An Overview of the Presentation

• On the meaning of models
• Creating a useful model of Positive Youth Development (PYD)
• Relational Developmental Systems (RDS)
• Marc Bornstein’s Specificity Principle
• The Vision of Arnold and Gagnon (2020)
• Measurement within the SoLD Alliance Approach to Research and Practice: Jaggedness, Context: and Person-Specific Pathways (We Each Walk the Road Less Travelled)
• Examples of PYD Models
• Revisiting the Bornstein Specificity Principle to Advance Research ⇔ Practice ⇔ Youth, Family, Community Integration
• Implications for the Future of Models and Measures in the Promotion of PYD
On The Meaning of Models

• In science, a model is simply a representation of a facet of the world. For example, models of
  • Time, space, and gravity;
  • The economy
  • Forms of government
  • Youth development.

• Models are the most basic element of the scientific method. Everything done in science is done with models.

• A model simplifies the complexity of the phenomena of the world and enables a user to begin to unravel the complexity of the portion of existence that is being studied.

• But there is a catch in using this most fundamental facet of all scientific work:
On The Meaning of Models

"All models are wrong, but some are useful".

George E. P. Box, World-Renowned British Statistician, 1976
On The Meaning of Models

• "All models are approximations… the approximate nature of the model must always be kept in mind" (Box, 1976).

• Simply, everything simple is invariably false, and everything complex is inevitably unusable.

• “Since all models are wrong the scientist cannot obtain a "correct" one by excessive elaboration. On the contrary following William of Occam he should seek an economical description of natural phenomena. Just as the ability to devise simple but evocative models is the signature of the great scientist so overelaboration and overparameterization is often the mark of mediocrity” (Box, 1976).
On The Meaning of Models

• Therefore, Box (1976) went on to say: “The practical question is how wrong do they [models] have to be to not be useful.”

• In other words, How do we create a useful model, one that serves practice as well as science?

• Such a model cannot be created without Researcher ↔ Practitioner Collaboration!
Creating a Useful Model of Positive Youth Development (PYD)

- Researchers and practitioners share a common goal of aspiring to use their knowledge and skills to enhance the lives of young people.

- This commonality of professional goals should be sufficient motivation to combine their talents in creating research ↔ practice integrations in the service of creating a useful model of PYD.

- In past decades, many researchers led practitioners astray because of an absence of humility, the presence of professional arrogance, and the use of models that had proven to be empirically problematic and, as well, counterfactual.
Creating a Useful Model of Positive Youth Development (PYD) (Continued)

• Biological or environmental reductionist conceptions of youth development are examples of such problematic and counterfactual approaches to youth development.

• Arnold and Gagnon (2020) make clear, however, there is a useful model of development that has emerged, one that is used in the collaborative work of practitioners and researchers involved in the Science of Learning and Development (SoLD) Alliance.

• This model involves dynamic, relational developmental systems (RDS)-based ideas.
Relational Developmental Systems (RDS)

- RDS is a **metatheory**: A metatheory is a theory or model of how models should be constructed to study the world.
- In RDS metatheory, all levels of organization within the ecology of human development are integrated – from biology/physiology, the socioemotional and cognitive functioning of the individual, social relationships, communities, culture, the physical ecology, and history (temporality).
Relational Developmental Systems (RDS) (Continued)

• In RDS-based models, the relations among all these levels are **dynamic**: Dynamic relations are mutually-influential actions (coactions) between all parts of an organization, of a living system.
  
  – For instance, in these theories (models), development across life involves mutually influential individual $$\Leftrightarrow$$ context relations.

• No two individuals have the same individual $$\Leftrightarrow$$ context relations across life and across contexts.

• Therefore, human development always involves **specificity**.
Marc Bornstein’s Specificity Principle:

Development Involves Relations Between a Specific Individual Occurring at a Specific Time and in a Specific Place

• The process of development involves mutually influential (dynamic) relations between an individual and the context: Individual ⇔ Context Relations.

• The specificity principle emphasizes that specific contextual conditions, of specific people, occurring at specific times, shapes all specific facets of development (e.g., physiological, psychological, sociocultural) through specific processes of individual ⇔ context coaction.

• The specificity principle emphasizes, then, whole-child development AND the individuality of each child’s development.
A Prototypic Use of the Bornstein Specificity Principle to Frame a Multi-Part Question for Understanding Youth Development

- What specific behaviors,
- Of what specific youth,
- In what specific place (context),
- Of what specific duration,
- In what specific community, society, and culture,
- During what specific portion of youth development,
- And at what specific time in history?

As Arnold and Gagnon (2020) emphasize, “Bornstein’s (2019) principle…underscores the interaction of youth, context, and time” (p. 15) in both research and practice.
Implications of the Specificity Principle for Youth Development Research ↔ Practice Integration

• To enhance youth development, both research and programs must begin with a focus on specific young people, and not on relations among variables across young people!

• Many studies assess how variables change across time:
  – For example, for the 100 youth in a study, does the relation between grit and grade point average change across a semester?

• Many program evaluations also assess how variables change across time in the program:
  – For example, for the youth in a program, does the relation between scores for program engagement and STEM skills increase over the course of a program?

• Even when research or evaluations have positive outcomes, not all youth show the same level of outcomes:
  – Some youth do better, others do worse, and some show no change when compared to the average change across youth in a group.
The Vision of Arnold and Gagnon (2020)

• To test models of youth development or to evaluate youth development programs, changes within youth must be measured!

• “Advancing understanding of the specificity of youth in context, and its implications for research and practice is the cornerstone of current developmental science (Cantor et al., 2019). Rather than seeking a standard implementation model that fits every youth program, and thus violating Bornstein’s (2019) specificity principle, all youth development practitioners must translate theoretical constructs into actions that fit the specific needs of each youth participant each time and each place a program takes place, with particular attention given to the racial, ethnic, and cultural diversity of the youth the program serves.”

Arnold & Gagnon (2020, p. 19)
The Challenge of the Vision of Arnold & Gagnon: We need a New Measurement Model for Youth Programs

- How do we fit our theoretical models of youth development with “the specific needs of each youth participant each time and each place a program takes place, with particular attention given to the racial, ethnic, and cultural diversity of the youth the program serves?”

- We need a model of measurement that captures the specificity of both individual youth and of the program and broader community context of development:

  A specific youth ⇔ A specific context

The SoLD Alliance provides an approach to creating a model of such measures.
Measurement within the SoLD Alliance Approach to Research and Practice
Three Concepts that Go Beyond an Exclusive Focus on Average

1. **Jaggedness**: At any point in time each person has a specific and unique constellation of attributes (e.g., academic, moral, civic, social, and leadership).
Three Concepts that Go Beyond an Exclusive Focus on Average

2. **Context**: The attributes shown by an individual at any point in time are shaped by the specific context of development.
Context

Monozygotic rodents exposed to different in utero and post-natal experiences.

Slavich & Cole (2013, p.332)
Three Concepts that Go Beyond an Exclusive Focus on Average

3. **Person-Specific Pathways**: We all walk the road less traveled (every individual will have a specific history of development across time and place).
Person-Specific Pathways:

4-H Study of Positive Youth Development

- 8 waves (Grades 5 to 12, respectively), 7087 participants
- Gender: 60.6% Female; 39.4% Male
- Race: 70.7% White; 10.2% Hispanic; 7.9% Black; 3.7% Multiethnic; 3.3% Other; 2.3% Native American; 2.1% Asian
- Mother’s education: 33.6% 4-year degree or higher; 37.2% 2-year or technical degree; 20.5% High School; 8.6% less than High School
- Mean per capita income $15,279.26

Note that the longitudinal sample presented in these analyses includes all cases with at least 6 waves of data.
Goal Optimization Skills:

Full Sample (N = 7,087)
Goal Optimization Skills:

Longitudinal Sample Average (N = 59)
Goal Optimization Skills:

Person-Specific Pathways for Longitudinal Sample (N = 59)
THE SAMPLE CASE OF CHANGE IN DAILY EMOTIONAL EXPERIENCE

Data from a Study Conducted by

Nilam Ram, Peter Molenaar, and Colleagues
Developmental Systems Group
@ PSU

and

John R. Nesselroade and Colleagues
Center for Developmental & Health Research Methodology
@ UVA
DATA SET

• **Participants:**
  - 180 students enrolled in a semester-long course on subjective well-being at the Univ. of Illinois: Mean age = 20.2 (SD=1.8)

• **Measures:**
  - Daily Diary of Emotion Ratings completed on 50 successive days
    - How often was each emotion felt today?
  - Hedonic Level
    - 8 Pleasant and 8 Unpleasant Affect Items
Daily Mood – Averaged Across All Individuals
(No assessment of, or possible conclusions about, changes in any individual’s mood)
Individual Daily Mood

![Graph showing individual daily mood over occasions]

- **Y-axis:** Hedonic Level
- **X-axis:** Occasion
Implications of the SoLD Approach to Creating a Measurement Model

• There are some attributes of youth that are possessed by every young person (e.g., all youth have respiratory, circulatory, and nervous systems and all youth undergo cognitive and emotional development).

• There are attributes that are possessed by some youth but not others (e.g., males have one type of reproductive system and females have a different reproductive system; some youth have one cultural background whereas other youth have another cultural background).
Implications of the SoLD Approach to Creating a Measurement Model (Continued)

• There are some attributes that are specific to each young person.

  − Every young person has a specific and unique complement of DNA, even monozygotic twins.
  − Every young person has a specific, jagged set of psychological and social attributes.
  − Every youth has a specific history of experiences across contexts and time.
  − Every youth a specific developmental pathway.

To effectively enhance the life of every youth in a program, practitioners must know the specific facets of each youth in their program.
Implications of the SoLD Approach to Creating a Measurement Model
(Continued)

• To understand and enhance the specific developmental pathways of each youth in their program, practitioners must decide what specific individual and contextual attributes they should measure.

• But how should such measurement decision be made?

• The answer is: “Use the specific model of youth development you believe is best in order to select measures of the PYD process.”
Examples of PYD Models

• All contemporary models of PYD are strength-based conceptions and all models also use ideas from RDS metatheory to depict youth ↔ context relations.

• But the models vary in regard to the measures used to represent the attributes of youth and the attributes of their contexts involved in PYD.

• Nevertheless, all of these models emphasize that, when the strengths of youth are aligned with developmentally-supportive resources from the contexts of youth, PYD will occur.
Search Institute Developmental Assets Model of Youth Thriving (Benson, 2008)

**Individual Assets**
- Commitments to learning
- Positive values
- Social competencies
- Positive identity

**Ecological Assets**
- Developmentally-supportive relationships
- Empowerment
- Boundaries and expectations
- Constructive use of time

**Youth Thriving**
- School success
- Leadership
- Helping others
- Maintenance of physical health
- Delay of gratification
- Valuing diversity
- Overcoming adversity
The Lerner & Lerner RDS-Based Model of PYD

- Competence
- Connection
- Confidence
- Caring
- Character

Ecological Assets
Individual Strengths

Contribution
Reduced Risk Behavior
The Revised 4-H Thriving Model (Arnold & Gagnon, 2020)
Converging Implications of PYD Models

• All models portray youth and contextual constructs that, when aligned across time and place, promote PYD.

• All models may be useful, then, in guiding practitioners about what facets of the young person and what facets of the context need to be aligned in their programs.

• Nevertheless, practitioners need to decide who to understand the specific alignments needed for each specific young person in their program.

• There is no one way (no “silver bullet”) to accomplish this task.

• Two instances of collaboration are needed to create the specific alignments needed for each young person:
  − Collaborations with youth, families, and communities
  − Collaborations with researchers
Revisiting the Bornstein Specificity Principle: Questions to Address in the Practitioner↔Researcher↔Youth, Family, and Community Collaboration

• What are the specific strengths, values, and aspirations of the youth, families, and community being served in a program?
• What are the specific youth outcomes these stakeholders desire?
• What are the daily, weekly, monthly, etc. indicators of these outcomes?
• Can researchers, program staff, and stakeholders collaborate to create measures suitable to assess these outcomes for every specific youth in the program?
Collaborative Questions (Continued)

• What are the skills and resources present among program staff?
• Are these specific skills and resources aligned with the specific strengths, values and aspirations of the stakeholders?
• If not, can program researchers, staff, and stakeholders collaborate to create this alignment?
• What do I need to do to measure (monitor) to insure that the immediate, interim, and longer-term outcomes are being developed?
• Can researchers, staff, and stakeholders collaborate to collect and analyze the youth-specific information derived from measuring (monitoring) this development?
• What mid-course corrections can be enacted to increase the presence of these outcomes for each and every youth in the program?
Implications for the Future of Models and Measures in the Promotion of PYD

- Researchers, practitioners, youth, families, and communities need to collaborate in the design of program models and measures in order to maximize the opportunity to enhance thriving for each child in a specific program.

- No one model and no one set of measures will fit every young person and every program in every community:

- **There is no average youth, no average program, or average community.**

- Researcher ↔ Practitioner ↔ Stakeholders Collaboration is needed to identify, measure, and evaluate the meaning and implications of the specific youth ↔ context relations pertinent to each young person.
Implications for the Future of Models and Measures in the Promotion of PYD (Continued)

• Yet, there is consensus, across models, that if the specific strengths of specific youth are aligned across time and place with the specific resources of specific settings, the thriving of every young person can be enhanced.

• The dynamics of youth ↔ context relations and the specificity of developmental change can be harnessed by practitioners, researchers, youth, and their communities, if collaboration is approached with humility and a commitment to equity and social justice.
THANK YOU!