Promoting Self-Authorship through a Scalable Intervention

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PROPOSED CO-AUTHORS — INVITATIONS PENDING

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Abstract

Objective: Manners et al. (2004) and Vincent et al. (2015) demonstrated that adult ego stage transition can be deliberately promoted, but both relied on face-to-face delivery and self-selected participants. Whether the Manners and Durkin (2000) framework can be operationalized in a delivery format suited to scale, and produce growth in adults not selected for developmental motivation, has not been examined. **Method:** A 16-week, fully online, open-enrollment course at Harvard Extension School, designed per the Manners and Durkin (2000) framework, was evaluated against a control group from alternate online courses (intervention n = 70; control n = 36). Stage was assessed with Cook-Greuter's revised Washington University Sentence Completion Test (WUSCT) in split-half format. **Results:** Intervention subjects achieved posttest scores 0.49 stages higher than controls (ANCOVA, p = .005), with significant growth in the E5 sub-group (p = .02), the E6 sub-group (p = .024), and participants over 30 (p = .01) — three subgroups identified by prior literature as especially prone to developmental plateau. Seventy-six percent of E5 intervention subjects completed at E6 or higher; 21% of E6 intervention subjects completed at E7 or higher; no E6 intervention subject regressed, against one-third of E6 controls. **Conclusions:** The findings (i) replicate the E5-to-E6 transition demonstrated by Manners et al. (2004); (ii) extend Vincent et al. (2015) to E6-to-E7 growth relative to controls; (iii) show that a single curricular design produced stage-calibrated disequilibration across two distinct entry stages, advancing the framework's practical implementation; and (iv) show these effects can be produced through a delivery format suited to scale — fully online, openly enrolled, and free of selective admission — narrowing the gap between the demand for advanced developmental capacity in contemporary adult life and the reach of existing intervention formats.

Keywords: ego development; adult development; Loevinger; Kegan; Washington University Sentence Completion Test; online learning; intervention; self-authorship

Introduction

Loevinger's (1976) model of ego development describes the evolution of the meaning-making framework through which adults interpret self, others, and the world. Of the nine stages Loevinger identified, empirical research has consistently documented that a majority of adults stabilize at or below the fifth, or Self-Aware (E5), stage by early adulthood, with relatively little subsequent movement in the absence of particular

conditions (Cohn, 1998; Holt, 1980; Loevinger et al., 1985; Manners & Durkin, 2000). Cohn's (1998) meta-analysis of 92 samples provided the most comprehensive documentation of this pattern to date.

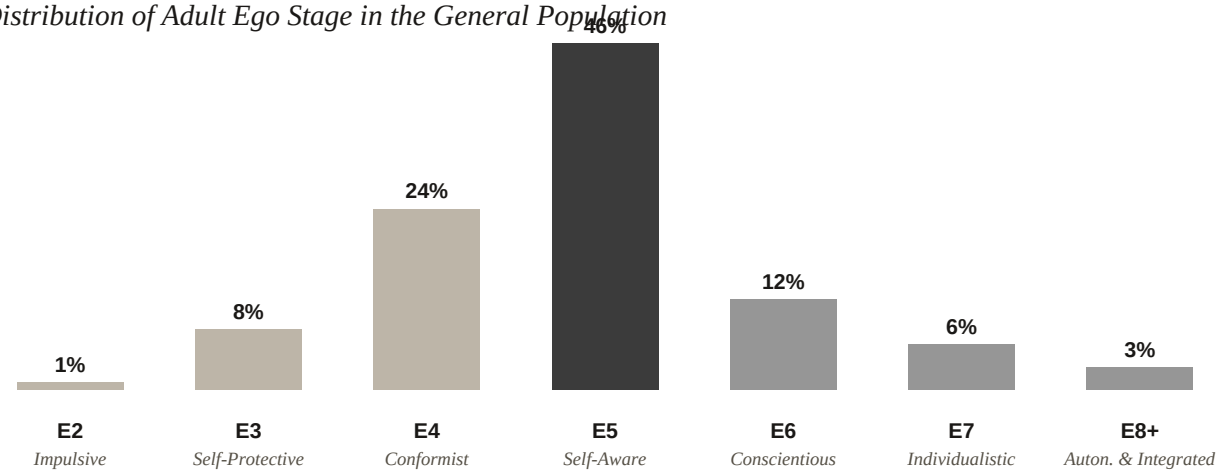
The relevance of this pattern extends beyond developmental theory. Contemporary social, professional, and civic life increasingly requires the capacity to construct one's own framework of values, priorities, and decisions in pluralistic and rapidly changing contexts — the transition Kegan (1994) termed the move from socialized to self-authoring mind, and which the OECD's DeSeCo project framed in competency terms (Rychen & Salganik, 2003). Baxter-Magolda (2007) identified self-authorship as the central learning outcome of contemporary higher education. Several converging developments intensify this demand. The increasing pluralism of modern democratic life, identified by Kegan (1994) and the DeSeCo project (Rychen & Salganik, 2003), has been joined more recently by the widespread availability of generative AI — a development that erodes traditional heuristics of source legitimacy and shifts cognitive demand from producing analyses to evaluating them, both of which presuppose the internal standard-setting capacity that defines the Self-Aware-to-Conscientious transition. Yet population estimates indicate that only a minority of adults reach this capacity by midlife: Kegan (1994) reported approximately 22% of a sample considered representative of the general adult population as having developed the self-authoring order of mind, with the proportion not approaching a majority even within more highly educated samples (Cook-Greuter, 1999). The gap between the developmental capacities increasingly demanded by contemporary adult life and the level at which most adults stabilize defines the practical problem to which deliberate developmental interventions speak.

The strength of this stabilization tendency is further illustrated by an instructive precedent. McCauley et al. (2006) describe the restructuring of the Boston College MBA program — a 20-month curriculum deliberately redesigned to promote constructive-developmental growth through action inquiry and self-management practices. Despite the duration, intensity, and developmental intent of the program, only 10% of students advanced a full ego stage; "among the rest of the students, half-stage progressions and regressions balanced one another, resulting in an average movement of .1 stage" (McCauley et al., 2006). That a two-year graduate program specifically designed to promote development produced full-stage advancement in one in ten students underscores both the resistance of adult ego development to intervention and the value of empirically identifying conditions under which growth can be reliably promoted.

Although stabilization at or below E5 is the modal outcome, it is not a universal one. Longitudinal evidence indicates that development beyond this point continues, albeit slowly, among subsets of adults. Lilgendahl et al. (2013), in one of the longest longitudinal studies of ego development available, documented a mean increase of 0.55 stages across 18 years of midlife (ages 43 to 61) in a sample of 79 college-educated women, corresponding to an annualized rate of approximately 0.03 stages per year. Earlier longitudinal work has converged on the view that this growth is associated with particular life experiences, trait openness, and the accommodative processing of disequilibrating events (Bursik, 1991; Helson & Roberts, 1994; Lilgendahl et al., 2013).

Figure 1

Distribution of Adult Ego Stage in the General Population



Note. Approximate distribution of adult ego stage in the general population. The present study's intervention was designed to support transition out of the E5 plateau toward E6 and from E6 toward E7.

A related line of research has examined whether adult ego stage growth can be promoted by deliberately designed interventions. Manners and Durkin (2000) reviewed the intervention literature and formulated a conceptual framework in which ego stage transition was proposed to occur in response to life experiences that are structurally disequilibrating, personally salient, emotionally engaging, and interpersonal. Applying this framework, Manners et al. (2004) conducted the first published intervention study to demonstrate, using a true experimental design with random allocation, that sustained stage transition beyond the modal stage is possible in adulthood. Their intervention was effective for participants at E5 but not for those at E6. Vincent et al. (2015) subsequently examined Australian community leadership programs and found that enhanced programs — incorporating professional coaching, peer assessment, and structured reflective exercises — promoted movement from E6 (Conscientious) toward E7 (Individualistic) and beyond, relative to controls. Vincent et al.'s findings constituted the first demonstration that post-conventional ego development can be promoted relative to a comparison group.

Two features of the intervention literature invite further investigation. First, every published study that has demonstrated significant ego stage growth relative to a control group has involved face-to-face delivery. Vincent et al. (2015) noted that "it is currently difficult to conceive of how alignment with the Manners and Durkin (2000) framework could be achieved in an online program" (p. 195). Whether the four conditions Manners and Durkin identified can be operationalized through an online instruction has not previously been tested empirically. Second, participants in prior intervention studies have typically self-selected into programs framed as personal growth or leadership experiences. In Manners et al. (2004), participants enrolled in a "Building Better Relationships" program; in Vincent et al. (2015), participants were admitted to selective community leadership programs. Such samples are informative but differ from the general adult population in developmental motivation and availability for intensive participation.

The present study was designed to address both questions. The intervention evaluated was a 16-week, fully online, credit-bearing academic course at Harvard Extension School, offered through standard course registration procedures and described to potential enrollees as an academic exploration of adult development theory rather than exclusively as a personal-growth program.

All participants were adult students at Harvard University's Extension School, one of the twelve degree-granting schools within Harvard University. Unlike Harvard's other schools, the Extension School operates on an open-enrollment basis: any adult may register for credit-bearing courses without prior application, and tuition is approximately 75% lower than at other Harvard schools (formal admission to an Extension School degree program is granted only after a student has earned at least a B grade in three Extension courses). This admissions structure produces a student population substantially more representative of the general adult population — in age, socioeconomic background, and prior academic preparation — than that of Harvard's other schools, while preserving access to the institution's faculty and instructional resources. The Extension School therefore offers a setting in which a developmental intervention can be evaluated with a sample whose demographics support reasonably broad generalization to heterogeneous adult populations.

The course was designed to operationalize the Manners and Durkin (2000) framework in an online environment. Its evaluation, against a control group drawn from alternate courses at the same institution, permits an empirical test of whether the mechanisms the framework specifies are platform-independent, and whether they operate in a population that has not been primarily selected on the basis of developmental interest and/or readiness.

Theoretical Background

Ego Development and Its Measurement

Loevinger (1976) conceptualized the ego as the organizing framework through which a person integrates experience, makes meaning, and regulates action. In her model, ego development proceeds through a hierarchical sequence of stages, each representing an increasingly differentiated and integrated structure of cognitive, interpersonal, moral, and conscious-preoccupational functioning. The Washington University Sentence Completion Test (WUSCT; Hy & Loevinger, 1996) is the most extensively validated instrument available for assessing ego stage, and has been supported in more than four decades of psychometric research (Cohn & Westenberg, 2004; Loevinger, 1979; Manners & Durkin, 2001; Novy & Francis, 1992). Cook-Greuter (1999) extended the scoring system to provide greater precision at the post-conventional stages.

Three stages are directly relevant to the present study. The Self-Aware (E5) stage is the modal adult stage, in which the individual has begun to recognize inner states and multiple perspectives but continues to anchor identity, values, and judgment in external convention and social approval (Loevinger, 1976). The Conscientious (E6) stage involves the construction of an internal value system, self-evaluated standards, and long-range goals that are the person's own rather than being internalized from the social surround. The Individualistic (E7) stage involves the recognition that one's own framework is partial and constructed, along with the capacity to hold one's own perspective as an object of reflection (Cook-Greuter, 2004; Loevinger, 1976).

The correspondence between Loevinger's taxonomy and Kegan's (1982, 1994) orders of mind has been noted by multiple authors (Cook-Greuter, 2004; McCauley et al., 2006). Kegan's Socialized order corresponds approximately to Loevinger's E5, his Self-Authoring order to E6/E7.

The Manners and Durkin Framework

Manners and Durkin (2000) proposed that adult ego stage transition represents an accommodative response to

life experiences that simultaneously satisfy four conditions. The experience must be structurally disequilibrating — that is, calibrated to challenge the meaning-making structure of the participant's current stage, at a level approximately one stage higher than the current position (Turiel, 1966). It must be personally salient, connected to the participant's own life rather than to abstract content. It must be emotionally engaging, activating affective investment rather than purely cognitive attention. And it must be interpersonal, embedded in social context and requiring the negotiation of self in relation to others.

Manners et al. (2004) operationalized all four conditions in a face-to-face intervention comprising ten weekly group sessions. Using random allocation of self-referred adults to intervention or wait-list control, the authors demonstrated significant ego stage growth among intervention participants and no change among controls. The intervention was effective for those at E5 but not for those at E6; of 10 E6 intervention participants, only 1 advanced. Manners et al. interpreted this pattern as consistent with their stage-calibration principle: the content, which was structured at the E6 and E7 levels, provided appropriate disequilibration for E5 participants but not for those already at E6.

Vincent et al. (2015) addressed the E6 question in a study of three Australian community leadership programs. Two enhanced programs — which augmented the standard leadership curriculum with professional coaching, structured peer assessment, and systematic reflective exercises — produced significantly greater movement from E6 toward E7 and beyond than the standard program or a nonparticipant comparison group. The authors interpreted the enhanced programs' effectiveness as reflecting their closer alignment with the Manners and Durkin (2000) framework, particularly the more systematic provision of personally salient and emotionally engaging disequilibration at a level appropriate to E6 participants.

Rationale for the Present Study

Three questions remained unresolved following Manners et al. (2004) and Vincent et al. (2015). First, whether the four conditions Manners and Durkin (2000) identified can be instantiated in a delivery format suited to scale — operationalized here as an online course. The interpersonal condition in particular has not previously been tested without physical co-presence. Second, whether a single intervention can produce significant growth among subjects who pre-test at either E5 or E6, using a shared curriculum. Third, whether effects observed with participants self-referred to explicit personal-growth programs replicate when participants enroll through conventional academic registration. The present study was designed to examine all three questions.

Hypotheses

Four hypotheses were tested. First, intervention subjects would demonstrate greater posttest ego stage scores than controls, controlling for pretest scores. Second, intervention subjects pretesting at E5 would show greater posttest scores than E5 controls. Third, intervention subjects pretesting at E6 would show greater posttest scores than E6 controls — a prediction not supported by the Manners et al. (2004) findings. Fourth, intervention subjects over the age of 30 — an age band at which Cohn (1998) documents particularly marked developmental inertia — would show greater posttest scores than age-matched controls.

Method

Participants

One hundred and six adults participated. Intervention participants (n = 70) were students enrolled in PSYC-1034 (Adult Development) at Harvard Extension School during the study semester. Extension School enrollment is open: no application is required, and the student body represents a broad cross-section of North American adults. Students registered through the standard Harvard Extension School course catalog, using the same procedures employed for any other course. Course materials framed the course as an academic exploration of adult development theory and research, alongside an invitation to apply that theory reflectively to one's own development.

Control participants (n = 36) were drawn from four alternate online Harvard Extension School courses offered during the same semester. Four faculty members who taught these alternate courses announced the study on the first day of their course, and the first students who volunteered to participate were enrolled. Control participants completed pretest and posttest WUSCT administrations and received a modest gift card in recognition of their time.

Age distributions did not differ significantly between groups. Gender distribution differed modestly between groups (Ç ²p,= .043); however, gender was not related to posttest ego stage scores when controlling for pretest, and male and female intervention subjects demonstrated nearly identical posttest means (6.25 and 6.23 respectively, p = .922). Following the analytic precedent of Vincent et al. (2015), gender was therefore not controlled for in subsequent analyses.

Pretest ego stage scores differed between groups, with the intervention group pretesting at a slightly higher mean stage than the control group. Because developmental progress slows considerably at the higher stages of ego development, this pretest difference was, if anything, favorable to the control condition. Pretest score was controlled statistically in the full primary comparative analyses, and the analysis was restricted to subjects pretesting at either Stage 5 or 6 — not merely because this range characterized the vast majority of the sample but because these subjects at these stages made up the focus of the study's developmental objectives.

Measure

Ego development stage was assessed using Cook-Greuter's (1999) adapted version of Loevinger's Washington University Sentence Completion Test — commonly designated the SCTi-MAP. All subjects in both treatment and control groups completed Cook-Greuter's split-half adaptation of the instrument, with one 18-stem form administered at the start of the subject's course and the other 18-stem form at its conclusion.

Because rapid pretest–posttest administration of the full 36-stem WUSCT/MAP is known to introduce practice-related measurement error (Redmore & Waldman, 1975), the split-half format was adopted to ensure that subjects encountered entirely novel stems at posttest. The 18-stem split-halves have been shown to correlate at .96 with each other and at .95 with the original 36-item form in large adult samples (Novy & Francis, 1992). All protocols were scored by certified raters blind to group membership and assessment timepoint. Inter-rater agreement, calculated on a random 25% of the protocols, was .84 (Cohen's kappa for stage-level agreement), consistent with the reliability benchmarks reported in prior studies (Hy & Loevinger, 1996).

Intervention

The intervention was a 16-week, four-credit online course delivered semi-asynchronously (with subjects needing to submit responses to exercises and assignments within a designated week but not a designated hour),

supplemented by a small number of optional synchronous online group webinars offered across the semester. The curriculum was designed to operationalize the four conditions of the Manners and Durkin (2000) framework. Five core components were incorporated.

First, students engaged structured readings and video lectures on Kegan's constructive-developmental theory — the subject–object framework and its five orders of mind — as a theoretical framework and as a tool for locating and examining their own current meaning-making structure. Second, students completed Kegan and Lahey's (2009) **Immunity to Change** exercises during two dedicated weeks of the course, with an optional third week for testing the resulting big assumptions in everyday settings. Third, private reflective journaling provided a protected space for constructing an independent standpoint on personally salient content. Fourth, online discussions initiated as evaluations of course readings and responses to course assignments provided the interpersonal condition of the Manners and Durkin framework: structured dialogue in which students examined their assumptions in relation to perspectives different from their own. Fifth, multiple assignments were designed to challenge students at a level approximately one stage beyond their current meaning-making structure, corresponding to the structural calibration principle Manners et al. (2004) operationalized in their face-to-face intervention.

The last component included a series of reflective practice across the course that were scaffolded by a brief four-step sequence — *recollect, assess, inquire,* and *serve with empathy and dedication* — which asked students to recall a recent everyday experience, identify which elements they had held as object and which they might have been subject to, and consider how the experience might have been construed from a more advanced vantage point. It also invited students to serve as humble catalysts for the development of others — both peers in the course and people in their own lives.

Two versions of the course were offered in parallel. Version A comprised the described core curriculum. Version B was identical in every respect except that it required an additional weekly reflective journaling assignment, permitting a direct test of whether journaling frequency contributes independently to developmental outcomes. Students were randomly allocated to a course version; with the sections being taught by different teaching fellows under common curricular oversight.

Procedure

WUSCT protocols were administered electronically during the first week and final week of the semester. Intervention students completed the pretest before any course content was presented and the posttest after the final course session. Control students completed both administrations at equivalent timing. Scoring was conducted after the full dataset was collected, with scorers fully blind to condition. The study received Institutional Review Board approval prior to data collection, and all participants provided informed consent.

Statistical Approach

The primary analysis used analysis of covariance (ANCOVA), with pretest ego stage score as the covariate and posttest score as the dependent variable, restricted to subjects pretesting at E5 or E6 (92% of controls and 84% of intervention subjects). This restriction follows the convention established by Manners et al. (2004), who noted that participants pretesting at stages well below or well above the target range cannot provide an informative test of the intervention hypothesis. Sub-group analyses for E5 and E6 subjects used independent-samples *t*-tests. The analysis for subjects over 30 used ANCOVA. The directional hypothesis — that the intervention would produce greater posttest ego stage scores than the control condition — was

registered *a priori* on theoretical grounds (Manners et al., 2004; Kegan's subject-object framework). One-tailed tests were therefore applied to directional hypotheses in accordance with Alexander (1982) and Cho and Ab (2013); two-tailed tests were applied where no directional prediction had been specified.

Results

Primary Analysis

ANCOVA comparing posttest ego stage scores between groups, with pretest score as the covariate, revealed a significant intervention effect, $p = .005$ (one-tailed). The intervention group's adjusted posttest mean was 6.09, compared with a control adjusted mean of 5.61 — a difference of 0.48 stages, with the pretest covariate evaluated at $M = 5.60$. Descriptive statistics are presented in Table 1.

Table 1

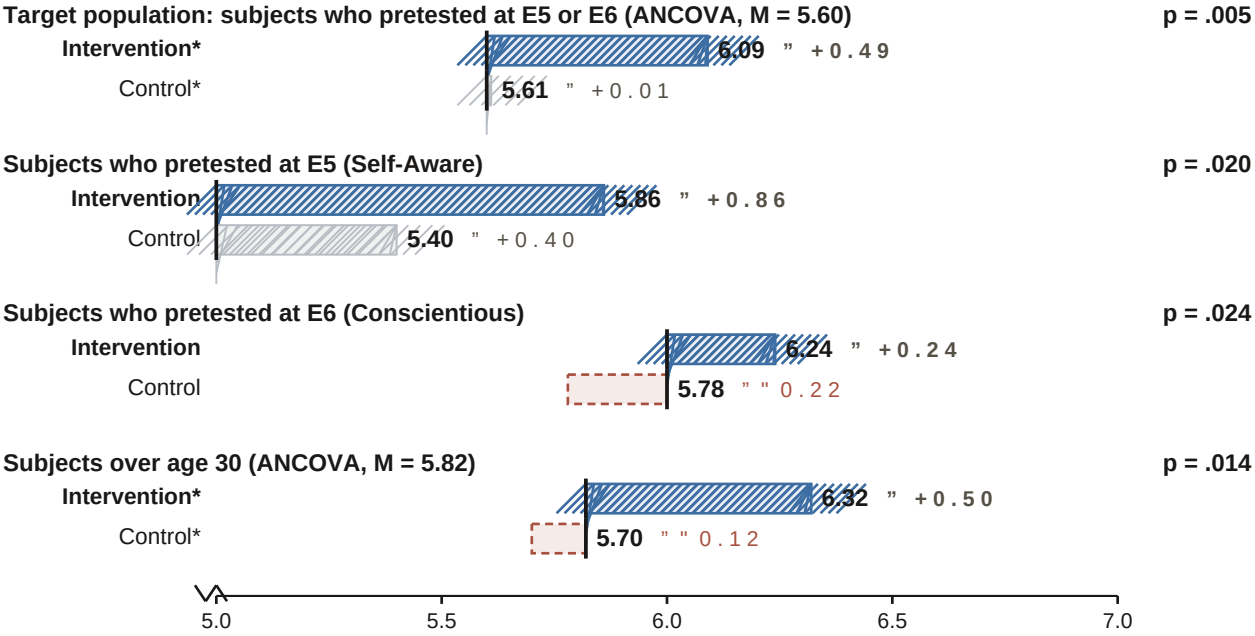
*Pre- and Posttest Ego Stage Scores for Intervention and Control Groups**

Group	n*	Pretest		Posttest		Adjusted M†
		M	SD	M	SD	
Intervention	58	5.64	0.49	6.10	0.83	6.09
Control	33	5.55	0.51	5.61	0.61	5.61

*Note. *n restricted to subjects who pretested at E5 or E6 — the target population for the intervention's curriculum (87% of all study subjects). †Adjusted M derived from ANCOVA with pretest score controlled as covariate; covariate evaluated at pretest M = 5.60. p = .005 (one-tailed).*

Figure 3

Posttest Ego Stage Means by Group, Across Four Comparisons



All p-values are one-tailed. Asterisk (*) indicates pretest controlled as covariate (ANCOVA).

Note. Each comparison reports posttest ego stage means for the named groups, plotted on the Loevinger / Cook-Greuter scale. Bars depict the change from pretest to posttest: the hatched segment extends forward from the pretest tick mark to the posttest mean (growth gained); the dashed open segment extends backward from the pretest tick to the posttest mean (ground lost). Where pretest scores were controlled as a covariate (ANCOVA), this is indicated with an asterisk (*) and the covariate value is stated above the comparison. The two pretest-stratified comparisons (E5, E6) used independent-samples t-tests; pretest control was not needed because both groups were already matched at the same pretest stage. Significance: target population p = .005, E5 p = .020, E6 p = .024, over-30 p = .014 (all one-tailed).

The magnitude of this intervention effect is of interest when placed against the natural rate of ego development growth documented in longitudinal research. Lilgendahl et al. (2013), in their 18-year longitudinal study, reported a mean increase of 0.55 stages across ages 43 to 61 — an annualized rate of approximately 0.03 stages per year. Control subjects in the present study advanced 0.01 stages over the 16-week period, consistent with this annualized natural baseline. Intervention subjects achieved, in 16 weeks, a mean posttest advantage of 0.49 stages — comparable in magnitude to the 18-year cumulative developmental change Lilgendahl and colleagues documented.

E5 Sub-Group

Among participants pretesting at the Self-Aware (E5) stage, intervention subjects (n = 21) achieved a mean posttest score of 5.86, compared with 5.40 among E5 controls (n = 15); t = 2.10, p = .020 (one-tailed). Because both groups were matched at the same pretest stage (M = 5.00 for each), no covariate adjustment was required. The intervention group advanced 0.86 stages over the 16-week period; the control group advanced 0.40 stages — an intervention-relative gain of 0.46 stages. This pattern replicates the E5 finding of Manners et al. (2004) in the present online delivery context. Detailed results are reported in Table 2.

E6 Sub-Group

Among participants pretesting at the Conscientious (E6) stage, intervention subjects (n = 37) achieved a mean posttest score of 6.24, compared with 5.78 among E6 controls (n = 18); t = 2.03, p = .024 (one-tailed). Both groups were matched at the same pretest stage (M = 6.00 for each), so no covariate adjustment was required. The intervention group advanced 0.24 stages over the 16-week period; the control group regressed 0.22 stages — an intervention-relative gain of 0.46 stages. This pattern differs from Manners et al.'s (2004) finding, in which E6 participants did not respond to the intervention, and is consistent with the Vincent et al. (2015) finding that appropriately calibrated interventions can promote post-conventional development.

Table 2

Ego Stage Outcomes by Pretest Stage and Group

Group	n	Pretest M	Posttest M	” (stages)	t	p
Subjects who pretested at E5 (Self-Aware) — pretest matched, no covariate needed						
Intervention	21	5.00	5.86	+0.86	2.10	.020
Control	15	5.00	5.40	+0.40		
Subjects who pretested at E6 (Conscientious) — pretest matched, no covariate needed						
Intervention	37	6.00	6.24	+0.24	2.03	.024
Control	18	6.00	5.78	" 0.22		
*Subjects over age 30 — pretest controlled as covariate (ANCOVA, covariate M = 5.82)**						
Intervention*	—	5.82*	6.32	+0.50	—	.014
Control*	—	5.82*	5.70	" 0.12		

*Note. ” = change in mean ego stage from pretest to posttest. The E5 and E6 sub-group comparison pretest values were already matched between groups, so no covariate adjustment was applied. The over-30 comparison used ANCOVA, with pretest score controlled as covariate (indicated by *); under ANCOVA, the pretest is the covariate value (5.82), not a group mean. All p-values are one-tailed.*

Participants Over 30

Among participants over the age of 30, ANCOVA — with pretest score controlled as covariate — revealed a significant intervention effect, $p = .014$ (one-tailed). The adjusted intervention posttest mean was 6.32, compared with a control adjusted mean of 5.70 — a difference of 0.62 stages, with the pretest covariate evaluated at $M = 5.82$. Intervention subjects over 30 advanced a mean of 0.50 stages; control subjects over 30 regressed a mean of 0.12 stages. This finding is particularly informative given Cohn's (1998) documentation of markedly reduced developmental movement after age 30.

Secondary Analyses

Version A and Version B of the intervention did not differ significantly on posttest ego stage score ($p = .646$), nor within the E5 sub-group ($p = .487$) or across all six teaching sections ($p = .745$). The additional weekly journaling requirement that distinguished Version B did not produce a detectable incremental effect on ego stage development.

Webinar participation, measured as the number of synchronous sessions attended, correlated with posttest score for subjects who pre-tested at E6, $r(35) = .28$, $p = .045$ (one-tailed), but not for subjects who pre-tested at E5, $r(20) = .31$, $p = .092$ (one-tailed). Subjects who reported greater course difficulty demonstrated higher posttest ego stage scores, $r(57) = .22$, $p = .042$ (one-tailed, controlling for pretest score) — the empirical signature of structural disequilibration as a developmental mechanism, consistent with the Manners and Durkin (2000) prediction that such disequilibration mediates ego stage transition.

Discussion

The present study produced four findings relevant to the adult ego development intervention literature. First, a 16-week online academic course, designed in accordance with the Manners and Durkin (2000) framework, produced ego stage growth among intervention subjects significantly greater than that observed in a matched control group drawn from the same institution. Second, significant growth was observed at both the E5 and E6 pretest stages, including movement toward E7 among E6 participants. Third, the effects were obtained in a sample that had not self-selected into a personal growth or leadership-development program but had enrolled in a conventionally framed academic course. Fourth, these effects were obtained through a delivery format suited to scale — open-enrollment, fully asynchronous, and unconstrained by geography or cohort size — addressing a gap in scalable intervention formats first noted by Manners and Durkin (2000) and renewed by Vincent et al. (2015).

The conditions Manners and Durkin specified are conditions, not techniques: they describe what an environment must contain, not what an instructor must perform. The present findings suggest this distinction is consequential — the same conditions, instantiated through different delivery means, produced comparable outcomes across two pretest stages.

Replication and Extension of Manners et al. (2004)

The E5 results replicate the central finding of Manners et al. (2004) in a substantially different delivery context. Whereas Manners and colleagues employed ten weekly face-to-face sessions in a program advertised as relationship-skills training, the present intervention used asynchronous online instruction, and a conventional academic framing. The 76% E5-to-E6 transition rate observed in the intervention group is comparable to the transition rate Manners et al. reported (16 of 21 E5 participants advancing), despite the substantial differences in delivery medium, sample composition, and ostensible purpose. This pattern suggests that the four conditions of the Manners and Durkin (2000) framework are not dependent on physical co-presence, as had previously been suggested by Vincent et al. (2015) and others.

Extension of Vincent et al. (2015)

The E6 findings extend Vincent et al.'s (2015) demonstration that post-conventional ego development can be promoted. Vincent and colleagues' enhanced programs required ten months of face-to-face engagement in intensive community leadership settings, with participants who had been selectively admitted. The present study obtained a comparable directional outcome — significant movement from E6 toward E7 relative to controls — in 16 weeks of online instruction with unselected students. This suggests that the mechanisms Vincent et al. identified as responsible for post-conventional growth, which they linked explicitly to the Manners and Durkin (2000) framework, can be operationalized in online environments.

A notable feature of the E6 results is the absence of regression among intervention subjects. One third of E6 controls showed posttest stage scores below their pretest scores, consistent with test-retest regression observed in prior studies (Manners et al., 2004; Redmore & Waldman, 1975). No intervention subjects showed this pattern. This asymmetry may reflect an additional function of the intervention — stabilization of the current stage against natural test-retest drift — that warrants independent investigation.

Self-Selection and the Present Control Condition

A methodological concern common to the adult ego development intervention literature is the self-selection of participants into programs explicitly framed as personal-growth or leadership experiences. Manners et al. (2004) acknowledged this concern; Vincent et al. (2015) did so more extensively, noting that their participants had been admitted to highly selective community leadership programs. The present study mitigates this concern in two respects. First, students enrolled in the intervention course through the standard Harvard Extension School course catalog, using the same procedures employed for any other course. Second, control subjects were drawn from alternate online courses at the same institution, providing a comparison condition matched on institutional context, delivery medium, and broader educational motivation.

The control group's mean posttest advance of 0.01 stages closely approximates the 0.03-stages-per-year annualized natural growth rate that Lilgendahl et al. (2013) documented over 18 years of midlife. This correspondence suggests that the control condition provides an ecologically valid baseline, rather than an unusually low-performing comparison group. Against this baseline, the intervention group's 0.49-stage posttest advantage plausibly reflects the developmental effect of the course rather than any pre-existing difference in developmental readiness.

Separation of Teaching and Measurement

The WUSCT possesses unusually strong construct validity and is, by design, resistant to upward faking:

respondents at lower stages cannot produce the reasoning characteristic of higher stages, and the scoring system assigns stage values on the basis of structural features that bear no visible relation to the task (Loevinger, 1976, 1986; Redmore, 1976; Chandler et al., 2004). The instrument cannot, in any ordinary sense, be prepared for.

The curriculum was designed accordingly. Following the procedural safeguards used by Manners et al. (2004), no reference was made in any course material to Loevinger, Cook-Greuter, Loevinger's ego development theory, the WUSCT, or sentence-stem assessment of any kind. Subjects encountered the instrument only at baseline and at post-assessment, and scoring was blindly conducted by independently trained raters with no role in the course.

Limitations

Several limitations bear on the interpretation of these findings. First, the design was quasi-experimental rather than fully randomized. Participants were not randomly allocated to intervention or control, introducing the possibility that unmeasured pre-existing differences between groups contributed to the observed effects. Although pretest scores were statistically controlled, a fully randomized controlled trial with pre-stratified stage groups, now warranted and feasible given these findings, would resolve the residual confound.

Second, the study's authors served as the principal instructors for the intervention course. This represents an inherent limitation in first-generation evaluations of researcher-designed interventions — a limitation shared by Manners et al. (2004) — and one that independent replication with different instructors would address.

Third, the multi-component design of the intervention precludes identification of the specific curricular elements responsible for the observed effects. The null findings from the Version A / Version B comparison suggest that additional journaling is not independently sufficient; however, identifying which components are necessary, which are sufficient, and which are dispensable will require component-dismantling studies.

Fourth, the 18-year longitudinal benchmark derived from Lilgendahl et al. (2013) reflects a sample of predominantly White, college-educated women. Further longitudinal research establishing natural developmental baselines across more diverse demographic groups would strengthen the external validity of comparisons between intervention-produced and naturally occurring ego stage change.

Finally, the present analysis is restricted to the quantitative outcomes captured by the WUSCT. Intervention subjects also provided qualitative feedback indicating that many experienced the course as personally transformative, alongside end-of-semester evaluations among the highest at the institution. These phenomenological data — which speak to how learners experienced the intervention rather than what the instrument detected of its structural effect — fell outside the scope of the present analysis but represent a natural direction for subsequent research, particularly into how learners' subjective experience of developmental change relates to measured stage transition.

Conclusion

The findings reported here suggest that the mechanisms Manners and Durkin (2000) identified as underlying adult ego stage transition can be operationalized in an online environment, and that they can produce significant ego stage growth among adults who have not selected themselves for exclusively developmental programs. The E5-to-E6 transition demonstrated by Manners et al. (2004) was replicated in this substantially different delivery context, and significant E6-to-E7 growth was observed relative to a control group, extending

Vincent et al.'s (2015) demonstration to a second delivery format. These findings do not establish that online delivery is equivalent to face-to-face delivery — a question that would require a head-to-head comparison with matched samples — but they do establish that online delivery is sufficient to produce measurable stage growth across two distinct pretest stages, in a conventionally recruited academic population. The practical implication is that deliberate ego development promotion may be feasible at scales substantially beyond those at which it has previously been demonstrated.

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