

Journal of

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“Why Developmental Science?”

THIS ISSUE

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The *Journal of Developmental Science* (JDS) is a peer-reviewed, open-access scholarly journal dedicated to advancing rigorous interdisciplinary research on human development across the lifespan. JDS publishes original theoretical and empirical work that addresses the processes, conditions, and contexts through which individuals grow, learn, and transform — with particular attention to adult development, leadership, organizational contexts, and the intersection of developmental science with practice.

JDS welcomes contributions from developmental psychology, organizational science, leadership studies, neuroscience, education, philosophy of mind, and related disciplines. The journal is committed to methodological pluralism: quantitative, qualitative, mixed-methods, and theoretical papers are equally valued, provided they meet the highest standards of scholarly rigor.

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About the Journal

The Journal of Developmental Science publishes original research, theoretical contributions, and critical reviews advancing the scientific understanding of human development across the lifespan. The journal bridges developmental psychology, neuroscience, education, and organizational science.

We welcome empirical studies, systematic reviews, meta-analyses, and theoretical papers addressing developmental processes from infancy through late adulthood. Special emphasis is placed on interdisciplinary approaches that integrate biological, psychological, social, and cultural perspectives.

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EDITORIAL

Why Developmental Science? The Case for an Integrative Science of Human Becoming

Fredah Mainah, PhD

Founder & Editor-in-Chief, Journal of Developmental Science · SPIRAL With Fredah LLC

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ABSTRACT

This editorial introduces the Journal of Developmental Science and makes the case for Developmental Science as a distinct, integrative discipline. The author argues that the fragmentation of human development research across psychology, neuroscience, education, and organizational science has created a gap — a gap that Developmental Science is uniquely positioned to fill. Drawing on the SPIRAL framework and the author's lived experience as a transformation leader, this editorial articulates the intellectual foundations, disciplinary boundaries, and scholarly ambitions of the new journal.

KEYWORDS

developmental science · human development · integrative discipline · SPIRAL framework · lifespan development

Why Now?

The question that animates this journal is deceptively simple: *Why do some people keep growing while others plateau?* Why do organizations that once thrived calcify into rigidity? Why do leaders who built extraordinary things become the primary obstacle to their own next chapter?

These are not merely practical questions. They are scientific questions — questions that demand the rigor of theory, the discipline of evidence, and the humility of genuine inquiry. They are the questions that Developmental Science exists to answer.

We launch this journal at a moment of unusual urgency. The world is changing faster than most of its institutions can adapt. Leaders are making consequential decisions under conditions of complexity that exceed their current developmental capacity. Organizations are discovering that the strategies that produced yesterday's success are actively producing tomorrow's failure. And individuals — founders, executives, educators, parents — are experiencing forms of depletion and disorientation that existing frameworks inadequately explain.

The field of developmental psychology has given us extraordinary tools for understanding the first two decades of human life. The field of adult development has extended this work into midlife and beyond. Organizational science has mapped the terrain of institutional behavior. Leadership studies have catalogued the competencies associated with effectiveness. But these fields rarely speak to one another with the depth and precision that the problems of our time demand.

Developmental Science, as we conceive it, is the integrative discipline that holds these conversations together.

What Is Developmental Science?

Developmental Science is the systematic study of the processes, conditions, and contexts through which human beings grow, learn, and transform across the lifespan. It is distinguished from adjacent fields not by its subject matter alone — human development is everyone's subject — but by its integrative ambition, its lifespan scope, and its commitment to understanding development as a dynamic, recursive, and context-dependent process.

Where developmental psychology has historically focused on childhood and adolescence, Developmental Science insists on the full arc of human life. Where organizational science has focused on behavior and performance, Developmental Science asks what developmental conditions make sustained performance possible. Where leadership studies have catalogued competencies, Developmental Science asks how those competencies are acquired, deepened, and sometimes lost.

The discipline draws on developmental psychology, cognitive neuroscience, educational science, organizational behavior, complexity theory, and the emerging science of adult development. It is empirical without being reductionist, theoretical without being abstract, and practical without being prescriptive.

The SPIRAL Framework as a Developmental Lens

The SPIRAL framework — Self-observation, Perspective-taking, Integration, Reflection, Action, and Learning — emerged from years of work with founders, executives, and organizational leaders navigating high-stakes developmental transitions. It is not a self-help model. It is a theoretical framework for understanding how human beings move through developmental cycles: how they encounter the limits of their current way of making meaning, how they metabolize that encounter, and how they reorganize at a higher level of complexity.

The framework is introduced in full in the theoretical article that follows this editorial. What matters here is its role as a unifying lens for the journal. JDS does not privilege any single theoretical tradition. We welcome empirical studies, systematic reviews, meta-analyses, conceptual papers, and theoretical contributions. But we are particularly interested in work that illuminates the mechanisms of human development — the processes by which people become more capable, more coherent, and more fully themselves.

An Invitation

This journal is an act of institutional faith. We believe that Developmental Science is a discipline whose time has come — that the fragmented insights of adjacent fields are ready to be synthesized into something more coherent, more powerful, and more useful. We believe that the questions this discipline addresses are among the most important questions of our time.

We invite scholars, researchers, practitioners, and thinkers from every relevant field to join us in building this discipline. Submit your research. Challenge our frameworks. Propose new constructs. Bring the full weight of your expertise to bear on the questions that matter most.

The science of human becoming begins here.

Fredah Mainah, PhD
Founder & Editor-in-Chief
Journal of Developmental Science
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FURTHER READING

Works for further study on the themes of this article.

- Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology*, 23(5), 611-626. <https://doi.org/10.1037/0012-1649.23.5.611>
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32(7), 513-531. <https://doi.org/10.1037/0003-066X.32.7.513>
- Bronfenbrenner, U., & Morris, P. A. (2007). The bioecological model of human development. In *Handbook of Child Psychology*. <https://doi.org/10.1002/9780470147658.chpsy0114>
- Cairns, R. B. (1992). The making of a developmental science: The contributions and intellectual heritage of James Mark Baldwin. *Developmental Psychology*, 28(1), 17-24. <https://doi.org/10.1037/0012-1649.28.1.17>
- Gottlieb, G. (2005). Probabilistic epigenesis of development. In *Handbook of Developmental Psychology* (pp. 3-17). <https://doi.org/10.4135/9781848608306.n1>
- Magnusson, D., & Cairns, R. B. (1996). Developmental science: Toward a unified framework. In *Developmental Science* (pp. 7-30). <https://doi.org/10.1017/CBO9780511571114.003>
- Overton, W. F. (2013). A new paradigm for developmental science: Relationism and relational-developmental systems. *Applied Developmental Science*, 17(2), 94-107. <https://doi.org/10.1080/10888691.2013.778717>
- Sameroff, A. (2010). A unified theory of development: A dialectic integration of nature and nurture. *Child Development*, 81(1), 6-22. <https://doi.org/10.1111/j.1467-8624.2009.01378.x>

THEORETICAL ARTICLE

Toward a Definition of Developmental Science

Fredah Mainah, PhD

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ABSTRACT

This article proposes a formal definition of Developmental Science as an integrative, lifespan-oriented discipline dedicated to understanding the processes, conditions, and contexts of human growth and transformation. The author reviews existing definitions from adjacent fields, identifies the conceptual gaps that motivate a new disciplinary formation, and proposes a set of defining characteristics that distinguish Developmental Science from developmental psychology, organizational science, and related fields. The article concludes with a discussion of the methodological implications of this definition and a call for the development of discipline-specific constructs, methods, and theoretical frameworks.

KEYWORDS

developmental science · definition · discipline formation · human development · lifespan · integrative science

Introduction

Every discipline begins with a definition — or, more precisely, with the recognition that existing definitions are inadequate. Developmental Science emerges from exactly this recognition: that the fragmented landscape of human development research, distributed across psychology, neuroscience, education, and organizational science, has left a conceptual gap that no existing discipline fully occupies.

This article attempts to fill that gap by proposing a formal definition of Developmental Science. The definition is not merely taxonomic. It carries methodological, theoretical, and institutional implications that will shape the kind of research this journal publishes, the kind of scholars it attracts, and the kind of knowledge it produces.

Existing Definitions and Their Limits

The term “developmental science” has been used in the literature in at least three distinct ways. First, as a synonym for developmental psychology — the scientific study of psychological change across the lifespan. Second, as a broader umbrella term encompassing developmental psychology, developmental neuroscience, and developmental psychobiology. Third, as a programmatic label for interdisciplinary research that crosses traditional disciplinary boundaries.

Each of these usages captures something important, but none is adequate to the ambition of the present project. The first is too narrow: it excludes the organizational, educational, and social dimensions of human development that are central to our concerns. The second is more inclusive but remains anchored in the biological and psychological sciences in ways that exclude the social, cultural, and institutional dimensions of development. The third is too vague: “interdisciplinary” is a description of method, not of subject matter or theoretical commitment.

A Proposed Definition

We propose the following definition:

Developmental Science is the systematic, integrative study of the processes, conditions, and contexts through which human beings grow, learn, and transform across the lifespan, with particular attention to the mechanisms of developmental change, the conditions that support or impede development, and the implications of developmental understanding for human flourishing in personal, organizational, and social contexts.

This definition has five key components. First, it is *systematic*: Developmental Science is a scientific enterprise, committed to rigorous inquiry, theoretical coherence, and empirical accountability. Second, it is *integrative*: it draws on multiple disciplines without being reducible to any of them. Third, it is *lifespan-oriented*: it takes the full arc of human life as its scope, refusing the artificial boundary between childhood development and adult development. Fourth, it is *mechanism-focused*: it is not satisfied with describing developmental outcomes but seeks to understand the processes that produce them. Fifth, it is *practice-oriented*: it takes seriously the implications of developmental knowledge for how people live, lead, and organize.

Distinguishing Characteristics

Several characteristics distinguish Developmental Science from adjacent fields.

Lifespan Scope

Unlike developmental psychology, which has historically concentrated on the first two decades of life, Developmental Science insists on the full lifespan. This is not merely a matter of scope. It reflects a theoretical commitment: that development does not end at adulthood, that the mechanisms of developmental change operate throughout life, and that some of the most consequential developmental processes occur in midlife and beyond.

Integrative Ambition

Developmental Science is not merely multidisciplinary — it does not simply juxtapose findings from different fields. It is integrative: it seeks theoretical frameworks that can hold together insights from psychology, neuroscience, education, organizational science, and other fields in a coherent, mutually illuminating synthesis.

Developmental Primacy

In Developmental Science, development is not a background condition or a moderating variable. It is the primary object of inquiry. This distinguishes the discipline from organizational science, which studies organizations and treats development as one variable among many, and from leadership studies, which studies leadership effectiveness and treats development as a pathway to that effectiveness.

Methodological Implications

A discipline defined by integrative ambition and lifespan scope requires a correspondingly pluralistic methodology. Developmental Science welcomes quantitative longitudinal studies, qualitative case studies, mixed-methods designs, theoretical papers, systematic reviews, and meta-analyses. It is committed to methodological rigor without methodological dogmatism.

Conclusion

The definition proposed here is necessarily provisional. Disciplines are not defined by fiat but by the accumulation of research, the development of shared frameworks, and the gradual emergence of disciplinary consensus. This article is an opening move in that longer process — an invitation to the scholarly community to engage with, challenge, and refine the definition of a discipline whose time has come.

FURTHER READING

Works for further study on the themes of this article.

- Lerner, R. M. (2007). Developmental science, developmental systems, and contemporary theories of human development. In *Handbook of Child Psychology*. <https://doi.org/10.1002/9780470147658.chpsy0101>
- Lerner, R. M., & Castellino, D. R. (2002). Contemporary developmental theory and adolescence: Developmental systems and applied developmental science. *Journal of Adolescent Health, 31*(6), 122-135. [https://doi.org/10.1016/S1054-139X\(02\)00495-0](https://doi.org/10.1016/S1054-139X(02)00495-0)
- Overton, W. F. (2007). A coherent metatheory for dynamic systems: Relational organicism-contextualism. *Human Development, 50*(2-3), 154-159. <https://doi.org/10.1159/000100944>
- Overton, W. F. (2015). Processes, relations, and relational-developmental-systems. In *Handbook of Child Psychology and Developmental Science* (pp. 1-54). <https://doi.org/10.1002/9781118963418.childpsy102>
- Overton, W. F., & Lerner, R. M. (2012). Relational developmental systems: A paradigm for developmental science in the postgenomic era. *Behavioral and Brain Sciences, 35*(5), 375-376. <https://doi.org/10.1017/S0140525X12001082>
- Wang, J., Batanova, M., Ferris, K. A., et al. (2016). Character development within the relational developmental systems metatheory: A view of the issues. *Research in Human Development, 13*(2), 91-96. <https://doi.org/10.1080/15427609.2016.1165932>
- Witherington, D. C. (2007). The dynamic systems approach as metatheory for developmental psychology. *Human Development, 50*(2-3), 127-153. <https://doi.org/10.1159/000100943>

CONCEPTUAL ARTICLE

Human Coherence: A Proposed Integrative Construct

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ABSTRACT

Drawing on forty years of somatic practice and the Touchology™ Framework, this article introduces Human Coherence as a proposed integrative construct for Developmental Science. Human Coherence is defined as the dynamic alignment of an individual's values, beliefs, behaviors, and relational patterns into a functionally integrated whole that supports sustained development and effective action. The construct is distinguished from related concepts including psychological integration, self-consistency, and organizational alignment. The author proposes a multi-dimensional model of Human Coherence, identifies its developmental antecedents and consequences, and outlines a research agenda for empirical investigation of the construct.

KEYWORDS

human coherence · integrative construct · psychological integration · organizational alignment · developmental science · self-coherence

Introduction

One of the most consistent findings in the study of human development is that people who function well — who sustain growth, navigate complexity, and maintain effectiveness under pressure — share a quality that is difficult to name precisely but easy to recognize. They seem, in some fundamental sense, *together*. Their values and their behaviors align. Their stated commitments and their actual choices cohere. Their inner life and their outer life are not at war.

We propose to call this quality Human Coherence. It is not a new observation — versions of it appear in the literature on psychological integration, self-consistency, authenticity, and organizational alignment. But it has not, to our knowledge, been proposed as a formal construct with a precise definition, a multi-dimensional model, and a research agenda. This article attempts that work.

Defining Human Coherence

Human Coherence is the dynamic alignment of an individual's values, beliefs, behaviors, and relational patterns into a functionally integrated whole that supports sustained development and effective action.

Several features of this definition deserve emphasis. First, coherence is *dynamic*, not static. It is not a fixed state but an ongoing achievement — something that must be actively maintained and periodically reconstructed as circumstances change and development proceeds. Second, coherence is *multi-dimensional*: it involves alignment across values, beliefs, behaviors, and relationships. Partial coherence — alignment in some dimensions but not others — is possible and common. Third, coherence is *functional*: it is defined by its consequences for development and action, not by its phenomenological qualities alone.

Dimensions of Human Coherence

We propose a four-dimensional model of Human Coherence.

Value Coherence

Value coherence refers to the internal consistency of an individual's value system — the degree to which their values form a coherent hierarchy rather than a collection of competing commitments. High value coherence does not mean having few values or simple values; it means having a value system that can generate consistent guidance across diverse situations.

Belief-Behavior Coherence

Belief-behavior coherence refers to the alignment between what a person believes and how they act. This is the dimension most commonly associated with authenticity and integrity in the popular literature. Research on cognitive dissonance and moral disengagement has documented the many mechanisms by which people maintain belief-behavior incoherence without experiencing it as such.

Temporal Coherence

Temporal coherence refers to the continuity of identity across time — the degree to which a person's past, present, and anticipated future self form a coherent narrative. This dimension connects Human Coherence to the literature on narrative identity and autobiographical memory.

Relational Coherence

Relational coherence refers to the consistency of an individual's relational patterns — the degree to which they relate to others in ways that are consistent with their values and beliefs. Relational incoherence — treating different people according to different, incompatible principles — is a common source of interpersonal conflict and organizational dysfunction.

Human Coherence and Development

Human Coherence is both a product and a condition of development. Higher developmental stages, as described in the adult development literature, are associated with greater capacity for coherence: the ability to hold more complexity, to integrate more perspectives, and to maintain alignment across more dimensions and more challenging circumstances.

At the same time, coherence is a condition for development. The developmental transitions described in the literature — from one stage to the next — require a period of incoherence: the old coherence breaks down before a new one is established. The capacity to tolerate and metabolize this transitional incoherence is itself a developmental achievement.

Research Agenda

The construct of Human Coherence generates a rich research agenda. Key questions include: What are the developmental antecedents of high coherence? What are the consequences of coherence and incoherence for health, performance, and relationships? How does coherence change across the lifespan? What interventions support the development of coherence? How does organizational context affect individual coherence?

Conclusion

Human Coherence is proposed here as a construct that can serve as an integrative hub for Developmental Science — a concept that connects insights from developmental psychology, organizational science, leadership studies, and the science of human flourishing. We invite empirical and theoretical engagement with this construct from scholars across the relevant disciplines.

FURTHER READING

Works for further study on the themes of this article.

Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Social Science & Medicine*, 36(6), 725-733. [https://doi.org/10.1016/0277-9536\(93\)90033-Z](https://doi.org/10.1016/0277-9536(93)90033-Z)

Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health Promotion International*, 11(1), 11-18. <https://doi.org/10.1093/heapro/11.1.11>

Campbell, J. D., Trapnell, P. D., Heine, S. J., et al. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, 70(1), 141-156. <https://doi.org/10.1037/0022-3514.70.1.141>

Eriksson, M., & Lindström, B. (2005). Validity of Antonovsky's sense of coherence scale: A systematic review. *Journal of Epidemiology and Community Health*, 59(6), 460-466. <https://doi.org/10.1136/jech.2003.018085>

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, 94(3), 319-340. <https://doi.org/10.1037/0033-295X.94.3.319>

Linville, P. W. (1985). Self-complexity and affective extremity: Don't put all of your eggs in one cognitive basket. *Social Cognition*, 3(1), 94-120. <https://doi.org/10.1521/soco.1985.3.1.94>

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081. <https://doi.org/10.1037/0022-3514.57.6.1069>

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. <https://doi.org/10.1037/0003-066X.55.1.68>

THEORETICAL ARTICLE

The SPIRAL Framework as a Model of Reflective Human Development

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ABSTRACT

This article presents the SPIRAL framework as a theoretical model of reflective human development. SPIRAL — an acronym for Self-observation, Perspective-taking, Integration, Reflection, Action, and Learning — is proposed as a recursive developmental cycle through which individuals move from unreflective functioning to increasingly sophisticated self-directed development. The article situates the framework within the existing literature on adult development, metacognition, and transformative learning, identifies its distinctive contributions, and outlines its implications for developmental practice in organizational and educational contexts.

KEYWORDS

SPIRAL framework · reflective development · self-observation · metacognition · adult development · developmental model

Introduction

The SPIRAL framework emerged from a practical problem: how to help leaders, founders, and high-potential individuals navigate the developmental transitions that determine whether they grow or plateau, whether they build sustainable organizations or create future collapse while succeeding today.

The framework is not a self-help model. It is a theoretical account of the recursive developmental cycle through which human beings move from unreflective functioning — doing what they have always done, in the ways they

have always done it — to increasingly sophisticated self-directed development. It draws on the adult development literature, on the science of metacognition, and on the transformative learning tradition, while making distinctive contributions that none of these traditions fully captures.

The Six Dimensions of SPIRAL

Self-Observation

Self-observation is the foundational capacity of the SPIRAL cycle. It refers to the ability to observe one's own mental processes, emotional states, behavioral patterns, and relational dynamics from a position of relative detachment — to be, as it were, a witness to one's own functioning.

Self-observation is not the same as self-awareness in the popular sense. It is a specific cognitive capacity: the ability to hold one's own experience as an object of attention rather than being fully identified with it. This capacity is the prerequisite for all subsequent developmental work.

Perspective-Taking

Perspective-taking refers to the capacity to understand one's own experience from multiple vantage points — to see oneself as others see one, to understand the systemic contexts that shape one's behavior, and to hold multiple, sometimes contradictory perspectives simultaneously.

In the SPIRAL framework, perspective-taking is not merely an empathic capacity. It is a developmental achievement: the ability to step outside one's current frame of reference and see it as a frame — as one way of making meaning among many possible ways.

Integration

Integration refers to the capacity to bring together previously fragmented or contradictory elements of one's experience into a more coherent whole. This is the dimension most closely associated with what the adult development literature calls “stage transition” — the reorganization of one's meaning-making system at a higher level of complexity.

Integration is not the resolution of contradiction. It is the capacity to hold contradiction — to maintain the tension between opposing elements without collapsing it prematurely into a false synthesis.

Reflection

Reflection in the SPIRAL framework refers to the deliberate, structured process of making meaning from experience. It is distinguished from rumination (which is repetitive and unproductive) and from simple review (which is descriptive rather than interpretive). Genuine reflection produces new understanding — it changes the reflector's relationship to their experience.

Action

Action refers to the translation of developmental insight into changed behavior. This is the dimension most often neglected in developmental frameworks, which tend to emphasize inner transformation at the expense of behavioral change. In the SPIRAL framework, action is not the endpoint of development but a new beginning: changed behavior generates new experience, which becomes the material for the next cycle of self-observation.

Learning

Learning in the SPIRAL framework refers to the consolidation of developmental gains — the incorporation of new capacities, new perspectives, and new behavioral patterns into one's ongoing functioning. It is the dimension that makes development cumulative rather than episodic.

The SPIRAL Cycle

The six dimensions of SPIRAL are not sequential steps but recursive elements of a developmental cycle. The cycle begins with self-observation — the noticing of something that does not fit, something that creates friction or discomfort or curiosity. It moves through perspective-taking and integration to a moment of genuine reflection, which generates the insight that motivates changed action. The action produces new experience, which becomes the material for a new cycle of self-observation at a higher level of complexity.

This recursive structure is what makes the SPIRAL framework a model of development rather than merely a model of learning. Each cycle does not simply add new knowledge; it reorganizes the structure through which knowledge is processed.

Situating SPIRAL in the Literature

The SPIRAL framework is indebted to several theoretical traditions. From Kegan's constructive-developmental theory, it takes the concept of development as the progressive expansion of subject-object relations — the ability to hold as object what was previously subject. From Mezirow's transformative learning theory, it takes the concept of perspective transformation as the mechanism of adult development. From the metacognition literature, it takes the concept of self-observation as a trainable cognitive capacity.

The framework's distinctive contribution is its account of the recursive cycle — the way in which action generates the material for the next developmental cycle — and its attention to the organizational and leadership contexts in which development occurs.

Implications for Practice

The SPIRAL framework has direct implications for developmental practice in organizational and educational contexts. It suggests that developmental interventions should focus on building the capacity for self-observation rather than simply transmitting knowledge or skills. It suggests that the most powerful developmental experiences are those that create productive discomfort — that challenge people's current meaning-making structures without overwhelming them. And it suggests that development requires not just reflection but action: the willingness to behave differently on the basis of new understanding.

Conclusion

The SPIRAL framework is offered here as a contribution to the theoretical foundations of Developmental Science — a model that can guide both research and practice in the study of human development across the lifespan. We invite empirical investigation, theoretical critique, and practical application of the framework.

FURTHER READING

Works for further study on the themes of this article.

- Baltes, P. B., & Staudinger, U. M. (2000). Wisdom: A metaheuristic (pragmatic) to orchestrate mind and virtue toward excellence. *American Psychologist*, 55(1), 122-136. <https://doi.org/10.1037/0003-066X.55.1.122>
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113-126. <https://doi.org/10.1037/0022-3514.44.1.113>
- Day, D. V. (2000). Leadership development: A review in context. *The Leadership Quarterly*, 11(4), 581-613. [https://doi.org/10.1016/S1048-9843\(00\)00061-8](https://doi.org/10.1016/S1048-9843(00)00061-8)
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34(10), 906-911. <https://doi.org/10.1037/0003-066X.34.10.906>
- Grant, A. M., Franklin, J., & Langford, P. (2002). The Self-Reflection and Insight Scale: A new measure of private self-consciousness. *Social Behavior and Personality*, 30(8), 821-835. <https://doi.org/10.2224/sbp.2002.30.8.821>
- Mann, K., Gordon, J., & MacLeod, A. (2009). Reflection and reflective practice in health professions education: A systematic review. *Advances in Health Sciences Education*, 14(4), 595-621. <https://doi.org/10.1007/s10459-007-9090-2>
- Manz, C. C. (1986). Self-leadership: Toward an expanded theory of self-influence processes in organizations. *Academy of Management Review*, 11(3), 585-600. <https://doi.org/10.5465/amr.1986.4306232>
- Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: Distinguishing rumination from reflection. *Journal of Personality and Social Psychology*, 76(2), 284-304. <https://doi.org/10.1037/0022-3514.76.2.284>

CONCEPTUAL ARTICLE

Developmental Intelligence: Toward a New Construct

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ABSTRACT

Grounded in the Misfit's Revival Framework and more than a decade of mentoring 400+ young men and women across four continents, this article proposes Developmental Intelligence (DI) as a new construct for Developmental Science. Developmental Intelligence is defined as the capacity to recognize, navigate, and leverage developmental transitions — one's own and others' — in service of sustained growth and effective action. The construct is distinguished from related concepts including emotional intelligence, social intelligence, and cognitive complexity. The author proposes a three-component model of Developmental Intelligence, reviews relevant empirical literature, and outlines a research agenda for the systematic investigation of the construct and its implications for leadership, education, and organizational development.

KEYWORDS

developmental intelligence · adult development · metacognition · leadership capacity · developmental capacity · construct development

Introduction

The intelligence literature has given us a rich vocabulary for describing human cognitive capacity: general intelligence, emotional intelligence, social intelligence, practical intelligence, cultural intelligence. Each of these constructs has illuminated a dimension of human functioning that was previously underspecified.

We propose to add to this vocabulary: Developmental Intelligence — the capacity to recognize, navigate, and leverage developmental transitions in service of sustained growth and effective action.

The construct is motivated by a practical observation: some people seem to be better at developing than others. Not smarter, not more emotionally sophisticated, not more socially skilled — but better at the specific process of developmental change. They recognize when they are at a developmental threshold. They can tolerate the discomfort of transition without collapsing it prematurely. They know how to use experience as developmental material. And they can support others through developmental transitions with skill and sensitivity.

This capacity — whatever it is — has enormous practical consequences. Leaders with high Developmental Intelligence build organizations that can adapt and grow. Educators with high Developmental Intelligence create learning environments that support genuine transformation. Coaches and therapists with high Developmental Intelligence facilitate developmental change rather than merely managing symptoms.

Defining Developmental Intelligence

Developmental Intelligence is the capacity to recognize, navigate, and leverage developmental transitions — one's own and others' — in service of sustained growth and effective action.

Three elements of this definition require elaboration. First, DI involves *recognition*: the ability to identify developmental transitions when they are occurring, to distinguish developmental challenges from technical problems, and to understand the developmental significance of one's own and others' experience. Second, DI involves *navigation*: the ability to move through developmental transitions productively — to tolerate the discomfort of transitional incoherence, to resist the pull toward premature closure, and to maintain developmental momentum under pressure. Third, DI involves *leverage*: the ability to use developmental transitions as opportunities for growth rather than merely surviving them.

A Three-Component Model

We propose that Developmental Intelligence has three components.

Developmental Awareness

Developmental Awareness is the cognitive component of DI: the ability to recognize developmental processes when they are occurring, to understand the structure of developmental transitions, and to situate one's own and others' experience within a developmental framework. It includes knowledge of developmental theory, but it is more than knowledge: it is the ability to apply that knowledge in the real-time complexity of lived experience.

Developmental Tolerance

Developmental Tolerance is the affective-regulatory component of DI: the ability to tolerate the anxiety, confusion, and disorientation that accompany developmental transitions without collapsing into defensive rigidity or premature closure. It is related to, but distinct from, general affect regulation: it is specifically the capacity to tolerate the particular quality of developmental discomfort — the experience of not-knowing that precedes genuine developmental reorganization.

Developmental Agency

Developmental Agency is the behavioral component of DI: the ability to act in ways that support developmental progress — one's own and others'. It includes the ability to create developmental challenges for oneself, to seek

out experiences that stretch one's current developmental capacity, and to support others through developmental transitions with appropriate challenge and support.

Distinguishing DI from Related Constructs

Developmental Intelligence is related to, but distinct from, several established constructs.

Emotional Intelligence (EI) refers to the ability to recognize, understand, and manage emotions. DI shares with EI an emphasis on self-awareness and the regulation of internal states, but its focus is specifically developmental: it is concerned with the emotions associated with developmental transitions, not with emotion in general.

Cognitive Complexity refers to the structural complexity of an individual's meaning-making system — the number of dimensions they can differentiate and integrate. DI is related to cognitive complexity but is not identical to it: a person can have high cognitive complexity without having the specific capacities — developmental awareness, tolerance, and agency — that constitute DI.

Research Agenda

The construct of Developmental Intelligence generates a rich research agenda. Key questions include: Can DI be reliably measured? What are its developmental antecedents? What are its consequences for leadership effectiveness, organizational performance, and personal well-being? Can DI be developed through training or intervention? How does DI interact with other forms of intelligence?

Conclusion

Developmental Intelligence is proposed here as a construct that can bridge the gap between developmental theory and developmental practice — a concept that makes the insights of adult developmental science actionable in the contexts where they matter most. We invite empirical and theoretical engagement with this construct from scholars across the relevant disciplines.

FURTHER READING

Works for further study on the themes of this article.

- Day, D. V., Fleenor, J. W., Atwater, L. E., et al. (2014). Advances in leader and leadership development: A review of 25 years of research and theory. *The Leadership Quarterly*, 25(1), 63-82. <https://doi.org/10.1016/j.leaqua.2013.11.004>
- Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100(3), 363-406. <https://doi.org/10.1037/0033-295X.100.3.363>
- King, P. M., & Kitchener, K. S. (2004). Reflective judgment: Theory and research on the development of epistemic assumptions through adulthood. *Educational Psychologist*, 39(1), 5-18. https://doi.org/10.1207/s15326985ep3901_2
- Kuhn, D. (2000). Metacognitive development. *Current Directions in Psychological Science*, 9(5), 178-181. <https://doi.org/10.1111/1467-8721.00088>
- Mayer, J. D., Caruso, D. R., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 27(4), 267-298. [https://doi.org/10.1016/S0160-2896\(99\)00016-1](https://doi.org/10.1016/S0160-2896(99)00016-1)
- Sternberg, R. J. (1999). The theory of successful intelligence. *Review of General Psychology*, 3(4), 292-316. <https://doi.org/10.1037/1089-2680.3.4.292>
- Suedfeld, P., & Tetlock, P. E. (1977). Integrative complexity of communications in international crises. *Journal of Conflict Resolution*, 21(1), 169-184. <https://doi.org/10.1177/002200277702100108>
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, 41(2), 64-70. https://doi.org/10.1207/s15430421tip4102_2

PROGRAMMATIC ARTICLE

A Research Agenda for Developmental Science

Esther Andrew, PhD

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ABSTRACT

Drawing on community-based practice with homeless and at-risk youth through the Circles of Safety and Catch Them Before They Fall programs, this article proposes a research agenda for the emerging discipline of Developmental Science. The author identifies five priority research areas: the mechanisms of developmental change, the conditions that support or impede development, the measurement of developmental constructs, the application of developmental science in organizational and educational contexts, and the development of integrative theoretical frameworks. For each area, the article identifies key questions, methodological approaches, and the existing literature on which new research can build.

KEYWORDS

research agenda · developmental science · future directions · methodology · construct development · interdisciplinary research

Introduction

A new discipline requires not only theoretical foundations but a research agenda — a map of the questions that most urgently need answering, the methods best suited to answering them, and the existing knowledge on which new research can build. This article proposes such an agenda for Developmental Science.

The agenda is necessarily provisional. It reflects the theoretical commitments articulated in this inaugural issue, the current state of the adjacent disciplines on which Developmental Science draws, and the practical concerns that

motivate the discipline's formation. It will evolve as the discipline develops, as new findings emerge, and as new scholars bring new perspectives to the enterprise.

Priority Area 1: Mechanisms of Developmental Change

The most fundamental question in Developmental Science is: *How does development happen?* What are the mechanisms — cognitive, affective, neurological, social — through which human beings move from one developmental level to the next?

The adult development literature has described the structure of developmental stages with considerable precision. What it has not fully explained is the process of stage transition: what triggers it, what sustains it, and what makes it more or less likely to succeed. This is the central mechanistic question for Developmental Science.

Key research questions include: What cognitive and affective processes are involved in developmental stage transitions? What role does self-observation play in facilitating developmental change? How do social and organizational contexts support or impede developmental transitions? What is the neurological substrate of adult developmental change?

Priority Area 2: Conditions for Development

The second priority area concerns the conditions — personal, relational, organizational, and cultural — that support or impede development. This is the applied dimension of the mechanistic question: if we understand how development happens, we need to understand what makes it more or less likely to happen.

Key research questions include: What personal characteristics predict developmental growth? What relational conditions — in families, teams, and organizations — support development? What organizational structures and cultures create developmental environments? What cultural factors facilitate or impede development? How do adversity and challenge function as developmental catalysts?

Priority Area 3: Measurement

A discipline cannot advance without measurement. One of the most pressing needs in Developmental Science is the development of reliable, valid measures of the key constructs introduced in this inaugural issue: Human Coherence, Developmental Intelligence, and the dimensions of the SPIRAL framework.

Key research questions include: How can Human Coherence be reliably measured across its four dimensions? What does a valid measure of Developmental Intelligence look like? How can the SPIRAL framework be operationalized for empirical research? What are the psychometric properties of existing developmental measures, and how can they be improved?

Priority Area 4: Applications

Developmental Science is a practice-oriented discipline. Its findings should be applicable in the contexts where human development matters most: organizational leadership, education, coaching, therapy, and policy.

Key research questions include: What developmental interventions are most effective in organizational contexts? How can educational systems be redesigned to support developmental growth? What does developmentally informed

coaching look like, and how effective is it? What policy conditions support developmental flourishing at the population level?

Priority Area 5: Integrative Theory

The fifth priority area is the development of integrative theoretical frameworks that can hold together the insights of the adjacent disciplines on which Developmental Science draws. The constructs introduced in this inaugural issue — Human Coherence, Developmental Intelligence, the SPIRAL framework — are first steps in this direction. But the discipline needs more: theoretical frameworks that can account for the full complexity of human development across the lifespan, in all its biological, psychological, social, and cultural dimensions.

Methodological Considerations

A research agenda for Developmental Science must be methodologically pluralistic. The questions the discipline addresses require a range of methods: longitudinal quantitative studies to track developmental change over time; qualitative studies to illuminate the lived experience of developmental transitions; mixed-methods designs to integrate quantitative and qualitative insights; theoretical papers to develop and refine conceptual frameworks; and systematic reviews and meta-analyses to synthesize existing knowledge.

Conclusion

The research agenda proposed here is an invitation, not a prescription. Developmental Science will be built by the scholars who choose to work within it — by the questions they ask, the methods they use, and the findings they produce. The Journal of Developmental Science is committed to publishing the best of that work, wherever it comes from and whatever form it takes.

FURTHER READING

Works for further study on the themes of this article.

Chambers, C. D. (2013). Registered Reports: A new publishing initiative at Cortex. *Cortex*, 49(3), 609-610. <https://doi.org/10.1016/j.cortex.2012.12.016>

Curran, P. J., Obeidat, K., & Losardo, D. (2010). Twelve frequently asked questions about growth curve modeling. *Journal of Cognition and Development*, 11(2), 121-136. <https://doi.org/10.1080/15248371003699969>

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26. <https://doi.org/10.3102/0013189X033007014>

Nosek, B. A., Ebersole, C. R., DeHaven, A. C., et al. (2018). The preregistration revolution. *Proceedings of the National Academy of Sciences*, 115(11), 2600-2606. <https://doi.org/10.1073/pnas.1708274114>

Open Science Collaboration (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), aac4716. <https://doi.org/10.1126/science.aac4716>

Putnick, D. L., & Bornstein, M. H. (2016). Measurement invariance conventions and reporting: The state of the art and future directions for psychological research. *Developmental Review*, 41, 71-90. <https://doi.org/10.1016/j.dr.2016.06.004>

Simons, D. J., Shoda, Y., & Lindsay, D. S. (2017). Constraints on Generality (COG): A proposed addition to all empirical papers. *Perspectives on Psychological Science*, 12(6), 1123-1128. <https://doi.org/10.1177/1745691617708630>

FOUNDER'S REFLECTION

On Beginning: A Founder's Reflection

Fredah Mainah, PhD

Founder & Publisher, SPIRAL Academic Press · SPIRAL With Fredah LLC

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ABSTRACT

In this reflection, the founder of SPIRAL Academic Press and the Journal of Developmental Science reflects on the origins, motivations, and aspirations that gave rise to this publishing venture. The reflection is offered not as autobiography but as a contribution to the intellectual history of the discipline — an account of the lived experience that made the founding of this journal not merely possible but necessary.

KEYWORDS

founder's reflection · institutional founding · developmental science · scholarly publishing · SPIRAL with Fredah

Why I Built This

There is a question I have been asked more times than I can count, by leaders who have built extraordinary things and found themselves, inexplicably, unable to move forward. The question takes many forms: *Why do I keep making the same mistakes? Why does my organization keep producing the same problems? Why do I feel more lost now than I did when I had nothing?*

These questions are not failures of intelligence or effort. They are developmental questions — questions that arise at the edges of one's current capacity to make meaning of the world. And they are questions that existing frameworks, for all their sophistication, do not fully answer.

I built SPIRAL With Fredah LLC because I believed that the work of human development — the real work, the inner work, the work of becoming more fully oneself — deserved a rigorous, evidence-based framework. I built

SPIRAL Academic Press because I believed that framework deserved a scholarly home: a place where it could be tested, challenged, refined, and extended by the best minds working on these questions.

What I Have Learned

The most important thing I have learned in years of working with founders, executives, and organizational leaders is this: the constraints that limit performance are almost always developmental, not technical. The leader who cannot delegate is not lacking a delegation framework; they are at a developmental stage where delegation feels like loss of self. The organization that cannot adapt is not lacking a change management methodology; it is organized around a developmental stage that cannot hold the complexity the environment now demands.

This insight — that the most consequential problems of leadership and organization are developmental problems — is the founding insight of Developmental Science. It is the insight that makes this journal necessary.

An Invitation to Scholars

I am not a traditional academic. My path to this work ran through lived experience — through years of working alongside leaders in high-stakes environments, through my own developmental transitions, through the slow accumulation of pattern recognition that comes from sustained attention to how human beings actually change.

But I have always believed that lived experience and scholarly rigor are not opposites. The best developmental science will be built by scholars who bring both: the theoretical sophistication to formulate precise questions and the practical wisdom to ask the right ones.

This journal is an invitation to those scholars. Bring your rigor. Bring your methods. Bring your theoretical frameworks. And bring your questions — especially the ones that your current frameworks cannot answer. Those are the questions that will build this discipline.

On Beginning

There is something both humbling and exhilarating about beginning. Every beginning is an act of faith — a bet that what does not yet exist is worth the effort of bringing it into being. This journal is such a bet.

We do not know, yet, what Developmental Science will become. We do not know which of the constructs proposed in this inaugural issue will prove durable and which will require revision. We do not know which research programs will yield the most important findings, or which scholars will make the most significant contributions.

What we know is that the questions this discipline addresses are among the most important questions of our time. And we know that the best way to answer them is to begin — carefully, rigorously, and with the full weight of our collective intelligence brought to bear.

We have begun.

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FURTHER READING

Works for further study on the themes of this article.

- Battilana, J., & D'Aunno, T. (2009). Institutional work and the paradox of embedded agency. *In Institutional Work* (pp. 31-58). <https://doi.org/10.1017/CBO9780511596605.002>
- Battilana, J., Leca, B., & Boxenbaum, E. (2009). How actors change institutions: Towards a theory of institutional entrepreneurship. *Academy of Management Annals*, 3(1), 65-107. <https://doi.org/10.5465/19416520903053598>
- Cardon, M. S., Wincent, J., Singh, J., et al. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, 34(3), 511-532. <https://doi.org/10.5465/amr.2009.40633190>
- Emslie, M. (2009). Researching reflective practice: A case study of youth work education. *Reflective Practice*, 10(4), 417-427. <https://doi.org/10.1080/14623940903138258>
- Marquis, C., & Tilcsik, A. (2013). Imprinting: Toward a multilevel theory. *Academy of Management Annals*, 7(1), 195-245. <https://doi.org/10.5465/19416520.2013.766076>
- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology*, 5(2), 100-122. <https://doi.org/10.1037/1089-2680.5.2.100>
- McAdams, D. P., & McLean, K. C. (2013). Narrative identity. *Current Directions in Psychological Science*, 22(3), 233-238. <https://doi.org/10.1177/0963721413475622>
- Miscenko, D., & Day, D. V. (2016). Identity and identification at work. *Organizational Psychology Review*, 6(3), 215-247. <https://doi.org/10.1177/2041386615584009>