Days of Future Passed: On the Prescient Relational Developmental Systems Vision of Fred W. Vondracek

Autor(es): Lerner, Richard M.; Lerner, Jacqueline V.; Ettekal, Andrea Vest; Ferris, Kaitlyn A.; Batanova, Milena; Hunter, Cristina

Publicado por: Imprensa da Universidade de Coimbra

URL persistente: URI:<http://hdl.handle.net/10316.2/43649>

DOI: DOI:https://doi.org/10.14195/978-989-26-1451-9_2

Accessed : 26-Apr-2023 14:42:21

A navegação consulta e descarregamento dos títulos inseridos nas Bibliotecas Digitais UC Digitalis, UC Pombalina e UC Impactum, pressupõem a aceitação plena e sem reservas dos Termos e Condições de Uso destas Bibliotecas Digitais, disponíveis em <https://digitalis.uc.pt/pt-pt/termos>.

Conforme exposto nos referidos Termos e Condições de Uso, o descarregamento de títulos de acesso restrito requer uma licença válida de autorização devendo o utilizador aceder ao(s) documento(s) a partir de um endereço de IP da instituição detentora da supramencionada licença.

Ao utilizador é apenas permitido o descarregamento para uso pessoal, pelo que o emprego do(s) título(s) descarregado(s) para outro fim, designadamente comercial, carece de autorização do respetivo autor ou editor da obra.

Na medida em que todas as obras da UC Digitalis se encontram protegidas pelo Código do Direito de Autor e Direitos Conexos e demais legislação aplicável, toda a cópia, parcial ou total, deste documento, nos casos em que é legalmente admitida, deverá conter ou fazer-se acompanhar por este aviso.

JOAQUIM ARMANDO FERREIRA
MATTHIAS REITZLE
EDUARDO SANTOS (EDS.)

CAREER DEVELOPMENT IN CONTEXT

FESTSCHRIFT FOR
FRED VONDRACEK

II
**DAYS OF FUTURE PASSED:
ON THE PRESCIENT RELATIONAL
DEVELOPMENTAL SYSTEMS VISION OF
FRED W. VONDRACEK¹**

Richard M. Lerner, *Tufts University*, U.S.A; richard.lerner@tufts.edu
Jacqueline V. Lerner, *Boston College*, U.S.A; lernerj@bc.edu
Andrea Vest Ettekal, *Texas A & M University*, U.S.A; andrea.ettekal@tamu.edu
Kaitlyn A. Ferris, *University of Chicago*, U.S.A; kferris@uchicago.edu
Milena Batanova, *Harvard University*, U.S.A; milena_batanova@gse.harvard.edu
Cristina Hunter, *Boston College*, U.S.A; huntercr@bc.edu
https://doi.org/10.14195/978-989-26-1451-9_2

Abstract

The scholarship that Fred W. Vondracek and his colleagues and students produced in the early to mid-1980s contributed in fundamental ways to framing a vision for both the process-relational paradigm and for relational developmental systems (RDS) metatheory-based models of human development derived from it. We provide an overview of RDS metatheory and review Vondracek's vision for developmental science, explaining that his use

¹ The writing of this chapter was supported in part by grants from the John Templeton Foundation.

of a model of individual ⇔ context relations enabled depiction of how an individual's contributions to his or her context might be a source of the person's own positive, healthy development. We illustrate the usefulness of such individual ⇔ context models through a discussion of the Lerner and Lerner "Five Cs" model of positive youth development. This illustration affords the conclusion that the career contributions of Fred Vondracek enrich the ability of developmental scientists to describe, explain, and optimize the development of diverse individuals across the life span.

Keywords: relational developmental systems metatheory, individual ⇔ context relations, positive youth development, life-span development, optimization.

Introduction

In the early and mid-1980s, the case still needed to be made that human development should be conceptualized by models that emphasized mutually influential relations between individuals and contexts (Lerner, Hultsch, & Dixon, 1983). Even more, it was necessary to argue that development should not be reduced to either a biogenic, psychogenic, or socio-genic interpretation of these relations (Lerner, 1978, 2012). The challenge was to forward a model of development that avoided the conceptual pitfalls and counterfactual empirical assertions of models that derived from the Cartesian split paradigm and privileged biology, psychology, or sociology as the primary source of human development, while also acknowledging the importance of person-context fusion (Overton, 2015).

At this writing, these paradigmatic and metatheoretical issues are largely settled in developmental science (Lerner, Agans, DeSouza, & Hershberg, 2014; Overton & Lerner, 2014). As we will discuss, a process-relational paradigm has become preeminent within developmental science, and it provides a framework for a relational developmental systems (RDS) metatheory (Overton, 2015). These current conceptual foundations of developmental science theory have evolved across several decades of theoretical debates and theory-predicated interpretations of developmental data (e.g., Lerner, 2012; Lerner, et al., 2014; Overton, 2015). Fred Vondracek contributed in fundamental ways to framing the debates and research involved in this history. The scholarship that he and his colleagues and students contributed to developmental science in the early to mid-1980s provided a vision for both the process-relational paradigm and for the RDS-based models of human development derived from it.

Fred Vondracek's Vision for Developmental Science

In the context of focusing on the substantive area of vocational/career development, Fred Vondracek and his collaborators (e.g., Vondracek & Lerner, 1982; Vondracek, Lerner, & Schulenberg, 1983a, 1983b, 1986) proposed a conceptual model that offered what was, at the time, a new model for understanding all facets of development across the life span. They proposed what was then termed a developmental contextual approach to human development (e.g., Lerner, 1978), a conception that would later be understood as an instance of RDS metatheory (e.g., Lerner, 2004, 2006; Overton, 2013, 2015). Vondracek and colleagues (1986) emphasized that this

approach “recognizes the changing character of the individual’s social, physical, and cultural milieus ... [and argues that] development can be understood only from a relational perspective that focuses on the dynamic interaction between a changing (developing) individual in a changing context” (p. 5).

Drawing on the relational conception of human development that forms the foundation of RDS-based models Vondracek and his colleagues emphasized the mutually influential individual ⇔ context relations that constitute the basic process in such models. In turn, Vondracek and his colleagues forwarded arguments and evidence that, together, indicated that the focus on such dynamic relations between individuals and their contexts required the adoption of a *systems* view of those relations. They argued that individual ⇔ context relations were embedded in the multiple and integrated levels of organization comprising the ecology of human development (Bronfenbrenner, 1979; Schneirla, 1957) – for instance, levels that “focus primarily on the individual (e.g., molecular biology/genetics, physiology, and psychology) with those that focus primarily on the group (e.g., social psychology, sociology, and anthropology)” (Vondracek, et al., 1986, p. 6). The relation among variables from these multiple levels of organization necessitated a systems view of the individual ⇔ context relations involved in behavior and development. Vondracek, et al. went on to explain that the “ultimate result of embracing an interdisciplinary, system-theory type view of ... development will be a shift from simplicity to complexity” which, in turn, will not “lend themselves to simple research designs or easy approaches to measurement” (1986, p. 6).

This argument underscores the essential link between RDS-based models and methods that would become a hallmark of developmental science three decades later (e.g., Molenaar, et

al., 2014; Overton, 2015). Vondracek, et al. offered a conceptual framework for understanding the multiple levels of organization within the ecology of human development, and the complex, systemic relations among them that would need to be a focus of theoretical and conceptual methodology required to advance the understanding of human development across the life span. As we have noted, Vondracek and his colleagues built their ideas in part on the scholarship of Urie Bronfenbrenner (e.g., 1979, 2005), whose bioecological theory of human development would also be understood in later decades to be an exemplar of RDS-based models (e.g., Lerner, 2002; Lerner, et al., 2014; Overton, 2015). As such, Vondracek and his colleagues not only pointed to the several levels involved in individual structure and function, but also paid particular attention to differentiating among the contextual levels of organization involved in human development. Vondracek, et al. (1986) emphasized that “the social (including political and economic), physical, and cultural milieu must be considered” (p. 7) in studying development. However, and emblematic of the RDS-based ideas that were being presaged, they emphasized that such a contextual focus also needs to be understood *as development* and, in particular, *relational development*. That is, human development does *not* involve a changing individual unfolding in a static context. To the contrary, the relational systems conception of development forwarded by Vondracek and his colleagues elucidated that both the individual and the context were changing and that they were changing *interdependently* across the course of life. To understand the implications for the quality and outcomes of such individual-context interdependence, Vondracek, et al. (1986) drew on the work of J. Lerner (e.g., 1983; Lerner, Baker, & Lerner, 1985) in regard to goodness-of-fit models of these relations.

Using such a model of individual ⇔ context relations, Vondracek and his colleagues were able to depict how an individual's contributions to his or her context might be a source of the person's own positive, healthy development. They argued that when there was a goodness of fit (or, in other words, a match or congruence) between an individual's specific set of physical, cognitive, affective, or behavioral attributes and the demands of the context within which he or she was developing, then positive development would be likely to occur. Therefore, differences in the course of positive human development could be associated with variation in the fit between the individual and his or her contexts. In addition, a focus on the individual and contextual attributes that were involved in such variation afforded ideas about how developmental science could be applied to individuals, contexts and, most importantly, individual ⇔ context relations to optimize human development (Baltes, Reese, & Nesselroade, 1977; Lerner, 2012). Indeed, Vondracek, et al. (1986) discussed such applications through the lens of what they termed human development interventions. They explained that such efforts must be viewed as attempts "to change something (systematically and deliberately) *that is already changing* without these special efforts – albeit not necessarily in the direction desired" (p. 156).

Accordingly, to optimize the course of human development, Vondracek, et al. (1986) explained that attempts to apply developmental science to enhance the course of human life must be predicated on an understanding of "the history, the present status, and the future goals and aspirations of the individual, as well as the past, present, and future (aspired to) contexts within which the individual has been, is, or may be functioning" In short, from this perspective, the evolving dynamic between an active individual and his or her changing contexts must be

the focus of attempts to describe, explain, and optimize human development. This intellectual vision that Fred Vondracek had for the study of human development reflects – and indeed foretold – a framework for theory, research, and application that has been realized in contemporary developmental science. In the next section of this chapter, we describe how this vision has been instantiated in the formulation of the RDS metatheory, and we offer an example of work within our laboratory illustrating its empirical usefulness.

The Relational Developmental Systems (RDS) Metatheory

From the late 1960s through the first half of the second decade of the 21st century, the study of human development evolved from a field dominated by reductionist (psychogenic or biogenic) approaches to a multidisciplinary scholarly domain. Just as Vondracek envisioned in his developmental contextual approach, the goal of this multidisciplinary scholarship is to integrate variables from biological through cultural and historical levels of organization across the life span into a synthetic, coactional system (e.g., Elder, Shanahan, & Jennings, 2015; Ford & Lerner, 1992; Gottlieb, 1998; Lerner, 2012). Prior, reductionist accounts of development that adhered to a Cartesian dualism disentangled facets of the integrated developmental system (Overton, 2015). For instance, reductionist views typically elevated the importance of such split formulations as nature versus nurture, continuity versus discontinuity, stability versus instability, and basic versus applied science (Lerner, 2002).

Such split approaches are rejected by proponents of theories derived from RDS metatheory which, in turn, are derived from a process-relational paradigm (Overton, 2015). Overton

(2015) explains that, as compared to a Cartesian worldview, the process-relational paradigm focuses on process (systematic changes in the developmental system), becoming (moving from potential to actuality; a developmental process as having a past, present, and future; Whitehead, 1929/1978), holism (the meanings of entities and events derived from the contexts in which they are embedded), relational analysis (assessment of the mutually-influential relations within the developmental system), and the use of multiple perspectives and explanatory forms (employment of ideas from multiple theory-based models of change within, and of, the developmental system). Within the process-relational paradigm, the organism is seen as inherently active, self-creating (autopoietic), self-organizing, self-regulating (agentic), nonlinear/complex, and adaptive (Overton, 2015).

In turn, within the RDS metatheory, the integration of different levels of organization frames the understanding of life-span human development (Overton, 2015). The conceptual emphasis in RDS-based theories is placed on mutually-influential relations between individuals and contexts (i.e., individual $\Leftrightarrow$ context relations), or as Vondracek posited, the evolving dynamic relations between an active individual and his or her changing multilevel context. These relations vary across place and time (Elder, Shanahan, & Jennings, 2015); the “arrow of time,” or temporality, represents history, which is the broadest level within the ecology of human development. History imbues all other levels with change. Such change may be stochastic (e.g., non-normative life or historical events; Baltes, Lindenberger, & Staudinger, 2006) or systematic, with the latter constituting a potential for plasticity across the life span.

As explained by Lerner (1984, 2002), the concept of plasticity was emphasized by developmental scientists interested in countering the idea of fixity in human development, such as fixities

purportedly imposed by genetic inheritance or neuronal “hard wiring.” Accordingly, the idea of plasticity arose to denote the capacity in human development for systematic and relatively continuous changes, as compared to stochastic (random) and short-term changes. As also described by Vondracek, systematic change can arise through individual $\Leftrightarrow$ context relations that are either ontogenetically or historically normative or from non-normative life or historical events (Baltes et al., 2006).

A recent empirical example of the importance of the distinction between plasticity in development versus developmental fixity comes from the study of epigenetic changes (e.g., Misteli, 2013). This scholarship illustrates that the genes received at conception (i.e., the genotype) are not a fixed blueprint for development. Genes are constantly getting turned on and off across the life span and most of this activity is stochastic and short-term (and of largely unknown origin; Misteli, 2013). However, epigenetic changes are enduring, systematic, and even cross-generational (Cole, 2014; Meaney, 2010, 2014; Misteli, 2013; Slavich & Cole, 2013). In short, in developmental science, we reserve the term plasticity for denoting the capacity for relatively enduring changes in the developmental system. Although Vondracek was not concerned with epigenetics at the time, it should not go unstated that he helped set a precedent here – to capitalize on the plasticity of (or to optimize) human development, one must intervene on the system or on individual $\Leftrightarrow$ context relations as opposed to changing the individual or context independent of one another.

Indeed, theories derived from RDS metatheory focus on the processes that govern, or regulate, exchanges between (the functioning of) individuals and their contexts. Brandtstädter (1998) termed these relations “developmental regulations” and noted that, when developmental regulations involve mutually-

beneficial individual $\Leftrightarrow$ context relations, they are adaptive. To understand what makes developmental regulations adaptive, one needs both conceptual and empirical criteria. Conceptually, developmental regulations are adaptive when, and only when, they are beneficial to the maintenance of positive, healthy functioning of the components of a bidirectional relation (e.g., both individual and context) (Brandtstädter, 1998; Lerner, 2004). Empirically, assessments of positive and/or healthy functioning must be conducted with the recognition that contexts are complex (e.g., they exist at multiple levels of organization as, for instance, denoted by Bronfenbrenner's [1979] notions of the micro-, meso-, exo-, and macro-systems within the ecology of human development). Individuals cannot necessarily act in ways that benefit all levels and all components of the context at all times and places (Elder et al., 2015).

Thus, one may need to treat adaption not as a categorical concept (as something that either exists or not) but, instead, as a multivariate concept composed of ordinal or interval dimensions (Lerner & Callina, 2014). As such, researchers studying adaptation would ask questions such as, how beneficial is the developmental regulation (the individual $\Leftrightarrow$ context relation) for specific people or specific social institutions of the context, at specific times and in specific places (e.g., see Bornstein, 2006)? In all analyses, however, developmental regulations are the fundamental feature of human life; indeed, all life exists through bidirectional exchanges with the physical and/or social contexts (Darwin, 1859; Tobach & Schneirla, 1968). Among humans, these exchanges involve physiological systems and functions (e.g., respiration or circulation), behaviors (e.g., social affiliation and cooperation, as might be involved in protection, hunting, and scavenging; Johanson & Edey, 1981), and both organismic self-regulation (e.g., hypothalamic functioning)

and intentional self-regulation (ISR) (e.g., goal selection, resource recruitment, and executive functioning; McClelland, Geldhof, Cameron, & Wanless, 2015). The developmental course of ISR is, in effect, the developmental course of human agency (Diewald & Mayer, 2009; Mayer, 2009).

In short, and heeding Vondracek's formulation of human development as embedded within a process-relational paradigm, models derived from the RDS metatheory emphasize that all levels of organization within the ecology of human development are systemically integrated across life. As such, any variable from any level is fused with variables from all other levels. In other words, the structure and function of one variable is governed or regulated by the structure and function of other variables. Accordingly, developmental regulations are envisioned as the basic unit of analysis within human development. Moreover, because history (or temporality) imbues in individual $\Leftrightarrow$ context relations the potential for relative plasticity in human development, developmental scientists may be optimistic that instances of these relations can be directed toward promoting positive human development among all people. More specifically, developmental scientists can contribute to promoting social justice by identifying and encouraging the provision of opportunities for all individuals to optimize their chances for positive, healthy development (Lerner & Overton, 2008). Instantiation of such promotion and optimization efforts rests on the conduct of multidisciplinary research, the use of change-sensitive methodologies, and the effective translation of research into policies and programs.

There are several models associated with RDS-based ideas, and derived from the process-relational paradigm that Vondracek elucidated, that have been used to study processes pertinent to, or explicitly about positive, healthy develop-

ment across the life span (e.g., see Lerner, Lerner, Bowers, & Geldhof, 2015, for a review of some of these models). Lerner and Lerner, and their colleagues within the Institute for Applied Research in Youth Development (IARYD) at Tufts University, have derived from RDS metatheory a positive youth development (PYD) model to frame research about thriving during adolescence (e.g., Lerner, et al., 2015). Accordingly, to illustrate the empirical usefulness of RDS-based models of human development, we discuss the Lerner and Lerner model of PYD (J. Lerner, et al., 2013; Lerner, et al., 2015) and the research testing it.

The Five Cs Model of Positive Youth Development (PYD)

As is the case with all RDS-based PYD models, the Lerner and Lerner conception is a strength-based model of development that seeks to understand and enhance the lives of diverse youth through engagement with key contexts in their ecology (e.g., families, schools, peer groups, and out-of-school time [OST] programs). Indeed, a major focus of the Lerner and Lerner PYD research has been the study of youth in OST program settings. There is considerable research assessing if and how the lives of diverse youth can be enhanced through engagement with community-based youth-development programs, especially if these programs align features of both youth and program strengths (as occurs when theoretical models, such as the person-stage-environment-fit model, are used to frame program design; Eccles, 2004).

The model of the PYD process constructed by Lerner, Lerner, and their colleagues has drawn on the individual ⇔ context RDS conception emphasized by Vondracek. This model

has been elaborated in the context of the longitudinal study of PYD conducted by Lerner, Lerner, and colleagues: the 4-H Study of PYD (e.g., Bowers, et al., 2014; Lerner, et al., 2005, 2009, 2010, 2011). Research on PYD seeks to identify the individual and ecological relations that may promote thriving and, as well, that may have a preventive effect in regard to risk/problem behaviors. Within the 4-H Study, thriving is understood as the growth of attributes that mark a flourishing, healthy young person. These characteristics are termed the “Five Cs” of PYD – competence, confidence, character, connection, and caring.

The core theory of change tested in the developmental process of PYD is that, if:

1. the strengths of youth (e.g., a young person’s cognitive, emotional, and behavioral engagement with the school context, having the “virtue” of hope for the future, or possession of ISR skills such as Selection [S], Optimization [O], and Compensation [C]); can
2. be aligned with the resources for positive growth found in youth development programs, for example, the “Big Three” attributes of youth development programs (i.e., positive and sustained adult-youth relationships, skill-building activities, and youth leadership opportunities); then
3. young people’s healthy development will be optimized (e.g., J. Lerner, et al., 2009, 2013; Lerner, 2004). Youth will manifest the Five Cs and demonstrate other positive attributes of behavior reflecting adaptive developmental regulations – most fundamental, a Sixth “C”, youth contributions to self, family, community, and civil society.

In other words, if positive development rests on mutually-beneficial relations between youth and their ecology, then thriving youth should be positively engaged with and act to enhance their world. Further, youth should be less prone to engage in risk/problem behaviors.

Through such a theory of change, the goals of a youth development program (i.e., to enhance youth thriving) can lead to positive outcomes (e.g., the Five Cs and the 6th C of Contribution) through the assets of the program (e.g., the “Big Three”). Figure 1 presents an illustration of the Lerner and Lerner conceptualization of the PYD developmental process. As indicated in the figure, the developmental process envisioned by Lerner and Lerner to presuppose PYD involves adaptive developmental regulations, or synergies, between the strengths of youth and the developmental assets present in their contexts, for example, youth development programs marked by the “Big Three” (Lerner, 2004). These mutually beneficial individual ⇔ context relations are depicted as being associated with PYD (and the Five Cs associated with this concept) and, in turn, with the enhanced probability of youth contributions to their ecology and with lowered probabilities of risk/problem behaviors. The outcomes of these adaptive developmental regulations feed back to the individual and his or her context and thus create a basis for further adaptive developmental regulations. The figure illustrates, as well, that these adaptive developmental regulations and their positive and problematic sequelae exist within the broader ecology of human development. This ecology includes families, schools, community institutions, and culture. Historical (temporal) variation introduces change at all levels of organization within the relational developmental system.

Figure 1: A relational, developmental systems model of the individual ↔ context relations involved in the Lerner and Lerner conception of the PYD developmental process

Tests of the Lerner and Lerner PYD Model

In order to test the ideas presented in Figure 1, IARYD researchers launched the 4-H Study of PYD, henceforth referred to as the 4-H Study. This study examined approximately 7,000 youth and 3,500 of their parents from 42 states across eight data collection waves. At all eight waves, the sample varied in race, ethnicity, socioeconomic status, family structure, rural-urban location, geographic region, and program participation experiences. The research identified resources, or developmental assets, which existed in the key settings of youth, that is, families, schools, and community-based youth programs.

We term these contextual resources or ecological assets (Lerner, et al., 2015). In addition, the study assessed the individual strengths of adolescents (e.g., ISR, school engagement, and hopeful future expectations) and their patterns of participation in OST activities. OST activities included youth development programs, such as 4-H, sports, religious clubs, and performing arts organizations, among others.

The findings of the 4-H Study have been reported in more than 100 publications (see Lerner, et al., 2015, for a review). Here, we summarize some of the key findings bearing on the Lerner and Lerner model presented in Figure 1. The model in Figure 1 specifies that, when the strengths of youth are integrated with the assets of the context, such as represented by youth development programs, thriving across the adolescent years will be promoted. Vondracek's vision was to understand human development as a dynamic interplay between individuals and contexts. Using the RDS framework derived from Vondracek's theoretical propositions, this empirical work underscores the importance of individual ⇔ context relations in the course of human development.

Ecological assets. One set of findings based on the model presented in Figure 1 pertains to the role of youth participation in OST activities, particularly youth development programs. Key ecological assets linked to both positive and negative developmental outcomes were identified, and grouped into four categories: (1) other individuals (e.g., parents, peers, mentors, and teachers); (2) community institutions, including youth development programs; (3) collective activity between youth and adults, including program leaders; and (4) access to the prior three types of assets. Across all contexts, ecological assets represented by other individuals were the most potent predictors of PYD (Theokas & Lerner, 2006).

Building on the work of Theokas and Lerner (2006), Urban, Lewin-Bizan, and Lerner (2009) found that dimensions of one's neighborhood context interact with youth development program involvement to predict PYD, and this differs for girls and boys. For example, youth development program involvement for adolescents living in neighborhoods with fewer ecological assets (e.g., large numbers of youth development programs, designed recreational settings, or educational resources) was related to higher levels of PYD for girls, but lower levels of PYD for boys. In line with Vondracek's conceptual propositions, these findings point to the need to consider various aspects of an individual's ecology and how they may differentially impact PYD across gender. Simply, the broader ecology of youth development programs matters in fostering the expected outcomes of a program.

Individual strengths. Other research utilizing the 4-H Study examined possible interactions between individual strengths and youth development program participation. Urban, Lewin-Bizan, and Lerner (2010) found that the strengths of youth *and* the resources of their contexts are involved in thriving. However, these results also highlight the importance of considering additional strengths, including ISR abilities, as such strengths may moderate the effect of participation in youth development programs on PYD. Moreover, results from Mueller and colleagues' (2011) research indicated that while self-regulation skills alone predicted PYD, self-regulation and youth development program participation both predicted Contribution. Gestsdottir and colleagues (2010) provide further support for the model illustrated in Figure 1. These researchers provide evidence linking the strengths of youth to indices of PYD; youth ISR, conceptualized as the individual's "contribution" to adaptive individual ⇔ context relationships, covaried positively with PYD and Contribution, and negatively with problem behaviors.

Contribution and civic engagement. Finally, emotions (e.g., hope for one's future), and the cognitive and behavioral skills necessary for the activation of ISR skills to achieve future goals, may play important roles in the development of civic engagement. For example, Schmid and Lopez (2011) found hopeful future orientation to be a stronger predictor of PYD, Contribution, risk behaviors, and depressive symptoms compared to ISR skills. In turn, Li and Lerner (2011) found that engagement in civic activities was associated with higher levels of affective school engagement (e.g., feelings of belonging to the school). Results of these studies were indicative of the development of active and engaged citizenship (AEC) during adolescence. As a result, Zaff and colleagues (2011) derived a measure of this construct from items measured within the 4-H Study. AEC was comprised of civic participation, civic duty, civic self-efficacy, and neighborhood connection. Consistent with the model presented in Figure 1, engagement with the ecological developmental assets (represented by community-based institutions and programs) was associated positively with AEC.

Summary. Findings from the 4-H study testing various aspects of the PYD model shown in Figure 1 support the idea that strengths of young people and the developmental assets in their families, schools, and communities predict thriving and, in turn, contributions to, and active and engaged citizenship within, their communities. However, tests of the model have not always aligned with expectations. For instance, the predicted inverse relation between indices of civic engagement and risk/problem behaviors was not present for participants at all ages. That is, some trajectories of high, positive civic engagement were coupled with trajectories involving increasingly higher levels of risk/problem behaviors for youth across different portions of adolescence (Lewin-Bizan et al., 2010; Phelps et al., 2007).

Therefore, the overall strength and valence of the relation represented in the model between civic engagement and risk/problem behaviors requires additional theory and research to address this inconsistency (represented by a “?” in Figure 1).

Overall, the theoretical vision for developmental science forwarded by Fred Vondracek in the early to mid-1980s involved the articulation of a relational systems approach to describing, explaining, and optimizing human development (e.g., Vondracek, et al., 1986). The ideas of individual ⇔ context relations brought to the fore in Vondracek’s thinking have crystallized into contemporary RDS-models of healthy and positive human development. As illustrated by the PYD model and research we have reviewed, the empirical work evolving from the vision of Vondracek constitutes a vibrant and active feature of contemporary developmental science. This observation leads to some concluding comments.

Conclusions

As illustrated by the RDS-based model of positive youth development we have tested, the theoretical ideas forwarded more than three decades prior by Fred Vondracek and his colleagues (e.g., 1983a, 1983b, 1986) have proven their empirical usefulness. Depicting a relational and systems-oriented approach to describing, explaining, and optimizing human development, which is representative of the approach to developmental theory that Vondracek argued, will enrich the future ability of developmental scientists to understand and enhance human life.

In his characteristically modest way, Vondracek said that he hoped that the ideas he presented would be regarded “as offering an exciting body of theory, research findings, and methods,

which can make an important contribution” (Vondracek, et al., 1986, p. 13). In addition, he expressed the hope that developmental scientists would “make a serious effort to understand and deal with the full complexity of individuals trying to optimize their ... development across the life-span” (Vondracek, et al., 1986, p. 173). We believe that these hopes have been realized and, as such, developmental scientists, and the people whose lives are enhanced by their work, owe a great debt to Fred Vondracek and his career contributions.

References

- Baltes, P.B., Lindenberger, U., & Staudinger, U.M. (2006). Lifespan theory in developmental psychology. In R.M. Lerner (Ed. , *Handbook of child psychology. Vol. 1: Theoretical models of human development* (6th ed., pp. 569-664). Editors-in-chief: W. Damon & R.M. Lerner. Hoboken, NJ: Wiley.
- Baltes, P. B., Reese, H. W., Nesselroade, J. R. (1977). *Life-span Developmental Psychology: Introduction to Research Methods*. Monterey, California: Brooks/Cole.
- Bornstein, M.H. (2006). Parenting science and practice. In K.A. Renninger & I.E. Sigel (Eds.), *Handbook of child psychology. Vol. 4: Child psychology and practice* (6th ed., pp. 893-949). Editors-in-Chief: W. Damon & R.M. Lerner. Hoboken, NJ: Wiley.
- Bowers, E.P., Geldhof, G.J., Johnson, S., Lerner, J.V., & Lerner, R.M. (2014). Elucidating the developmental science of adolescence: Lessons learned from the 4-H Study of Positive Youth Development. *Journal of Youth and Adolescence*, 43(6).
- Brandtstädter, J. (1998). Action perspectives on human development. In W. Damon (Series Ed. & R.M. Lerner (Vol. Ed.), *Handbook of child psychology. Vol. 1: Theoretical models of human development* (5th ed., pp. 807-863). New York: Wiley.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. (2005). *Making human beings human: Bioecological perspectives on human development*. Thousand Oaks, CA: Sage.
- Cole, S. W. (2014). Human social genomics. *PLOS Genetics*, 10 (8), 1-7.
- Darwin, C. (1859). *On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life*. London, England: J. Murray.

- Diewald, M., & Mayer, K.U. (2009). The sociology of the life course and life span psychology: Integrated paradigm or complementing pathways? *Advances in Life Course Research*, 14, 5-14.
- Eccles, J. S. (2004). Schools, academic motivation, and stage-environment fit. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (Vol. 2, pp. 125-153). Hoboken, NJ: Wiley.
- Elder, G. H., Jr., Shanahan, M. J., & Jennings, J. A. (2015). Human development in time and place. In M. H. Bornstein & T. Leventhal (Eds.), *Handbook of child psychology and developmental science* (7th ed.), Volume 4: *Ecological settings and processes in developmental systems*. (pp. 6-54). Editor-in-chief: R. M. Lerner. Hoboken, N.J.: Wiley.
- Ford, D.H., & Lerner, R.M. (1992). *Developmental systems theory: An integrative approach*. Newbury Park, CA: Sage.
- Gestsdottir, S., Bowers, E.P., von Eye, A., Napolitano, C.M., & Lerner, R.M. (2010). Intentional self regulation in middle adolescence: The emerging role of loss-based selection in Positive Youth Development. *Journal of Youth and Adolescence*, 39, 764-782.
- Gottlieb, G. (1998). Normally occurring environmental and behavioral influences on gene activity: From central dogma to probabilistic epigenesis. *Psychological Review*, 105, 792-802.
- Johanson, D., & Edey, M. (1981). *Lucy: The beginnings of humankind*. New York: Simon & Schuster.
- Lerner, J.V. (1983). A "goodness of fit" model of the role of temperament in psychosocial adaptation in early adolescents. *Journal of Genetic Psychology*, 143, 149-157.
- Lerner, J. V., Baker, N., & Lerner, R. M. (1985). A person-context goodness of fit model of adjustment. *Advances in cognitive-behavioral research and therapy*, 4, 111-136.
- Lerner, J. V., Bowers, E. P., Minor, K., Lewin-Bizan, S., Boyd, M. J., Mueller, M. K., Schmid, K. L., Napolitano, C.M., & Lerner, R. M. (2013). Positive youth development: Processes, philosophies, and programs. In R.M. Lerner, M.A. Easterbrooks, & J. Mistry (Eds.), *Handbook of psychology*, Vol 6. *Developmental Psychology* (2nd ed., pp. 365-392). Hoboken: NJ: Wiley.
- Lerner, J. V., Phelps, E., Forman, Y., & Bowers, E. P. (2009). Positive youth development. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology*, Volume 1. *Individual bases of adolescent development* (3rd ed., pp. 524-558). Hoboken, NJ: Wiley.
- Lerner, R. M. (1978). Nature, nurture, and dynamic interactionism. *Human Development*, 21(1, 1-20.)
- Lerner, R. M. (1984). *On the nature of human plasticity*. New York, NY: Cambridge University Press.
- Lerner, R. M. (2002). *Concepts and theories of human development*. Mahwah, NJ: Lawrence Erlbaum.
- Lerner, R. M. (2004). *Liberty: Thriving and civic engagement among America's youth*. Thousand Oaks, CA: Sage.

- Lerner, R. M. (2006). Developmental science, developmental systems, and contemporary theories of human development. In R. M. Lerner (Ed.). *Theoretical models of human development*. Volume 1 of *Handbook of Child Psychology* (6th ed.) (pp. 1-17). Editors-in-chief: W. Damon & R. M. Lerner. Hoboken, NJ: Wiley
- Lerner, R. M. (2012). Essay review: Developmental science: Past, present, and future. *International Journal of Developmental Science*, 6, 29-36.
- Lerner, R. M., Agans, J. P., DeSouza, L. M., & Hershberg, R. M. (2014). Developmental science in 2025: A predictive review. *Research in Human Development*, 11(4), 255-272.
- Lerner, R. M., & Callina, K. S. (2014). The study of character development: towards tests of a relational developmental systems model. *Human Development*, 57, 322-346.
- Lerner, R. M., Hultsch, D. F., & Dixon, R. A. (1983). Contextualism and the Character of Developmental Psychology in the 1970's. *Annals of the New York Academy of Sciences*, 412(1), 101-128.
- Lerner, R. M., Lerner, J. V., Almerigi, J. B., Theokas, C., Phelps, E., Gestsdottir, S., ... & von Eye, A. (2005). Positive Youth Development, Participation in community youth development programs, and community contributions of fifth-grade adolescents: Findings from the first wave of the 4-H study of Positive Youth Development. *Journal of Early Adolescence*, 25(1), 17-71.
- Lerner, R.M., Lerner, J.V., Bowers, E., & Geldhof, G.J. (2015). Positive youth development: A relational developmental systems model. In W.F. Overton, & P.C. Molenaar (Eds. , *Handbook of child psychology and developmental science. Vol. 1: Theory and method* (7th ed.). (pp. 607-651). Editor-in-chief: R. M. Lerner. Hoboken, NJ: Wiley.
- Lerner, R. M., Lerner, J. V., von Eye, A., Bowers, E. P., & Lewin-Bizan, S. (2011). Individual and contextual bases of thriving in adolescence: A view of the issues. *Journal of Adolescence*, 34(6), 1107-1114.
- Lerner, R.M., & Overton, W.F. (2008). Exemplifying the integrations of the relational developmental system: Synthesizing theory, research, and application to promote positive development and social justice. *Journal of Adolescent Research*, 23, 245-255.
- Lerner, R. M., von Eye, A., Lerner, J. V., & Lewin-Bizan, S. (2009). Exploring the foundations and functions of adolescent thriving within the 4-H study of positive youth development: A view of the issues. *Journal of Applied Developmental Psychology*, 30(5), 567-570.
- Lerner, R. M., von Eye, A., Lerner, J. V., Lewin-Bizan, S., & Bowers, E. P. (2010). Special issue introduction: The meaning and measurement of thriving: A view of the issues. *Journal of Youth and Adolescence*, 39(7), 707-719.
- Lewin-Bizan, S., Bowers, E.P., & Lerner, R.M. (2010) . One good thing leads to another: Cascades of positive youth development among American adolescents. *Development and Psychopathology*, 22, 759-770.
- Li, Y., & Lerner, R.M. (2011). Trajectories of school engagement during adolescence: Implications for grades, depression, delinquency, and substance use. *Developmental Psychology*, 47, 233-247.

- Mayer, K.U. (2009). New directions in life course research. *Annual Review of Sociology*, 35, 413-433.
- McClelland, M.M., Geldhof, G.J., Cameron, C.E., & Wanless, S.B. (2015). Development and self-regulation. In W.F. Overton, & P.C. Molenaar (Eds.), *Handbook of child psychology and developmental science. Vol. 1: Theory and method* (7th ed.). (pp. 523-565). Editor-in-chief: R.M. Lerner. Hoboken, NJ: Wiley.
- Meaney, M. J. (2010). Epigenetics and the biological definition of gene x environment interactions. *Child Development*, 81, 41-79.
- Meaney, M. (2014, October 10). Epigenetics offer hope for disadvantaged children. [Children and Family: Blog]. Retrieved from <http://childandfamilyblog.com/epigenetics-offer-hope-disadvantaged-children/>
- Misteli, T. (2013). The cell biology of genomes: Bringing the double helix to life. *Cell*, 152, 1209-1212.
- Molenaar, P. C. M., Lerner, R. M., & Newell, K. (Eds.) (2014). *Handbook of Developmental Systems Theory and Methodology*. New York, NY: Guilford.
- Mueller, M. K., Phelps, E., Bowers, E. P., Agans, J. P., Urban, J. B., & Lerner, R. M. (2011). Youth development program participation and intentional self-regulation skills: Contextual and individual bases of pathways to positive youth development. *Journal of Adolescence*, 34(6), 1115-1125.
- Overton, W. F. (2013). Relationism and relational developmental systems; A paradigm for developmental science in the post-Cartesian era. In R. M. Lerner and J. B. Benson (Eds.), *Advances in Child Development and Behavior, Volume 44: Embodiment and Epigenesis: Theoretical and Methodological Issues in Understanding the Role of Biology within the Relational Developmental System, Part A: Philosophical, Theoretical, and Biological Dimensions*. (pp. 24-64). Waltham, MA: Elsevier.
- Overton, W.F. (2015). Process and relational developmental systems. In W.F. Overton, & P.C. Molenaar (Eds.), *Handbook of child psychology and developmental science. Vol. 1: Theory and method* (7th ed.). (pp. 9-62). Editor-in-chief: R.M. Lerner. Hoboken, NJ: Wiley.
- Overton, W. F. (2015). Taking Conceptual Analyses Seriously. *Research in Human Development*, 12 (3-4), 163-171. doi: 10.1080/15427609.2015.1069158
- Overton, W. F., & Lerner, R. M. (2014). Fundamental concepts and methods in developmental science: A relational perspective. *Research in Human Development*, 11(1), 63-73.
- Phelps, E., Balsano, A., Fay, K., Peltz, J., Zimmerman, S., Lerner, R., M., & Lerner, J. V. (2007). Nuances in early adolescent development trajectories of positive and problematic/risk behaviors: Findings from the 4-H Study of Positive Youth Development. *Child and Adolescent Psychiatric Clinics of North America*, 16(2), 473-496.
- Schmid, K. L. & Lopez, S. (2011). Positive pathways to adulthood: The role of hope in adolescents' constructions of their futures. In R. M. Lerner, J. V. Lerner, & J. B. Benson (Eds.), *Advances in Child Development and Behavior: Positive Youth Development* (Vol. 41, pp. 72-89). London, England: Academic Press.

- Schneirla, T. C. (1957). The concept of development in comparative psychology. In D. B. Harris (Ed.), *The concept of development: An issue in the study of human behavior* (pp. 78–108). Minneapolis, MN: University of Minnesota Press.
- Slavich, G. M., & Cole, S. W. (2013). The emerging field of human social genomics. *Clinical Psychological Science*, 1, 331–348.
- Theokas, C., & Lerner, R. M. (2006). Observed ecological assets in families, schools, and neighborhoods: Conceptualization, measurement, and relations with positive and negative developmental outcomes. *Applied Developmental Science*, 10(2), 61–74.
- Tobach, E., & Schneirla, T. C. (1968). The biopsychology of social behavior of animals. In R. E. Cooke (Ed.), *The Biologic Basis of Pediatric Practice* (pp. 68–82). New York: McGraw-Hill.
- Urban, J. B., Lewin-Bizan, S. & Lerner, R. M. (2009). The role of neighborhood ecological assets and activity involvement in youth developmental outcomes: Differential impacts of asset poor and asset rich neighborhoods. *Journal of Applied Developmental Psychology*, 30(5), 601–614.
- Urban, J. B., Lewin-Bizan, S., & Lerner, R. M. (2010). The role of intentional self regulation, lower neighborhood ecological assets, and activity involvement in youth developmental outcomes. *Journal of Youth and Adolescence*, 39(7), 783–800.
- Vondracek, F. W., Lerner, R. M., & Schulenberg, J. E. (1986). *Career development: A life-span developmental approach*. Hillsdale, NJ: Erlbaum.
- Vondracek, F. W., & Lerner, R. M. (1982). Vocational role development in adolescence. In B. B. Wolman (Ed.), *Handbook of developmental psychology* (pp. 602–614). Englewood Cliffs, NJ: Prentice-Hall.
- Vondracek, F. W., Lerner, R. M., & Schulenberg, J. E. (1983a). The concept of development in vocational theory and intervention. *Journal of Vocational Behavior*, 23, 179–202.
- Vondracek, F. W., Lerner, R. M., & Schulenberg, J. E. (1983b). On aspiring to present a developmental theory of occupational aspirations: A reader's guide to Gottfredson. *Journal of Vocational Behavior*, 23, 213–218.
- Whitehead, A.N. (1978). *Process and reality: An essay in cosmology*. New York: Free Press. (Original work published 1929).
- Whitehead, A.N. (1929). *The function of reason*. Princeton: Princeton University Press.
- Zaff, J. F., Kawashima-Ginsberg, K., & Lin, E. S. (2011). Advances in civic engagement research: Issues of civic measures and civic context. In R. M. Lerner, J. V. Lerner, & J. B. Benson (Eds.), *Advances in Child Development and Behavior: Positive Youth Development* (Vol. 41, pp. 271–306). London, England: Academic Press.