson, 2018). In a large retrospective survey of coaching dyads, general SE measured by the standard GSE scale correlated with coaching effectiveness as rated by coachee (de Haan et al., 2016). These findings imply coaches should monitor and support building general and task-specific SE over time. In research, SE has been measured by different instruments and scales, usually relying on coachees' self-reports with various levels of validity and reliability (Bozer & Jones, 2018). Researchers should further build a theoretical and empirically validated model of dynamic interaction of SE with other relevant constructs of the coachee's motivational set-up.

Commitment

'Commitment is a force that binds an individual to a course of action that is of relevance to a particular target' (Meyer & Herscovitch, 2001; cited in Meyer et al., 2004). Six included studies support commitment to coaching and related constructs like taking responsibility, as important predictors of coaching outcomes. However, quality of this evidence is moderate (3.5), and there are not specific mediator or moderator analyses measuring this factor. Psychotherapy research highlights the importance for the coachees to take responsibility to do the developmental work (McKenna & Davis, 2009). In a qualitative study, responsibility for self-development was ranked by experts within the top coachee's factors (Rekalde et al., 2015). Based on quantitative evidence, Grover and Furnham (2016) report commitment, buy-in, effort and involvement as important related factors, although most of their included studies rely on self-reports. Research should further validate the role of commitment and explore how connected constructs (e.g. buy-in) differ from or interact with them in producing EC outcomes.

Practitioners and clients should seek to clarify and enhance the importance of taking responsibility and commitment with coachees.

Personality

Six studies include coachee's personality within the factors influencing coaching outcomes, and two studies investigated personality as a moderator. The average quality assessment of these studies is moderate (3.4). Based on psychotherapy research, where personality has been found to influence therapy approach success, McKenna and Davis (2009) argued coachee personality plays a significant role (e.g. what works best with introverts might be insight, with extroverts might be behavioural experiments). There is some evidence that openness, conscientiousness and extraversion are associated with positive EC outcomes (Athanasopoulou & Dopson, 2018), and that personality might influence the relationship with the coach (de Haan et al., 2016). Whilst these studies suggest some relationship exists between personality and coaching success, they are not conclusive (Jones et al., 2014). Research on the influence of personality on EC outcomes is still scant. Further studies should investigate this relationship and the moderating effects on other factors (e.g. coaching techniques). Better understanding the relationship between personality and coaching success could help organisations identify combinations of coach-coachees personalities and of coaching techniques and coachees that are most likely to succeed in EC.

Feedback Receptivity (FR)

There are few studies that refer to FR as a general predictor of EC outcomes, or as a mediator and their assessed quality is low (3.2). In an early literature review, FR was one of three hypothesised concepts describing the coaching process, together with coach-coachee relationship and coaching approach, and was thought to impact learning and self-awareness outcomes (Joo, 2005). Some evidence shows feedback recep-

tivity moderates coaching outcomes and might depend on various factors, including source credibility, content, delivery context and modality (Bozer & Jones, 2018). Hence, coaches should regularly assess and foster FR during the process. Qualitative and observational research could help unpack the feedback process and the role of FR in EC. Experimental studies should investigate the effectiveness of various feedback contents and formats at different levels of FR.

Readiness

The concept of readiness to coaching (or to change) originates from the popular theory of behaviour-change stages (Prochaska & Di Clemente, 1983). Although this concept appears in coaching practitioner literature, only four studies here included refer to this concept, with a low quality of evidence (3.3). McKenna and Davis (2009) suggested extra-therapy client factors including readiness play the key role in EC. Readiness to change (and motivation) is supported by a logical argument, but only by limited evidence in some literature reviews (Cotterill & Passmore, 2019; Passmore & Fillery-Travis, 2011). Mixed-method research should further investigate which coaching approaches are more effective at various stages of change readiness.

Expectations

Four studies (average quality score 4.0) support coachee's expectations about EC outcomes to influence the actual results, similar to a placebo effect in psychotherapy (Athanasopoulou & Dopson, 2018; McKenna & Davis, 2009). On the other hand, having wrong expectations was considered by 20 per cent of coaches an important reason for unwanted side-effects, according to a recent mixed-method study (Schermuly & Graßmann, 2019). The implication for coaches and coachees is to mutually check and manage expectations before and during coaching.

Work level/coachee population

Four recent studies suggest work level (e.g. senior executives vs. mid-level managers) moderates or generally influences EC outcomes, with a good quality of evidence (4.1). A meta-analysis found that goal-oriented outcomes were more significantly improved in undergraduate students (effect-size $g=1.00$) than executive coachees ($g=0.10$). The authors argued outcomes might take longer to manifest with executives as they might present more challenging goals (Sonesh et al., 2015a). There could also be a confounding effect from the research design, as executive samples were from field research whilst student samples were from experiments. Taken together, these findings suggest experience and work-level might moderate between EC and outcomes, and senior EC might require more sophisticated or longer approaches. Research should continue to investigate this factor in different populations of coachees, ideally controlling for other variables like industry, size of organisation and socio-demographics.

Goal orientation (GA)

Three studies mention GA, with good quality of evidence (4.1). ‘Learning’ (vs. ‘performance’) GA mindset has been shown to link with stronger motivation and EC outcomes. However, there is a debate on whether goal orientation is a predictor or a proximal outcome of EC (Bozer & Jones, 2018). Other dispositional characteristics investigated include coping style and learning style, but evidence is mixed. Coaches should consider the coachee’s goal orientation to tailor goal setting, action planning, and motivational tactics.

Socio-Demographics

There is little support for coachee’s age, ethnicity and educational level presenting moderating effects on specific coaching outcomes, in some populations (e.g. young unemployed). Various studies failed to find significant moderating effects for age when controlling for other variables

(Grover & Furnham, 2016). Whilst single socio-demographic variables might not be particularly important, coaching practice should apply the principles of intersectionality, which are grounded in counselling and psychotherapy research (Berke et al., 2016). Qualitative EC research should explore this topic, as this seems a research gap.

Coach’s characteristics and behaviours

Expertise and skills

A total of 12 studies report the coach’s expertise and skills as an active ingredient. However, quality of evidence is low (3.1). Early literature reviews gave particular attention to the coach’s skills and experiences, but they are based on practitioner cases with little empirical evidence (Ely et al., 2010). Another review claimed expertise, age and background to be important factors but, again, without much supporting evidence (Sonesh et al., 2015b). A qualitative research with coaches suggested coaches’ communication skills and knowledge of human behaviour are key coach characteristics for coaching success (Rekalde et al., 2015), but the qualitative nature of the study and its population (i.e. all coaches from Spain) limit the generalisability. A survey with organisational clients (Management Association, 2008) found coaches’ business experience correlated with perceived coaching success, and that a questionable expertise was the second most frequent reason for coaching dropout (53 per cent). These findings are from simple cross-sectional correlations and can be affected by confounding variables, same-method bias and self-selection bias. It is plausible that expertise and coaching skills play a role in producing EC outcomes. For example, communication skills, particularly in managing performance expectations and providing quality feedback to the coachee, are active ingredients according to various authors (Blackman et al., 2016, Passmore & Fillery-Travis, 2011). Nevertheless, the available evidence is tentative and research should clarify what elements of expertise influence outcomes in specific

cases and how coaching expertise is understood by clients and coachees.

Background

Eight studies describe the influence of a coach's background, which could signal skills and expertise. The average quality of these studies is moderate (3.4). Theory-based competences including psychological knowledge, business acumen and coaching knowledge have been initially discussed in literature without empirical evidence (Peterson, 2010). Possibly in reaction to the 'wild west' of a deregulated coaching (Sonesh et al., 2015b), various authors argued that coaches should have a counselling-psychology background, for credibility (Grover & Furnham, 2016). Sonesh et al. (2015a) cited mixed results for the moderation effects of coach background in psychology, however the authors argued that a mix of both psychology and business background would be more effective. In fact, the adopted coaching approach (e.g. humanistic) is likely to depend on the coach background. For example, data from surveys has shown that coaches with specific background are associated with specific coaching goals (De Meuse et al., 2009), but there is not a clear link between background and different outcomes (Athanasopoulou & Dopson, 2018). There is a debate about trainings and qualifications needed by coaches, the importance of business acumen and understanding of the client organisation culture and ethics (Carey et al., 2011; Cotterill & Passmore, 2019). More research is needed to understand the influence of coaches' background on outcomes and the possible mediating effects of selected coaching approach and types of coaching goals.

Behaviours

More than half of included studies suggest various coaches' behaviours influence coaching outcomes. These studies together present a moderate level of quality (3.5). An extensive literature review listed various effective behaviours and attitudes, including positive mindset, authenticity, active listening,

empathy, reflective questioning, learning facilitation, agility, understanding context, interpreting results, clarifying ethical considerations of coaching professions (Athanasopoulou & Dopson, 2018). It is unclear what behaviours create which results. A quantitative study found behaviours aimed at building rapport and being authentic were associated with stronger working alliance, replicating previous findings and behaviour helping regulating motivation influenced information sharing – openness in a student sample, but not in an executive sample (Sonesh et al., 2015b). Research has not clearly separated important but general influencing behaviours from manualised coaching techniques. For example, a qualitative study identified various behaviours which could well be the visible aspects of standard techniques, like promoting critical reflection, uncovering hidden assumptions and beliefs, exploring options, etc. (Moons, 2016). On the other hand, eight studies included in this review refer to providing 'challenge' as a coaching technique rather than a behaviour. In summary, if it seems tautological that what coaches do influences EC outcomes, research has not clarified if any specific behaviour is critical for success, beyond manualised coaching techniques, over and above the coach-coachee relationship dynamics.

Coach-coachee relationship

Quality of relationship

A total of 15 studies mention the coaching relationship (or working alliance) as a primary factor, mediator or moderator of coaching outcomes. On average, the quality of evidence here assessed is low to moderate (3.4). Limited evidence supports that the working alliance (WA) is linked with coaching efficacy (Cotterill & Passmore, 2019). The coach-coachee relationship is often the central mediating construct of input-process-output conceptual frameworks proposed in EC literature and is inspired by psychotherapy research. According to McKenna and Davis (2009), WA is the

second most important factor (30 per cent of variance) in psychotherapy. Therapist and process make a difference, as most clients do better with therapy than without, and this difference is highly dependent on the relationship, which is a specialised and focused work-relationship, rather than just being good with people. The coaching relationship is thought to be composed of various components: Goals, tasks and affective bonding. These elements can change over time and are partially negotiated. Based on a correlation analysis, a study found a significant link between WA, goal attainment and coachee insight, although results with different samples were mixed (Sonesh et al., 2015b). A large survey found WA as rated by coachee was the strongest active ingredient correlated to perceived coaching effectiveness as rated by coachee ($r=0.56$) and as rated by coach ($r=0.23$). There was positive but moderate correlation between WA as rated by coachees and coaches ($r=0.22$), showing coachees and coaches can have different perceptions of the relationship. The authors concluded WA mediates 'all' the other active ingredients; for instance, self-efficacy is only active if the WA is strong (de Haan et al., 2016). On the other hand, the coaching relationship was found to be a protective factor against negative coaching effects (Schermuly & Graßmann, 2019). According to qualitative research, a good coaching relationship is built on confidentiality, trust, empathy, authenticity and respect (Rekalde et al., 2015). Further research should validate causality and mediating effects of WA on EC outcomes and explore factors which are conducive or detrimental to strong WA, ideally at different times (e.g. repeated measures). Moreover, the triangular relationship including the organisational client should be studied. Meanwhile, given the primary importance of the coaching relationship, coaches and coachees should focus on building and maintaining a solid work alliance based on trust.

Matching or attraction

The importance of a good match between coach and coachee emerges often from literature reviews (e.g. attraction, chemistry, bonding). However, whilst accepted psychological theories predict that individuals exhibit a tendency to be attracted by individuals perceived as similar, the empirical evidence for EC is mixed. Attraction is theoretically expected to influence trust and other elements of the coaching process, like effective communication and these variables are likely to interact (Bozer & Jones, 2018), but it is unclear which attributes and combinations increase attraction in ways which are productive in coaching. For example, limited and contrasted evidence suggests gender similarity might influence EC outcomes, mediating WA (Athanasopoulou & Dopson, 2018). On the other hand, one study found that difference rather than similarity in MBTI personality profiles between coaches and coachees was associated with greater coaching efficacy (de Haan et al., 2016). Another problem is attraction is conceptualised as antecedent and not as a mechanism or moderator. It is possible that attraction influences the relationship differently before, during and after coaching (e.g. a curvilinear relationship) (Bozer & Jones, 2018). Further quantitative research could investigate how socio-demographic and dispositional attributes interact with coaching mechanisms and outcomes, and test corrective measures that coaches can take to improve the relationship in cases of suboptimal similarity.

Trust

Consistent with common sense, evidence shows trust is important in the coaching relationship, although quality of studies is moderate, as it tends to rely on coaches' ratings. Trust is conceptualised as accepting vulnerability to others' actions based on psychological safety, assuming positive intentions and confidentiality. For example, the coachee must accept vulnerability to the coach and expose their weaknesses (Bozer

& Jones, 2018). Peterson (2010) argued that a WA based on trust and rapport is a necessary ingredient with a minimum needed threshold to avoid breaking the process. Contracting between coach and clients, aligning on methods, measurements and outcomes, as well as clarifying roles and managing expectations are conducive of positive relationships and outcomes (Athanasopoulou & Dopson, 2018). In general, it is likely that most behaviours which are positive for the relationship and the outcomes by both coaches and coachees are trust-building behaviours. As such, this area does not appear as a separate research gap.

Coaching approach

Methods and techniques

Eight studies included in this review refer to the coaching methods and approaches as important factors for EC outcomes. Most of these studies were early reviews including descriptive practitioner papers and non-peer reviewed articles, therefore they present a low quality of evidence on average (3.3). A literature review of articles describing coaching methods found various common elements for goal setting, problem solving and other mechanisms (Carey et al., 2011). For goal setting, various tools were described, including 360-feedback, interviews and coachee's reflections. Goal setting was typically described as co-created and based on the data gathered from feedback and exploration. For problem solving, mechanisms included action plans, reading, rehearsal, role play, dialogue, reframing, visualisation, homework, teaching new skills and others. A 'transformation' was thought to happen through shifts in thinking, self-awareness, re-evaluations, change of perception, experimenting with new behaviours, focus and commitment, and reflection on consequences of behaviours. Another review including retrospective studies proposed the hypothesis that EC is most effective when the coaching approach (e.g. psychodynamic, solution-based, GROW) fits the goal. Type of EC (remedial, developmental) and content (skill acquisition,

behaviour change, insight) were considered moderators, but there was no evidence to validate them (De Meuse et al., 2009). According to McKenna and Davis (2009), applied coaching theories and techniques might account for just 15 per cent of variance in coaching outcomes, whilst common factors account for most of the variance. Some researchers have argued that coaching techniques and models work by activating other ingredients and might play a bigger role than it is usually found in research, due to confounding effects and criterion validity issues with measurements of common factors (Peterson, 2010). For example, a coachee might be unable to distinguish a technique from a coach's characteristic. Another review found some evidence from RCTs that strength-based, solution-based and coaching with feedback are effective, or more effective than other interventions like training (Grant et al., 2010). However, only two included RCTs were in workplaces, and they addressed specific issues with consequent limited generalisability. Another comprehensive review including experimental evidence found that all tested models produced positive outcomes, but there was not any study comparing outcomes from different coaching approaches (Athanasopoulou & Dopson, 2018). This study also found some evidence suggesting the effective use of assessment tools, focus on strengths, developments and accordingly formulated action plans, coach's influencing tactics (coalition, persuasion), communication techniques (e.g. mimicking coachee's language) were positively associated with EC outcomes. In summary, practitioners have described multiple coaching methods and techniques that seemed to work in their own case studies, but the evidence they presented lacked validity and reliability, and most techniques appear as slight variations of general themes like feedback, goal setting, problem solving, action planning. Many research questions remain unanswered about what specific EC methods and techniques work, when and how. More sophisticated mixed-methods and longi-

tudinal studies should start to untangle the interdependencies between used techniques and common factor mechanisms, controlling for contextual, coach and coachee variables.

Feedback

Seven included studies indicate feedback is an important EC mechanism and present a moderate quality of evidence on average (3.7). Feedback is generally seen as beneficial by both coaches and coachees (Cotterill & Passmore, 2019). A meta-analysis of 360-feedback found an effect size ($g=0.15$ for team 360-feedback) comparable with effects from entire coaching programmes (e.g. change behaviour $g=0.19$ in Sonesh et al., 2015a) (Smither et al., 2005). This speaks for the fundamental contribution that feedback makes in EC, but the impact of feedback varies depending on the credibility of the source, the content, the delivery context, modality and the receptivity, among other factors. In their review, Bozer and Jones (2018) found coachees' feedback receptivity is a moderator. Feedback can also be counterproductive. Little or imprecise use of diagnostic tools by coaches was cited by 16 per cent of experts interviewed in a qualitative research as one reason of coaching negative side-effects. The anticipation of feedback, if seen as judgement, can trigger anxiety and ambivalent feelings, where the desire for valuable input from others conflicts with the need for psychological safety and preservation of the self-concept (Ryan et al., 2000). A meta-analysis found the use of 360-feedback was a significant moderator, with coaching using 360-feedback producing lower results than without (Jones et al., 2016). The authors suggested the counter-intuitive results for feedback might be due to the attention coachees might divert to the content of challenging feedback, or the irrelevance of some standard leadership feedback instruments when the goals are not leadership capabilities. However, this meta-analysis mostly included uncontrolled within-subject studies and likely suffered from confounding effects, as

studies with 360-feedback were with external coaches and studies without 360s were with internal coaches (Grover & Furnham, 2016). Qualitative research should unpack the feedback and its determinants from the other mechanisms, to better understand how and when to deliver the most useful feedback and how coachees can productively work with feedback whilst reducing the negative experiences associated with it.

Number of sessions

Research on the dosage of coaching is scant and shows mixed results. A meta-analysis did not find the number of sessions (below or above five) to be linked with results, suggesting short coaching might be effective, at least in some situations (Theeboom et al., 2013), but this finding might be a spurious correlation (e.g. short coaching associated with simple goals). However, the number of coaching sessions was found a significant, non-linear moderator in another meta-analysis (higher effects for one to four sessions and for seven to nine sessions). It is unclear if the curvilinear relationship is a confounding effect from goal difficulty, or different methods and samples utilised (Sonesh et al., 2015a). It seems wise for a coaching engagement to contract how the stakeholders will measure goal attainment and introduce some flexibility on the number of sessions.

Organisational culture and support

A total of 16 studies indicate client support, culture and expectations play a role in coaching outcomes, but there is limited empirical evidence on the impact of organisational variables and relevant social groups on EC outcomes, and the quality assessment of these studies on average is moderate (3.6). The organisational stakeholders play a primary role in EC. First, the organisation is often the client paying for the EC engagement, and has power and interests in steering the coaching goals towards the organisational objectives. Arguably, the organisational context also determines job demands and resources available to the

coachee (Sonesh et al., 2015b). For example, job demands and social support mediated stress reduction outcomes in a review of quantitative studies. The same review also found subordinates' perception of strategic alignment and supportive work culture mediated outcomes like subordinates' work engagement (Grover & Furnham, 2016). A qualitative review found that support to coachees from their supervisor was positively associated with EC outcomes. Integration of coaching into leadership programmes could signal that the organisation is supportive and committed to the coachee's development (Athanasopoulou & Dopson, 2018). Qualitative evidence also indicates supervisors' support is important to transfer learning from coaching into the workplaces (Bozer & Jones, 2018) and an organisational context ensuring confidentiality and commitment from management is an important factor, during and after coaching (Rekalde et al., 2015). Moreover, a review of unwanted side-effects in EC suggests the client organisation can get in the way of EC effectiveness (Schermuly & Graßmann, 2019). The primary reasons for coaching failures or unwanted negative effects include the organisation not allowing enough time, not allocating enough budget, and not providing opportunity for transfer of learning. Overall, given the characteristic triangular relationship in EC, between coach, coachee and organisational stakeholders, it is striking that research has not given much attention to organisational variables in EC. This is a high priority gap for research to close.

Research design

Research design was a moderator in a meta-analysis as within-subject designs produced higher significant effect sizes than between-subject designs (Theeboom et al., 2013). The authors' hypothesis was that in controlled studies, some biases and confounding effects would be neutralised (e.g. natural trend of maturation of capabilities). However, in another meta-analysis, within-subject effect sizes were numerically

higher but not significantly (Jones et al., 2016). Researchers and practitioners should strive to implement rigorous research designs and always clarify with their audience and clients the limitations of the recommended methods.

Discussion

The main limitations of this review derive from the research gaps and methodological weaknesses of the included studies, which are reflected in the quality assessment. Despite the limitations, this work consolidated findings from recent EC studies, developing a deeper knowledge of mechanisms, antecedents and moderators which was not evident in individual studies.

Quality assessment of the included studies

Both the quality and the quantity of evidence of EC has improved over the past years. Two decades ago, the first systematic review found only seven studies (Kampa-Kokesh & Anderson, 2001), whilst a recent review included 110 peer-reviewed articles (Athanasopoulou & Dopson, 2018). Unfortunately, much published EC research still lacks a solid theoretical background and presents significant methodological flaws and gaps, like small samples, uncontrolled, not random, retrospective self-evaluations studies (Sonesh et al., 2015). Most studies found in the databases search were published in the USA and the UK, there is insufficient harmonisation in measurement methods and a lack of replications in different organisational contexts. Finally, EC literature reviews and meta-analyses tend to be heavily screened. For example, a meta-analysis (Theeboom et al., 2013) included 18 evaluative studies but excluded 89 studies due to low internal or external validity. A recent meta-analysis considering only RCTs could include 11 out of 1195 screened studies (Burt & Talati, 2017).

Limitations in EC research

A variety of methodological issues emerged from the quality assessment of the included literature. This section focuses on validity

and generalisability threats frequently encountered in this review.

Lack of harmonisation

There is a huge variety of outcomes and independent variables being used in EC research. Often, the same concept is conceptualised and measured in different ways. Various authors have proposed conceptual frameworks to guide further research, but there is little consensus about which instruments, scales and qualitative procedures should be adopted.

Lack of validation and replications

Many EC moderators and mediators have only been found significant in one study, limiting the confidence in the generalisability. Moreover, numerous variables have not been found significant, possibly due to small sample sizes, which limited the statistical power of estimates, or results were inconclusive (e.g. coachee's age, gender, etc). To date, this is a wide gap in literature (Grover & Furnham, 2016). Although the provided information on the geographic and cultural context of the included studies is often incomplete, based on place of publication, most included studies are from the USA and the UK. This is problematic, as the consideration of cultural and contextual sensitivity of EC outcome research has been argued to be one of the existing gaps in literature (Athanasopoulou & Dopson, 2018).

Lack of representation of triangular relationship

The triangular EC relationship raises ethical dilemmas linked to possible conflicts of interest and confidentiality issues, but these dynamics tend to be neglected in literature (Pliopas, A., 2017). Organisational stakeholders' variables (e.g. line manager, teams) and their interaction with coaching process and outcomes are largely ignored.

Self-reporting

Field EC research typically collects data from coachees or coaches, through self-reporting

(e.g. survey). These methods are prone to social desirability bias, pressure toward self-concept preservation and Hawthorne effect which limits internal validity (Bozer & Jones, 2018).

Retrospective measurements and lack of longitudinal studies

Collecting data retrospectively is often more convenient and economical than other methods but introduces numerous validity threats, as a result of memory decay or recall problems, and other biases. The cross-sectional correlation analysis which is typically applied to single surveys can compound the problem with common method bias.

Whilst coaching is a process expected to produce effects which hold or increase at later periods, time is rarely considered in EC literature. For example, self-efficacy is consistently mentioned as an important antecedent of coaching outcomes and tends to be evaluated at one point in time, or retrospectively (Bozer & Jones, 2018). Rigorous between-subject longitudinal studies and advanced statistical multi-variate analyses would help unpack some of the active ingredients and cause-effects relationships in EC, including important interactions.

Endogeneity

Spurious correlations or inconsistent specification of causality invalidate conclusions on cause-effect relationships. For example, self-efficacy was treated as an outcome variable in some studies, whereas in many others it was an antecedent input variable (Grover & Furnham, 2016). Other frequent causes of endogeneity in EC literature include comparison with unmatched control samples, simultaneity of observations and measurement errors.

Poor description of methodology

Much practitioner literature pays little attention to methodological details. For example, some qualitative reviews do not sufficiently describe the inclusion criteria and search

strategy, or the analytical methods. Most systematic reviews and meta-analyses do not discuss validity and reliability of the numerous instruments used in the included studies.

Lack of reflexivity

Qualitative EC research, including various systematic reviews, generally lacks reflexivity about authors' subjective choices and values. In some cases, limitations of methods are not discussed.

Specific limitations

The search strategy produced a corpus mainly composed of aggregated reviews (23 out of 28). This choice was made for efficiency, and to respect the word count. For example, one single review might include hundreds of studies (Athanasopoulou & Dopson, 2018). As such, much of the analysis was based on aggregate findings rather than the individual studies. This problem was somehow mitigated by the inclusion of five single studies, as representative of the typical research designs employed in EC literature. A related limitation is the frequency of citation of specific active ingredients and average quality scores, might include duplicates. For example, reviews might include overlapping data. Moreover, as quality scores tend to increase with time in the included studies, variables which were frequently cited (e.g. coachee's motivation) include more of the older studies, deflating the average quality score as a mathematical artefact. However, this did not change much the qualitative conclusions.

Conclusions

Applying a systematic search and original analysis, this review consolidated findings about 46 distinct active ingredients investigated in 28 peer-reviewed recent EC studies, building knowledge of antecedents, mechanisms and moderators which was not evident in the individual papers. EC evidence on mechanisms and ingredients is still in its infancy and relies on limited and often flawed research, lacking replications in different contexts and cultures. For example, based on the number of cases

(citations) in which a relationship was found between an ingredient and a coaching outcome, coachees's and coaches' characteristics and the coaching relationship emerge as the primary focus areas of existing research (respectively 32 per cent, 25 per cent and 20 per cent of citations), whilst the coaching process (17 per cent citations), contextual elements (seven per cent) and methodological artefacts (one per cent) remain largely unexplored. This critical review also presents limitations due to adopted inclusion criteria which prioritised aggregated reviews, somehow limiting the depth of analysis for specific mechanisms and ingredients. Hence, most claims are tentative and neglect important dynamic interactions. Despite the limitations, various implications for practice emerged, confirming the importance of focus on building a good work alliance, and the primary role of coachee's and coach's variables. This review also shed new light on neglected aspects. For instance, coaches should be competent in dealing with all the stakeholders in the triangular relationship and preventing coaching pitfalls or side-effects. Implications for research were discussed in detail, with focus on the importance of validating the initial findings, investigating dynamic variable interactions with rigorous quantitative designs. Ideally research should include controlled-studies, triangulation of self-reported data, sufficient sample sizes, longitudinal studies and crucially, more rigorous qualitative research. Finally, there is fragmentation in instruments, scales and qualitative procedures adopted. A collaborative project between coaching practitioners, academics and client organisations would be useful to integrate the best available evidence and theory, to harmonise concepts and operationalisation of key constructs and causal relationships.

Camillo Pandolfi

MBA, MSc Psychology (Open), MSc Statistics
Global Director Consumer and
Market Insights Unilever
campanoldfi@gmail.com

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Notes

All articles are from independent review. Thanks to Dr Andromachi Athanasopoulou for providing a detailed reference list which was here used as additional sense check (Athanasopoulou, A. & Dopson, S. (2018)).

Summary table of literature review – Active ingredients influencing executive coaching outcomes.

Article	Methodology	Active ingredients that influence coaching outcomes
Kampa-Kokesh & Anderson (2001)	Qual review. k=7 empirical qual & quant, papers. Unspecified no. practitioner articles.	Tentative early evidence for: Coach: Communication style, background psychology. Coachee: Self-efficacy. Coaching relationship: Coaching relationship influence the EC outcomes. Coaching: Non-linear relationship between length of EC and outcomes like self-awareness.
Joo (2005)	Qual review. k=78 articles (incl. practitioners' papers and 11 academic qual and quant papers).	Framework proposal to stimulate research to test a series of propositions: Coach: Integrity, confidence, experience, and high developmental status influences process and outcomes. Background psychology (vs Consultancy) defines the adopted coaching approach (and so the process). Coachee: Personality (e.g. proactivity) influences Feedback Receptivity, which is considered an element of Motivation towards coaching. Learning Orientation has positive impact on feedback receptivity. Organisation: Support. coaching Approach (remedial vs developmental) Coaching relationship and coach-coachee matching. Coachee Feedback receptivity.
Management Association (2008)	Mixed. review & Surveys. k=2 surveys; USA (N=854) and int.l sample (N=148).	Coach: Background, business experience, degree in a related field, recommendations, and client results. Questionable coach expertise is N.2 cited reason to terminate coaching beforehand (53%). Coachee: Coaching with problem employees (1/3 of cases) not correlated with success (inefficacy). Coaching: Clarity of organisational goals in coaching is positively related to outcomes. Number of sessions: Longer coaching engagements moderately correlated with success (r=0.17 in US). Coaching relationship: Matching coach-coachee (personality/experience) based on the presenting issue is seen as critical. Mismatch is N.1 reason to quit coaching beforehand (64%).
De Meuse et al. (2009)	Mixed. Meta-Analysis & Content Analysis. k=22 articles of which 6 in meta-analysis.	From qual review, the authors suggest hypotheses of mechanisms. Coachee: Motivation might be moderated by Type of EC (remedial vs developmental). Coach: Background is associated with specific coaching goals. Coaching: Type of EC, content, could be moderators. Coaching methodology is likely to have different efficacy in different situations, interacting with content area and specific goals.

Article	Methodology	Active Ingredients that influence coaching outcomes
McKenna & Davis (2009)	Qual Review. Unspecified no. of studies from Psychotherapy research.	Assuming psychotherapy and EC are similar, and generalising psychotherapy research finding to coaching, the authors claim four primary Active Ingredients "that account for most of the variance in psychotherapy outcomes": 1) Client factors (40%) 2) Coach-Coachee relationship (30%) 3) Placebo (15%) 4) Theory and technique (15%).
Ely et al. (2010)	Qual Review. k=49 articles (incl. 20 peer-reviewed) about LC /EC evaluations.	Coachee: Readiness, commitment, level of challenge. Coach: Background, competencies, expertise. Coaching relationship is a fundamental component. It includes: Rapport, collaboration in developing goals, commitment. Confidentiality is also considered critical. Organisation: Client expectations, organisational support, goals, climate.
Grant et al. (2010)	Qual Review.	Coach: Competencies, behaviours, skills and attributes that coachees find helpful (e.g. Empathy). Different skills are arguably required in different coaching engagements. Coachee: Personality, commitment, accountability and motivation. Coaching Techniques: limited evidence from RCTs indicate Strength-based, solution-based, CBT, coaching with feedback are effective or more effective than control cells (e.g. training). Coaching relationship includes various elements, like Collaboration and Friendliness.
Peterson (2010)	Qual Review.	Coach: Competencies (psychological knowledge, business acumen, coaching knowledge). Traits that are deemed important include self-confidence, positive energy, assertiveness, interpersonal sensitivity, openness, flexibility, goal orientation, partnering and influence, continuous learning and development, integrity. Background (e.g. organisational) and adopted philosophy (e.g. humanistic) influence choice of techniques (e.g. Feedback instrument). No evidence on relative contribution of these factors. Coachee: Motivation, self-efficacy, locus of control, proactivity and trait anxiety are thought to be important antecedents. Coachability is presented as a necessary condition. Insight (or self-awareness of development areas). Coaching relationship: Matching coach-coachee. Coaching: Tentative evidence of impact of techniques.

Article	Methodology	Active Ingredients that influence coaching outcomes
Passmore Et Fillery-Travis (2011)	Qual Review.	<p>COACH Characteristics investigated with surveys include Self-Awareness, Coaching Competences, Ethics, Interpersonal and Communication Skills. Behaviours which are deemed important include Challenge, Listening, Reflecting back and Checking back on understanding.</p> <p>COACHEE Readiness to change, and Motivation are supported by some evidence, and logical argument. Other traits such as Personality, Gender and Learning Style have been hypothesised.</p> <p>ORGANISATION: Supporting Networks and Climate.</p> <p>COACHING RELATIONSHIP is considered a critical factor.</p>
Carey et al. (2011)	Qual Review. k=10 peer-reviewed papers (1996-2010)	<p>COACH: Expertise, Knowledge and Understanding of the organisation, being Neutral and objective, Deciphers information, Systemic approach, Integrity, Character and Insight.</p> <p>COACHEE: Motivation, Openness, Potential for Development vs derailment, High Functioning individuals.</p> <p>ORGANISATION: goals and inputs into coaching.</p> <p>COACHING RELATIONSHIP: Relationship Building is a key frequently mentioned term; Trust, Chemistry, Confidentiality, Empathy, Support, Clear boundaries.</p> <p>COACHING: Problem and Goal Setting. Various Mechanisms are cited, including Reflection, Acting on Feedback, Alternative perspectives, Problem Solving skills, Communication skills.</p>
De Haan Et Nieß (2012)	Qual Case Study. N=2: 1 coachee (Psychology student) and 1 coach.	<p>COACHING RELATIONSHIP is thought to be 'the best predictor of coaching outcome'. This case study explores the coaching process through 'Critical Moments' in which new realisations are made and important shifts might happen, driven by new insights, associated with positive change in the Relationship.</p>
Wang (2013)	Qual Review. k=13.	<p>COACH: Coaching skills and techniques. Characteristics (traits, behaviours, cognitions).</p> <p>COACHEE traits.</p> <p>COACHING RELATIONSHIP: Relationship based on Trust, Support, Collaboration. Ethics in coaching.</p> <p>COACHING: Coaching Cycle and Learning Process. Feedback and evaluation.</p>
Theeboom et al. (2013)	Quant Meta-Analysis. k=18 studies.	<p>RESEARCH DESIGN found as a significant moderator; within-subject designs produced higher ES. Possible confounding effects.</p> <p>COACHING: Number of Sessions was not linked with ES, with possible confounding effects. Tentative evidence that short coaching might be equally effective in some situations.</p>

Article	Methodology	Active Ingredients that influence coaching outcomes
Bartlett et al. (2014)	Qual Review. N=54 peer-reviewed papers.	<p>Ranking of active ingredients identified in literature:</p> <p>Coach: Providing clear mutual goals (30); Coach experience, and support (15); focused listening (14); provide feedback (13); enhancing coachee accountability (12); emotional control (5).</p> <p>Coaching relationship: Collaborative (21); trust (15).</p> <p>Coaching: Systematic process (15); discussions (13); action plan (10); assessments (10); intervention strategies (8); individually tailored process (7); solution-based process (7).</p>
de Haan (2014)	Qual Review.	<p>Coachee: Personality (one study found moderate effects for Conscientiousness, openness, emotional stability, and self efficacy). Matching coach-coachee: A study found greater difference in personality between coach and coachee (MBTI) correlated with better outcomes. Self-efficacy is seen as one of the primary predictors of success.</p>
Rekalde et al. (2015)	Qual Review. N=34 experts (coaches, coachees, HRs).	<p>The study listed and ranked 59 ingredients of EC. Very high impact factors and/or three most relevant factors in each category are:</p> <p>Coach characteristics and behaviours: Ability to generate trust; vocation; communication skills; commitment to clients; knowledge of human behaviour.</p> <p>Coachee characteristics and behaviours: Motivation; responsibility for self-development; commitment to process.</p> <p>Organisation: Confidentiality, support, and commitment from top management and line manager.</p> <p>Coaching relationship built on confidentiality, trust, empathy, authenticity, respect.</p> <p>Coaching: Feedback, focus on goal setting and attainment, and continued challenge.</p>
Sonesh et al. (2015a)	Quant Meta-Analysis. N=24 studies.	<p>Coaching relationship is key mechanism through which EC goals are achieved.</p> <p>Coachee Population (execs, non-execs, MBA students, coaches) was a moderator, with stronger outcomes for undergraduates, $g=1.00$, vs executives, $g=0.10$. Executives' outcomes might take longer to manifest. Possible confounding effects.</p> <p>Research design: Correlational design yielded higher ES than repeated (pre-post) measures.</p> <p>Coaching: Number of coaching Sessions was found a significant moderator but not linear. Possible confounding factor of goal difficulty and research method.</p> <p>Coach background has mixed impact, but the authors argue that a mix of psychology and other backgrounds might be more effective.</p> <p>Several possible moderators were not significant (e.g. coach expertise).</p>

Article	Methodology	Active Ingredients that influence coaching outcomes
<p>Sonesh et al. (2015b)</p>	<p>Mixed. Review & Surveys.</p> <p>Study 1: N=44 student coachees and N=55 student coaches</p> <p>Study 2: N=90 execs and N=17 coaches.</p>	<p>Hypotheses of active ingredients from literature review.</p> <p>Coach personality (Conscientiousness, openness, emotional stability), expertise (tenure, age, background psychology vs non-psychology), feedback to coachee, transformational leadership (e.g. explores values, shifts, beliefs), relational skills. Communication skills, ability to facilitate learning and results, focus and mindedness, mood (pleasant affection).</p> <p>Coachee: Self-efficacy, goal orientation, personality, motivation to transfer learning to work, learning agility, planning skills.</p> <p>Organisation: Context (job demands, support).</p> <p>The authors propose an Input-Process-Output model of EC.</p> <p>Coachee: different efficacy for executives versus students.</p> <p>Motivation influenced Goal Attainment and Insight but only for students, possibly for a low variability of IVs in the executive sample.</p> <p>Coach: Behaviour aimed at rapport building, and authentic coaching were associated with stronger working alliance, replicating previous findings as expected, but only in the student sample. Coach behaviour in regulating motivation influenced information sharing in the student sample.</p> <p>Coaching: Goal difficulty was uncorrelated with outcomes, which the authors interpret as a positive sign of the power of coaching, which might be effective in spite of the difficulty.</p> <p>Coaching relationship includes working alliance and information sharing. Working alliance (strength of partnership) is conceptualised as three components: Bond, Goals associated, and tasks required for these goals.</p> <p>Information sharing, trust (chemistry) and shared goals are also thought to play a key role in the relationship.</p> <p>Based on simple correlations, the authors focus on the importance of information sharing and working alliance on goal attainment and coachee insight, and that achieving insight might be a valid proximal goal for coachees as it correlates with goal attainment.</p> <p>None of the mediator and moderator hypotheses were supported in the executive sample.</p>
<p>Jones et al. (2016)</p>	<p>Quant Meta-Analysis. k=17 studies</p>	<p>Two significant moderators were found.</p> <p>Coaching: Feedback (without 360 feedback coaching yielded better results). It might be due to the attention coachees might divert to the content of challenging feedback, or the irrelevance of some standard leadership feedback instruments when the goals are not leadership capabilities.</p> <p>Coach: Type of coach (Internal coaches had better results). In both moderators the findings contradicted the hypotheses.</p> <p>Internal coaches might have advantage understanding the culture, which might facilitate goal setting and transfer.</p> <p>Research design: Within-subject vs between-subject did not yield significantly different effect sizes (numerically /directionally different).</p>

Article	Methodology	Active Ingredients that influence coaching outcomes
Moons (2016)	Qual Review and Qualitative study (N=12 coaches and 5 coachees).	<p>Several 'practices' are proposed to foster Transformation:</p> <p>Coach behaviours and practices: Work with presenting experience (cognitions and emotions), promote critical reflection (hidden assumptions, beliefs, and exploring options), engage in dialogue (powerful questions, using specific tools), holistic orientation (rational and emotional provocations), help coachee being aware of social context and influences.</p> <p>Coaching relationship: Establish authentic relations helped by feedback, acceptance, presence, no hierarchy, voluntary participation, shared goals, authenticity, contracting, listening.</p>
Grover & Furnham (2016)	Qual Review. k=52 quant academic and practitioner articles.	<p>Coach: Authentic leadership, facilitation behaviour, self-efficacy on facilitating learning, dominance. Partial support for background psychology, behaviours, credibility.</p> <p>Coachee: Motivation to transfer (effect on self-efficacy), buy-in commitment, goals and effort, involvement, level (executive vs middle manager), self-efficacy, developability, supervisor support.</p> <p>Partial support for demographics, goal orientation, role, personality, learning goal orientation, learning style.</p> <p>Coaching relationship: Similarity, gender similarity, goal-focused relationship, rapport, quality relationship, coach perception of working alliance, matching coach-coachee personality (partial support).</p> <p>Coaching: Number of sessions, range of techniques, strength-based coaching methodology (on transformational leadership), session focus, individual developmental plan.</p> <p>Specific mediators and moderators (at least 1 study):</p> <p>Coachee age (MOD), educational level (MOD), ethnicity (MOD), planning skills (MED).</p> <p>Organisation: Job demands (MED), social support (MED), Strategic alignment (MED).</p> <p>Coaching relationship: Working alliance (MED), information sharing (MED).</p>
de Haan et al. (2016)	Mixed. Review and Survey. Survey N=3882 (1895 dyads) from 34 countries.	<p>Coachee self-efficacy.</p> <p>Coach self-efficacy. Female coaches had a very small significant correlation with better outcomes.</p> <p>Coaching relationship strength (rated by coachee) is the strongest active ingredient correlated to outcomes. Low to moderate correlation between Working Alliance scores rated by coachees and those from the coaches.</p>

Article	Methodology	Active Ingredients that influence coaching outcomes
Blackman et al. (2016)	Qual Review. k=111 published papers.	<p>Coach characteristics and behaviours: Integrity, trustworthiness, confidentiality, support to coachee, empathy, non-judgmental, offering perspective, communication skills, managing performance expectations, quality feedback, credibility.</p> <p>Coachee motivation, which lead to effort and openness to change, and self-efficacy. Time constraints and extra-work commitments were found as barriers to full commitment to coaching.</p> <p>No evidence of different effectiveness with particular groups of coachees (e.g. younger, students).</p> <p>Organisation: Sharing responsibility for coaching goals and outcomes, aligned coaching goals to organisational goals, support to coachee, commitment to coaching from management, appreciative environment.</p> <p>Coaching relationship: Matching coach-coachee important but no insight about what characteristics make a good match.</p> <p>Coaching: Individualised /tailor-made coaching programmes.</p>
Burt & Talati (2017)	Quant Meta-Analysis. k=11 RCTs (peer-reviewed and theses).	<p>The authors tested three possible moderators but did not find statistically significant effects, possibly linked to the small number of studies included, small samples, and lack of variance in the data.</p>
Athanasopoulou & Dopson (2018)	Qual Review. k=84 (from 110 peer-reviewed qual & quant studies).	<p>Organisation Support, culture supporting development, Integration of coaching into leadership programmes, Company Size.</p> <p>Coachee characteristics (e.g. personality), emotional stability, self-efficacy, confidence, expectations, sensemaking, learning style, motivation pre-during-after, seniority.</p> <p>Coach background and behaviours: Positive mindset, authenticity, active listening, empathy, reflective questioning, learning facilitation, agility, understanding context, interpreting results, ethical considerations of coaching profession.</p> <p>Coaching: All tested models produced positive outcomes including with experimental evidence. Personality instruments, focus of intervention on strengths, coherent action plans, influence tactics from coach (coalition, persuasion), communication techniques, setting and vehicles.</p> <p>Coaching relationship: Matching coach-coachee, client's alignment, clarity of roles and expectation.</p>

Article	Methodology	Active Ingredients that influence coaching outcomes
Bozer & Jones (2018)	Qual Review. k=117 empirical studies (peer-reviewed and grey literature).	<p>Coachee: Self-efficacy, motivation, goal orientation. Feedback receptivity, acceptance and response are also deemed important, but evidence is scant and mixed.</p> <p>Relationship: Trust (accepting vulnerability to others' actions based on psychological safety, assuming positive intentions, confidentiality). For attraction (similarity) and matching the empirical evidence is mixed.</p> <p>Coaching: Feedback intervention (possible confounding effects of feedback as not separable from overall coaching effectiveness). Organisation: Supervisory support (inconsistent findings). Qualitative evidence indicates supervisor's support is important to transfer learning into work practice.</p>
Schermyly & Graßmann (2019)	Qual Review. k=9 studies qual & quant.	<p>The authors explore the possible unintended negative consequences of EC (e.g. deteriorated performance, mental health issues, and others) and identify several moderators.</p> <p>Organisation: Not enough time, not enough budget, organisation did not provide opportunity to transfer learning.</p> <p>Coachee: Little awareness of their problems, wrong expectations, mental health, unclear goals.</p> <p>Coach had no supervision.</p> <p>Coaching little or imprecise diagnostic was used.</p> <p>Coaching relationship: A strong relationship reduces the frequency of negative effects from coaching.</p>
Cotterill & Passmore (2019)	Qual Review.	<p>Coach Background: A debate exists about the training and qualifications needed by coaches, and the role of business acumen, and other competencies, ethics, and coach supervision.</p> <p>Coaching behaviours like listening, challenging, reflecting back information, checking for understanding, recognising and managing critical moments. Self-awareness, coaching technical competence, and understanding of the working alliance. Personality has been explored but evidence is limited.</p> <p>Coaching: Feedback is seen as beneficial.</p> <p>Coachee: Motivation, readiness, responsibility, coping style, supporting networks.</p> <p>Coaching relationship is an important moderating factor but only few studies address this variable.</p>

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