

Manuscript title: Fostering Ego Development through Group Coaching in a Postgraduate Program

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Abstract

Objectives: Literature review evidences several studies on structured programs to promote ego development, but none use a group coaching approach, although impact factors and effectiveness of group coaching appear well-suited to potentially foster ego development. This study aims to address the void by examining effects of a group coaching program (that also includes peer coaching) on ego development in a postgraduate program of a German University.

Design: We conducted an intervention study that is based on ego development theory, the (cognitive-) developmental approach to coaching, and a theory-based conceptual framework to ego development. We applied different coaching tools in the program that addressed ego stage-specific development issues, e.g. reflection and development of multiplicity of self-concepts, and underlying beliefs and meaning systems.

Methods: The program consisted of twenty-nine participants who self-selected and were drafted via lottery. The coaching program extended over ten weeks. Ego development was assessed using the Washington University Sentence Completion Test (WUSCT) eight weeks before the coaching program (pretest) and again ten weeks after it began (posttest). Pairwise t-tests were applied to test whether the mean values of ego stage are different at pretest and posttest.

Results: Findings suggest that the group coaching program fostered ego development. Compared to pretest ego level was significantly higher at posttest. The program was more effective for participants at the self-aware ego stage than for coachees at the conscientious ego stage at pretest.

Conclusions: The findings provide empirical support that group coaching can promote ego development in adults. In addition to the specific design and the impact factors of group and peer coaching on ego development we consider the relationship with the coachees and the creation of a trusting and shame-free space important impact factors. Considering the high demand for the program from the post-graduate students, group coaching for advancement of ego development should be considered as an important part of the curriculum. More research is needed and should include larger sample size, control group, and should control for factors such as coaching setting or role of coach.

Keywords: ego development, coaching, group coaching, peer coaching, personal transformation, adult development

Fostering Ego Development through Group Coaching in a Postgraduate Program

Introduction

Various theoretical streams in human development (e.g. Fowler, 1981; Kegan, 1983; Kohlberg et al., 1983; Loevinger, 1976; Perry, 1970; Piaget, 2016) assume that every human goes through a sequence of qualitatively different, hierarchical stages of development during lifetime. Most of the above-mentioned authors focus on specific strands of vertical development. In contrast, Loevinger's empirically derived ego development theory represents a comprehensive approach (as well as Kegan's theory) that includes e.g. cognitive, emotional, moral, and interpersonal aspects of development. Loevinger's model consists of nine ego development stages (compare Table 1), labeled E1 to E9 (Hy & Loevinger, 1996) and Cook-Greuter (1999) added a tenth stage (E10).

Table 1

Stages of Ego Development (based on Cook-Greuter, 1999; Hy & Loevinger, 1996; Manners & Durkin, 2001)

Stage code	Stage	Synoptic stage description
E2	Impulsive	other people are good or bad depending on how they treat me; steered by physical needs and impulses; no conception of inner life
E 3	Self-protective	opportunistic; hedonistic; relationships are exploitative; aware of rules; intent on avoiding trouble and getting caught; externalizes blame, when getting into trouble; longing for immediate gratification
E 4	Conformist	identifies with group and authorities; need to belong; views people in stereotypes; accepts rules uncritically; follows what is socially accepted; simple conception of inner states (e.g. sad vs. happy); moralistic; cognitively simple
E 5	Self-aware	beginning of broader conceptualization of inner life and reflection of self;

		distinction between self and group; aware that rules and behavior are situationally contingent; beginning expression of emotions
E 6	Conscientious	Self-evaluated standards; differentiated conceptualization of inner life and individual diversity; self-reflective and self-critical; has long-term goals and ideals; recognizes multiple possibilities in situations that require reasoning for decision-making; motives and consequences more important than rules; relationships are mutual; greater conceptual complexity; values achievement
E 7	Individualistic	high sense and tolerance of individuality and an individual's different roles; concern for emotional dependance; highly aware of inner dynamics and conflicts; awareness for psychological causality and development; values relationships over achievement; unique expression of self
E 8	Autonomous	striving for self-actualization; recognizes other's need for autonomy; highly understands and accepts internal and external ambiguity and paradoxes; capability to cope with inner conflict; no longer thinking in moral dichotomies; existential humor; recognizes systemic nature of relationships
E 9	Integrated	full sense of identity; striving to understand his/her intrinsic nature; awareness that meaning making is an illusion; recognizes personal insignificance in context of humanity; realizes that self-identity is a temporary construct; radical openness indifferent of desired outcome
E 10	Unitive	non-controlling consciousness; unassuming presence; witnessing their own being-becoming; affirmation by unfiltered experience; immersed in flow of experience; absence of need for reasoning and facts; refusal to make meaning of experience; anxiety-free concerning state of not knowing

With each ego stage a person can react more flexibly to situations and has a higher level of self-regulation and conceptual complexity (Cook-Greuter, 2004; Loevinger, 1976; Manners et al., 2004). Loevinger (1976) considers the ego to be a process attempting “...to master, to integrate, to make sense of experience” (p. 59). It is also a structure, a frame of reference, trying to achieve “self-consistency” (Loevinger, 1976, p. 60) in construction of meaning-making. Ego development from one stage to another in adulthood is a long-term process and no stage can be omitted (Hy & Loevinger, 1996). It can occur when a person makes experiences that are not coherently experienceable with their existing frame of reference. In striving for self-consistency the perceived inconsistencies may either be assimilated by the existing system of meaning making or it can lead to a transformation of the frame of reference, resulting in stage transition and thus ego development (Cook-Greuter, 2004; Loevinger, 1976; Manners & Durkin, 2000). In many people ego development stabilizes in early adulthood with the self-aware stage as the modal stage, but others develop into later stages (e.g. Bauer et al., 2005; Cohn, 1998; Lilgendahl et al., 2013; Manners et al., 2004). Manners and Durkin (2000) developed a theory-based conceptual framework for the advancement of ego development in adults. It is based on four types of experiences that were identified as potentially leading to ego development, “...those that are structurally disequilibrating for the person’s existing ego stage, personally salient, emotionally engaging, and of an interpersonal nature” (Manners et al., 2004, p. 20).

Ego development is at the heart of the (cognitive-) developmental approach to coaching which “...is specifically developed for coaching practice with a new conceptualization of the self” (Bachkirova, 2018, p. 125) and thus supports transformation of meaning making (Cook-Greuter, 2004). Literature review (see section below) yielded several studies that examine different aspects of ego development advancement through structured programs, but there is a research void concerning the promotion of ego development through group coaching (GC). This study aims to explore the potential of advancing ego development through a GC program – that also includes peer coaching (PC) – in adults. We designed a five-day GC program based on the four types of experiences from Manners and Durkin’s (2000) conceptual framework as well as ego stage-specific coaching factors (Bachkirova, 2018; Berger &

Fitzgerald, 2002; Berger, 2012). Our GC program consisted of 29 participants who were students in post-graduate programs at a German university. Ego development was assessed using the Washington University Sentence Completion Test (WUSCT) by Hy and Loevinger (1996) eight weeks before the coaching program (pretest) and again ten weeks after it began (posttest). The paper has seven parts: A literature review, method, materials, results, discussion, limitations and future research, and conclusion.

Literature Review

Literature review covers theoretical and empirical findings concerning the advancement of ego development in adults and a review of GC and PC literature with a focus on impact factors and effectiveness. It became clear that although GC appears to be a suitable development setting to foster ego development, there remains a research gap. In addition to an overview of intervention studies on ego development by Manners and Durkin (2000), none of which use a group coaching program (although some incorporate aspects of coaching), the following list makes the research gap palpable: There are studies on e.g. (a) advancement of ego development through enneagram training (Daniels et al., 2018), (b) promotion of ego development through coaching education (Binder, 2014), (c) post-conventional ego development through meditation (Chandler et al., 2005), (d) advancing ego development through a disequilibrating ego development theory-based intervention program (Manners et al., 2004), (e) promotion of consciousness and postconventional ego development (Vincent, 2014), and (f) influence of academic environment on ego development (Leonetti, 1989). On the other hand there are studies on the effects of (group) coaching on different aspects of personal development but not specifically on ego development e.g. (g) GC to foster self-reflection (Ostrowski, 2019), (h) GC to foster career development, self-reflection, and the general functioning of young sports talents (Stelter et al., 2011), (i) promotion of self-reflection through coaching (Knoerl, 2014), (j) GC program for authentic leadership development (Fusco et al., 2016), (k) coaching to support team learning and professional development (du Toit & Reissner, 2012), (l) life coaching to facilitate goal attainment, metacognition, and mental health (Grant, 2003), and (m) enhancing goal striving and well-being through professional and peer life coaching (Spence & Grant, 2007).

Group Coaching

In GC a group of participants is coached by one or more coaches at the same time. The group can be composed of members of an organizational unit, team coaching (compare Traylor et al., 2020, for a literature review on team coaching), or they can be unaffiliated (Peters, 2017). In GC the focus lies mainly on the coaching of the individual group members whereas team coaching focuses on the team as an ensemble and their collective goals and processes (Gyllensten et al., 2020; Shams & Lane, 2020). GC is suitable for development-oriented concerns (Stelter et al., 2011) and can be supplemented by dyadic or peer coaching (Brown & Grant, 2010). Although there is a need for further research on the effectiveness of GC, studies have shown that it can support individual learning and change, foster reflection and development of meaning making, critical reflection, self-awareness, gaining perspective, interpersonal relationships and communication, increased systemic awareness, general well-being, social recovery, emotional intelligence, and social support (Brown & Grant, 2010; Gyllensten et al., 2020; Kets de Vries, 2014; Ostrowski, 2019; Peters & Carr, 2013; Stelter et al., 2011; Sutton & Crobach, 2022; Traylor et al., 2020). In contrast to individual coaching participants benefit not only from being coached by the coach. The group can function as a catalyst for individual development (Nacif, 2021), support reflection of self-perception (Kets de Vries, 2014) with group dynamics, diverse perspectives, and mutual trust acting as potential promoters (Gyllensten et al., 2020; Sutton & Crobach, 2022; Yalom & Leszcz, 2005). The group can also be used to apply certain group intervention techniques such as systemic constellations with representatives that enhance an understanding for systems thinking (Brown & Grant, 2010). GC provides less attention from the coach for each coachee's individual concerns in comparison to dyadic coaching. And, due to the presence of other people participants may be less inclined to engage in confidential topics (Mühlberger & Traut-Mattausch, 2015).

Peer Coaching

PC is a dyadic coaching process that enables mutual and reciprocal support in the processing of both peers' personal and professional development concerns (Jones et al., 2016; Parker et al., 2008). PC needs to be demarcated from peer mentoring, which is hierarchical and rather non-mutual (Eby et al.,

2013; Mondisa & Adams, 2022; Parker et al., 2008). Studies on effects of PC are scarce in comparison to dyadic coaching and show mixed results. PC has shown to be useful to foster self-reflection, critical thinking, gaining of new perspectives (Ladyshevsky & Varey, 2005), development of self-awareness, self-efficacy, and achievement of development goals (Matthewman et al., 2018). Compared to professional coaching PC can lead to a comparatively lower degree of goal attainment or engagement in the coaching process as the peer coach usually has less coaching expertise and may enjoy lower credibility (Spence & Grant, 2007; Sue-Chan & Latham, 2004). Successful PC demands a degree of self-awareness and understanding of the coaching and coachee roles and peers must be independent from each other (Ladyshevsky & Varey, 2005; Ladyshevsky, 2006; Matthewman et al., 2018; Parker et al., 2008; Parker et al., 2013). Additionally contextual factors are of relevance (Parker et al., 2013), i.e. organizational environment, matching of peers, and appropriate incentives (Kram & Ragins, 2007; Parker et al., 2008).

In summary, literature review on effectiveness of GC and PC indicates that both formats hold the potential to facilitate the types of experiences that may lead to ego development.

Method

Participants

The coaching program took place within the framework of a non-obligatory post-graduate course and students had to self-select. An online information event was held in advance in which content, procedure and objectives of the program were explained to all interested students. Since there were significantly more interested students than available places, a lottery was used to select the participants. Of the 29 participants 24 were female (82.7 per cent) and five were male. The mean age of the participants was 24.6 years with a range between 22 and 30 years.

Procedure

Our GC program extended over ten weeks and consisted of five days of in-presence (a total of 40 hours) and an additional four hours of online GC. On top, the coachees had to carry out PC sessions and

self-coaching activities to the extent of approx. 18 hours. In addition to the GC and PC settings the program also included self-coaching exercises as well as didactic input and experiential exercises. Every coaching activity was reflected by the coachees through journaling. In some cases specific questions for journaling were suggested, in others a general reflection of process and content was encouraged. Prior to the coaching program participants had access to an online learning platform in which material for preparation such as readings were provided. The coaching program was designed and facilitated by the author in cooperation with a second professional coach. A comprehensive agenda of the coaching program is available with the author.

The Intervention – Design of the Coaching Program

When it comes to the means of supporting ego development in coaching, the cognitive-developmental approach takes a very broad and open stance as it considers any approach that contributes to development as valuable (Bachkirova, 2010). It does not demand for specific coaching tools or settings to promote vertical development, but rather a carefully thought-out mixture of challenge and support within the process (Kegan, 1994). The coaching interventions in our GC (compare excerpt in Table 3) are based on a variety of coaching schools and theories. Rather than creating a goal-oriented coaching process we designed a developmental space (compare Ives, 2008) for the participants with a “focus on meaning making” (Rajasinghe et al., 2022, pp. 13–14) in which goals may emerge (Fusco et al., 2016). Our attitude as coaches is well described by the findings of the study from Rajasinghe et al. (2022), which was published after our GC program: We put a strong emphasis on the quality of our relationship with the coachees (and their relationship among peers), had a conscious focus on being present and connected (to ourselves, our co-coach, and the coachees), and being authentic. We demonstrated the latter aspect, for example, by sharing some of our own vulnerabilities, emotionally challenging experiences, or significant events in our life. This appeared to be of special relevance for creating a space that allows for ego development and setting an example that invites the participants to do so themselves. Especially since the GC was part of a Master's program, in which, from our experience, teachers often do not show themselves to be authentic and vulnerable in this way.

On a contextual level we gave special consideration to the course requirements assuming that these are highly relevant for students in a postgraduate program. It was particularly important that the course requirements not interfere with the development process. We emphasized that we would not evaluate the participants' actual ego development, nor any expressed content or parts of the process. Merely full participation in the program and submission of the reflective journal (with the possibility to blacken personal topics) were communicated as a basis for passing the course. PC process and roles were instructed and demonstrated in exemplary coaching processes and were made a focus for feedback by professional coaches and peers. Matching of peers was executed by letting the participants chose their peers. Manners and Durkin's (2000) four aspects of experiences to foster ego development were considered both on a content as well as a format level (as depicted in the following).

Design of the Program: Fostering Structurally Disequilibrating Experiences

To foster *structurally disequilibrating* experiences in our GC we lean on specific development aspects and challenges related to the present ego stage (Table 2) of the coachee (Bachkirova, 2018; Berger & Fitzgerald, 2002; Berger, 2012).

Table 2

Development Aspects and Challenges Related to Coachee's Present Ego Stage

Development aspects for coachee's on ego stages E4 and E5	Development aspects for coachee's on ego stage E6
<ul style="list-style-type: none"> • Exploration of perspective on critical events¹ • Reflection of important meaning systems¹ • Perceiving and dealing with (situations of) inner conflict of relevant meaning systems¹ • Focusing on authorship² • Questioning authorities² • Rewriting old definitions² 	<ul style="list-style-type: none"> • Understanding, integration, and toleration of contradictory perspectives¹ • Perception of coachees' own meaning systems¹ • Explore dichotomies² • Uncover assumptions² • Question certainty²

- Enhancing quality of perception³
- Working with multiplicity of self-concepts³
- Working with the unconscious aspects of body and mind³

¹Berger and Fitzgerald (2002), ²Berger (2012), ³Bachkirova (2018)

We expected earlier ego levels (conformist stage E4 and below) to be less present than in the general population due to the requirements of a master's degree program. Also, due to the lower age of the participants compared to the general population, a smaller number of participants were expected to be at post-conventional levels. Two previous studies related to ego development with students from German university programs (Binder, 2014; Leuthold, 2020) have shown a significant number (≥ 90 per cent) of participants at the self-aware (E5) and conscientious (E6) stages. Eight weeks prior to our GC program participants completed the first WUSCT (pretest) and 26 of 29 coachees were at the self-aware and conscientious ego stages (compare figure 1). Thus, our group coaching was designed to be structurally disequilibrating for participants on the self-aware and conscientious ego stages by considering the stage-specific coaching factors (Table 2) and applying specific coaching interventions to facilitate these. Examples from the program are given in the following and in table 3. A core element of our program was working with the coaching method 'inner team' (Schulz von Thun, 2013). This method is based on inner dialogue (Oleś et al., 2020). It uses abstractions of inner dynamics, to support the coachees's exploration of *multiplicity of self-concepts, perceiving and dealing with inner conflict* of relevant meaning systems as well as understanding, integration, and toleration of *contradictory perspectives*. In parts we combined the inner team coaching with systemic constellation work. *Quality of perception* was fostered e.g. by feedback and generative dialog applying the four fields of conversation by Scharmer (2016) and working with constructivist-systemic coaching interventions (König & Volmer, 2008).

Table 3

Excerpt of Coaching Interventions Applied in the Program to Facilitate Structurally Disequilibrating Experiences for Coachee's on Self-Aware and Conscientious Ego Stages

Stage-specific development factors*	Coaching interventions applied in our program to address the development factor
<ul style="list-style-type: none"> • Workings with multiplicity of self-concepts • Perceiving and dealing with (situations of) inner conflict of relevant meaning systems • Understanding, integration, and toleration of contradictory perspectives 	<ul style="list-style-type: none"> • Coaching with the inner team in combination with systemic constellation work and embodiments
<ul style="list-style-type: none"> • Exploration of perspective on critical events • Reflection of important meaning systems 	<ul style="list-style-type: none"> • Narrative storytelling based on image elicitation of important events and people in the coachee's lives
<ul style="list-style-type: none"> • Quality of perception 	<ul style="list-style-type: none"> • Feedback and generative dialog • Constructivist-systemic coaching interventions
<ul style="list-style-type: none"> • Unconscious aspects of body and mind 	<ul style="list-style-type: none"> • Embodiments; in part in combination with systemic constellation work and inner team coaching
<ul style="list-style-type: none"> • Uncovering of assumptions 	<ul style="list-style-type: none"> • Wheel of development • Feedback and generative dialog

*following Bachkirova (2018), Berger (2012), Berger and Fitzgerald (2002)

We applied embodiments (Tschacher & Bannwart, 2021) in the program to work on the *unconscious aspects of body and mind*. Narrative storytelling based on image elicitation (Montero-Hernandez & Drouin, 2021) of important events and people in the coachee's lives was incorporated to facilitate *exploration of critical events and reflection of important meaning systems* such as family or cultural values (also compare Stelter, 2014; Stelter & Andersen, 2018). *Uncovering of assumptions* was supported

by e.g. working on coachees' belief systems using the coaching tool 'wheel of development' as well as by feedback and generative dialog.

Design of the Program: Enabling Emotional Engagement and Personal Salience of the Experience

In most coaching interventions participants worked on their own issues and challenges, in a few the matters were specified (e.g. embodiment of different ego levels). Thus, it can be assumed that the program provided for emotionally engaging and personally salient experiences. In addition, personal salience can be assumed because participation in the course was voluntary and it was announced to be a coaching program for ego development (compare Manners et al., 2004). Also, it involved effort even before the start (e.g. participation in information event, filling out the WUSCT, selecting photographs for the image elicitation interventions). The program was emotionally engaging for participants as it focused on emotionally relevant aspects of the individual's life (e.g. their personal journey, identify, self-reflection, self-leadership, relationships, and their future vision). At the same time they experienced their peers in a more differentiated and new way.

Design of the Program: Fostering Interpersonal Experiences

GC and PC appear well-suited settings to provide interpersonal experiences on a format level. For instance, the application of narrative storytelling based on image elicitation provided for an interpersonal experience on both the content and format level. On a content level the interpersonal nature of the experiences was also stimulated by converging on how important people in the lives of the participants have influenced them (e.g. their beliefs, assumptions) and contributed to their identity and way of meaning making. Furthermore, dynamics and conflicts in relationships from their private and professional life were focused.

Materials

Washington University Sentence Completion Test (WUSCT)

A well-evaluated and tested instrument to measure ego development is Loevinger's projective Washington University Sentence Completion Test (WUSCT). Substantial support for reliability (e.g. Novy & Francis, 1992; Waugh, 1981), test-retest reliability (e.g. Blumentritt et al., 1996; Redmore &

Waldman, 1975) and interrater reliability (e.g. Weiss et al., 1989) can be found. Manners and Durkin (2001) provide an overview of studies on reliability and validity and conclude “that there is substantial support for the validity of ego development theory and its measurement” (Manners & Durkin, 2001, p. 561). Binder (2014) presents an in-depth review of different psychometric criteria as well. Several studies have also shown its cross-cultural applicability (for an overview see Westenberg et al., 2004). The latest version of the WUSCT, Form 81, can be scored using the manual by Hy and Loevinger (1996).

In this study Binder’s (2014) German language version of the WUSCT was applied. It included two stems that Binder substituted in his version (items 14 and 15) at pretest. The WUSCT is relatively robust to substitution of individual items because “regardless of content, stems are virtually interchangeable for measuring ego level” (Loevinger, 1993, p. 57). Two other original stems from Loevinger (items 29 and 33) that Binder had also substituted were included for posttest on the other hand and translated into German language. For pretest the 18-item first half was scored and the second half for posttest. Correlations between both halves and compared to the complete version has been shown by Novy and Francis (1992). Time between pretest (eight weeks before the GC) and posttest (ten weeks after beginning of the GC) in this study was sufficient to account for motivational effects (Manners & Durkin, 2001; Redmore & Waldman, 1975; Weiss et al., 1989).

The WUSCT and identical written instructions at pretest and posttest were provided via online course management system. Participants uploaded the completed forms. All forms were anonymized and given code numbers to ensure that both scorers were blind to the tests scored. All tests were scored by the author, who has the required in-depth knowledge of ego development theory and is a certified user of Binder’s German version of the WUSCT (I-E Profil) using Hy and Loevinger’s (1996) scoring manual. Prior to scoring all recommended self-training exercises from the manual were executed. The scoring procedure is based on defined rules for each stem. Every item is scored individually, and an overall ego stage score was then calculated based on ogive rules. Final scoring was based on the modified ogive rules from Cook-Greuter (1999) which have higher cut-off numbers. For interrater reliability ten randomly selected participants were scored by a second scorer who is also a certified user of the German version of

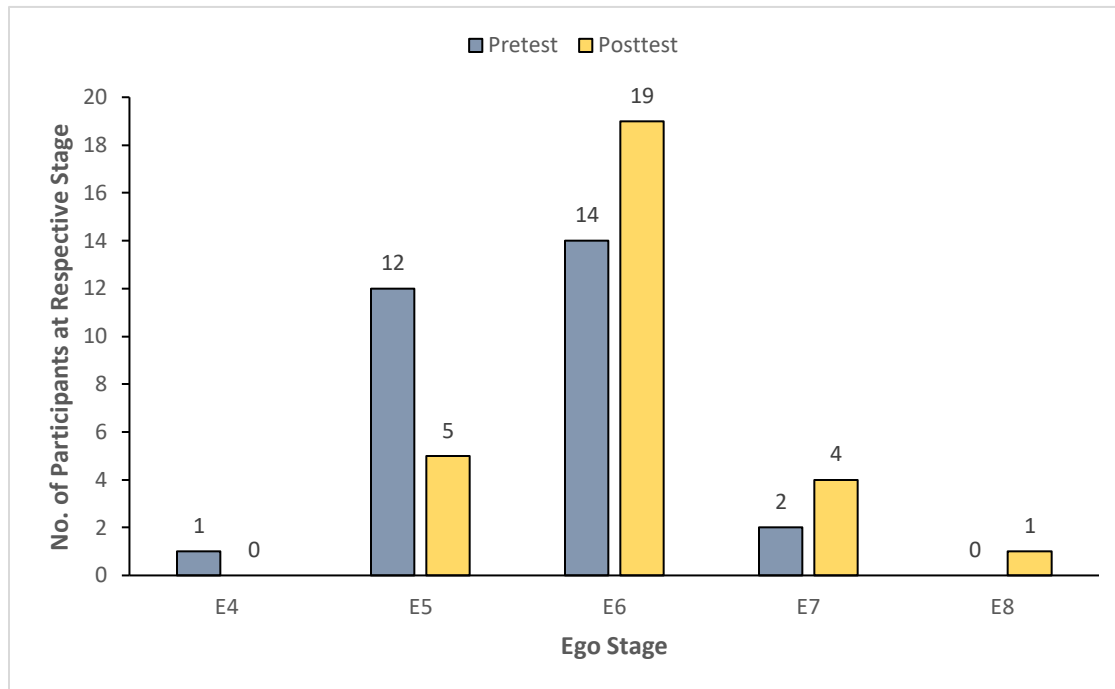
the WUSCT and who has deep knowledge of ego development theory. Interrater reliability was measured using two different criteria: Cohen's Kappa was calculated for all items scored and separately measured for pretest and posttest. Additionally absolute percentage of agreement between both scorers was measured. Cohen's Kappa for scoring of ego stages at pretest was $\kappa=.839$ (very good interrater reliability based on Altman, 1991) and at posttest $\kappa=.706$ (good). Kappa for scoring of all items was $\kappa=.684$ at pretest (good) and for posttest $\kappa=.680$ (good). Percentage of agreement between both scorers on ego stages was 90 per cent for pretest and 80 per cent for posttest. Agreement for all items was 77.88 per cent (pretest) and 77.22 per cent (posttest). For the items scored by both scorers, the item's final score was determined through discussion.

Results

To assess the effect of the coaching program on ego level advancement several factors are evaluated. Pairwise t-test was applied to test whether the mean values of ego stage are different at pretest and posttest (compare Figure 1). Furthermore, the item sum values (sum of all items scored for a person) for pretest and posttest were compared since these depict finer gradations, and a paired t-test was carried out to compare their mean values (Table 4). Additionally, frequency distribution (Figure 1) and proportion of participants from each ego stage that advanced one stage were analyzed (Figure 2 and Table 5). At pretest 27 of the 29 (93.1 per cent) participants were on conventional ego level with one coachee at the conformist stage, twelve at the self-aware and 14 at the conscientious ego stages (Figure 1). Two participants were at the individualistic ego stage. At posttest 65.5 per cent of the participants are at the conscientious ego stage and in sum 82.7 per cent on conventional ego level. Four were at the individualistic ego stage and one participant was at the autonomous ego stage, resulting in 17.2 per cent on postconventional ego level. Compared to pretest ($m = 5.58$; $SD = 0.68$) ego level was significantly higher at posttest ($m = 6.03$; $sd = 0.68$), $t(28) = -4.21$; $p < .001$; Cohen's $d = .78$. The mean increase from pretest to posttest was almost half a stage (.44).

Figure 1

Ego Development Distribution at Pretest and Posttest



Note. Distribution of ego development stages at pretest and posttest are shown. Ego level was significantly higher at posttest ($m = 6.03$; $sd = 0.68$) compared to pretest ($m = 5.58$; $SD = 0.68$), $t(28) = -4.21$; $p < .001$; Cohen's $d = .78$.

The second indicator for ego development, item sums, are also significantly higher at posttest ($m = 98.55$, $sd = 7.69$) compared to pretest ($m = 93.27$, $sd = 7.14$), $t(28) = -4.03$; $p < .001$; Cohen's $d = .74$.

Table 4

Item Sum Score at Pretest and Posttest

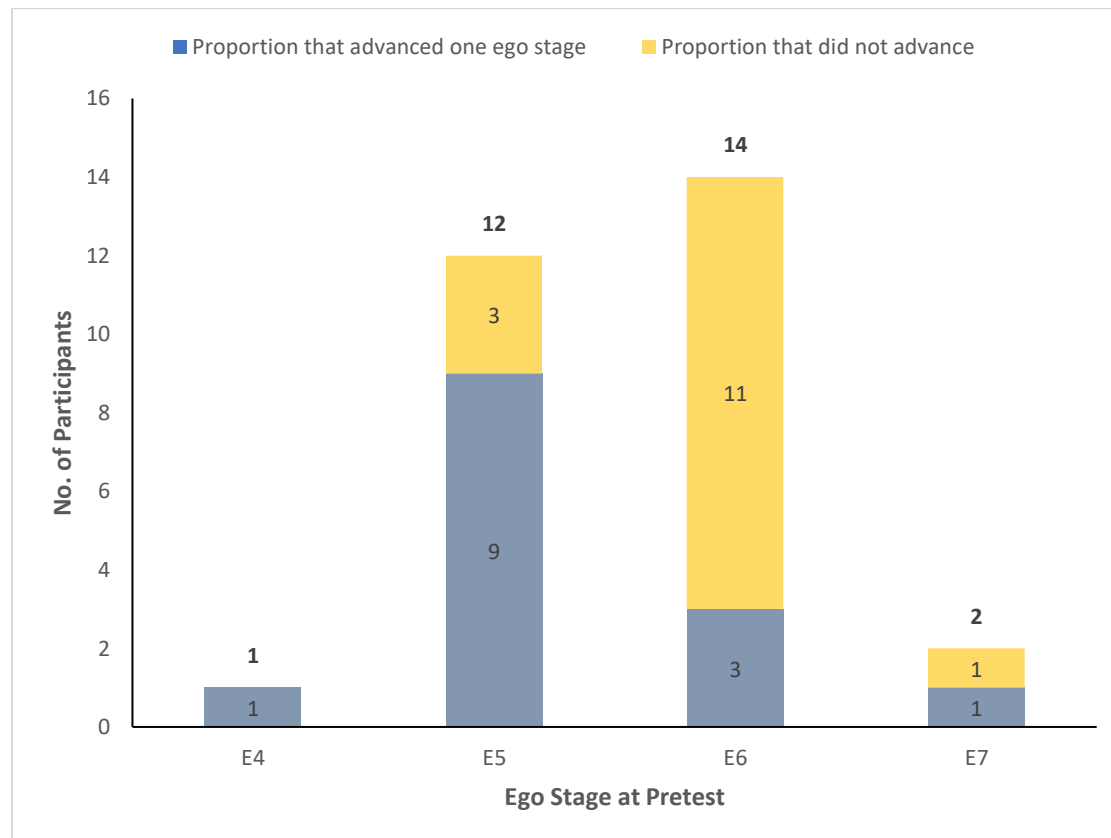
	Mean item sum	sd	t
Pretest	93.27	7.14	-4.03**
Posttest	98.55	7.68	

** $p < .001$, Cohen's $d = .74$

The proportion of participants from each ego stage that advanced between pretest and posttest is shown in figure 2. Nine of twelve participants (75 per cent) who were at the self-aware ego level at pretest have developed to the conscientious stage as a result of the coaching program. The only participant at the conformist stage transitioned to self-aware ego level. From the 16 coachees who were on the conscientious or individualistic stage before the coaching program, only four advanced one stage (25 per cent) and one regressed from the conscientious to the self-aware stage.

Figure 2

Proportion of Participants Advancing One Ego Stage based on Pretest Ego Stage



Note. Proportion of participants that advanced one ego stage at posttest based on pretest ego stage is shown. Numbers above the stacked columns represent count of participants on respective ego stage at pretest. In total 14 of 29 participants advanced one ego stage. One of the eleven participants at ego stage E6 at pretest that did not advance, regressed one ego stage.

The difference between number of participants that advanced one ego stage between pretest and posttest for those at the self-aware stage at pretest and those at the other stages at pretest was analyzed using Fisher's exact test (Table 5). Results show a statistically significant association with $p = .025$ (two-tailed), odds ratio = 7.2.

Table 5

Participants Who Advanced One Stage Being at Ego Stage E5 or Other at Pretest

	Advanced one ego stage		Did not advance ego stage		p value
	n	%	n	%	
Self-aware ego stage at pretest	9 (5.8)	75%	3 (6.2)	25%	.025*
Other ego stage at pretest	5 (8.2)	29.4%	12 (8.8)	70.6%	

Expected values in brackets, $N = 29$, * = two-sided Fisher's exact test

Four of the five male coachees and ten of 24 females advanced one ego stage. Fisher's exact test was applied and revealed that there was no statistically significant association between gender and ego stage advancement (two-tailed $p = .169$).

Discussion

This study demonstrated that GC that also incorporates PC can foster ego development. This leads to the question of how the development was brought about within the framework of the GC program. As described in the literature review effects of GC and PC appear well-suited to support ego development. On a process and content level almost every coaching intervention of our GC program provided for

emotional engagement, interpersonal experiences, and personal salience which are essential to ego development (Manners & Durkin, 2004). GC and PC seem particularly suited to enable the latter two aspects of experiences. Both settings are inherently of interpersonal nature and coachees bring in their own their own concerns and topics. Several interventions in our program specifically aimed at emotional engagement by focusing e.g. on own and peer's family or identity. On a format level GC and PC also enabled us to additionally use the other group members to foster these types of experience, e.g. for system visualization or feedback and generative dialogue, which would not have been possible in dyadic coaching. The degree to which the three aspects of experience impacted ego development cannot be assessed in the context of this study, though.

The GC program enabled experiences that were disequilibrating to the coachee's existing ego stage. The tools that we applied in the GC program addressed stage-specific development issues (compare Table 3) and included reflection and development of e.g. multiplicity of self-concept, underlying beliefs and meaning systems, emotional regulation, or inner conflict and contradictory perspectives. We believe that coaching with the inner team in particular made an important contribution. This method enables stage-specific disequilibrating experiences for coachees at stages E5 and E6 while also providing for emotionally engaging, personally salient and interpersonal experiences on both content and format level. It supports an in-depth examination of inner diversity on a cognitive and emotional level and promotes self-leadership. Through the embodiment of inner team members this experience was additionally promoted (compare Tschacher & Bannwart, 2021).

Finally, in addition to the design of our program and the specific tools applied, we consider the relationship with the coachees and the creation of a trusting and shame-free space of great importance to foster ego development.

Although the program was designed to be structurally disequilibrating for coachees at the self-aware (E5) ego stage and at the conscientious (E6) ego stage, it was significantly more effective for participants that were at E5 at pretest than for those at E6. It may be assumed, that the program was less structurally disequilibrating for the coachees at E6 than for those at E5. As many people are between ego stages

(Kegan, 1994), another hypothesis could be that several of the participants who were at ego stage E5 at pretest were already between stages E5 and E6. This would explain the higher proportion of ego stage transitions from those at E5 in comparison to those at E6 at pretest in response to the development impulses from the GC program.

Limitations and Future Research

In future empirical research it would be important to verify the findings by conducting studies including a control group. Considering that 14 of 29 participants progressed one ego stage it appears unlikely that the effect is just a natural development over that exact time frame, though, bearing in mind that many adults do not progress above the conformist and self-aware stages (also compare Leonetti, 1989). Nonetheless, the absence of a control group makes the interpretation of the effect of the treatment more difficult. Another area of interest for future research could be a long-term study to analyze the effects of continuous coaching support on ego development over longer periods of time. With a sample size of 29 the power of the study has its limitations and future research should target larger sample sizes. The disproportionately high number of females (82.8 per cent) in the coaching program must be addressed as a limitation.

It remains unclear from the present findings whether the different coaching settings (GC and PC) and coaching tools have varying degrees of impact on ego development and if so, to what effect. It will be important to address these questions in future empirical research. It would be necessary to compare different groups that received either only GC or only PC or both. Also, the role and impact of the coaches cannot be evaluated in the context of this study. To this regard it would be recommended to control for differences in coaches in future studies.

There was no monitoring to what extent the coachees engaged in the additional 18-hour off-site PC sessions. Possible influences on ego development can therefore not be explained. Furthermore, it was not controlled whether participants took part in additional coaching or development programs.

Ideally the coach-coachee relationship is characterized by eye-level. As our GC is part of a post-graduate program there is a hierarchical relationship between the participants and one of the coaches who

is also an educator at the university. This may have influenced the willingness of participants to open and bring in sensitive topics. We tried to minimize this effect by involving the additional external coach and developing the above-described course requirements.

A further limitation of the study is the self-selected design of the coaching program. Since the participants volunteered for what was advertised as a coaching program for ego development it may be assumed that they truly desired development (Kegan & Lahey, 2009) and that for them it was the ‘right’ time for development. Program timing has an impact on personal development as readiness for change is enhanced if people are making experiences of significant change in life (Vincent et al., 2015). Since many of the participants in this study were about to complete their post-graduate studies and enter a new life phase this appears to be conceivable. However, it cannot be deduced that voluntariness and sufficient motivation alone lead to development (Bachkirova, 2010).

In addition to measuring ego development using the WUSCT, participants’ voices were heard by ways of handing in their journals in which they documented their thoughts and feelings and reflected every coaching intervention. These very personal insights documented the personal salience and the disequilibrating and emotional nature of the experiences. A qualitative evaluation of this data and will be published in a future article. Parallel to evaluating advancement of ego development, the effects of the GC program on transformative learning (Mezirow, 2009) were assessed. The results of this research are published in a separate article (Peters & Göhlich, 2023).

Conclusion

Results show a significant increase of mean ego stage and mean item score in response to the GC program. The findings provide empirical support that a GC program including PC can support ego development in adults. This study also provides further empirical support for the conceptual framework to ego development by Manners and Durkin (2000). As ego development is not solely triggered by structural aspects of experiences but also requires them to be personally salient, emotionally engaging, and of interpersonal nature it can be concluded that the GC program provided such an experience. GC and PC appear well-suited settings to provide for these types of experience. Considering the adaptive advantages

of later ego stages and the high demand for the program from the post-graduate students, GC for advancement of ego development should be considered as an important part of the curriculum.

Acknowledgments

I would like to thank Mrs. Marion Quaas-Reinhard for co-designing and co-coaching the evaluated program and for scoring ten WUSCT's to enable interrater reliability analysis. Also, I thank the students who participated in the group coaching.

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