

# The Psychology of Working: A View from the STEM World

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# Agenda

- What is the psychology of working and how does it differ from traditional career development theory?
- Why is the psychology of working important and timely?
- How does it fit into...
  - Changing world of work
  - STEM and ITEST initiatives
- Take-aways
  - New theories are needed for new problems
  - We have an opportunity to reshape our field by adopting interdisciplinary theories that accurately convey the reality of work in this era.

# Career Development and STEM Education

- The STEM agenda is directed toward shaping and influencing students' interests and career plans.
- To accomplish this goal, we need to understand how people approach their educational and career planning.
- Career development theory has informed a century of research, program development, educational practices, and career counseling.



# Traditional Career Choice and Development Theories

- Career Development theory and research have informed students' development of....
  - A future orientation
  - Knowledge of self (interests, values, abilities)
  - Knowledge of the world of work
  - Decision-making skills
  - Self-efficacy
  - Formation of identity and goals
  - Capacity to resist gender and race-based socialization

# The Changing World of Work

- The occupational landscape is changing very rapidly.
  - Jobs are more precarious than ever
  - Automation is reducing opportunities for people without marketable skills.
  - The notion that people plan and select a career for life is now seen as an historical artifact...a memory of the post- World War II era.



# The Changing World of Work

- STEM skills have been a ticket toward 21<sup>st</sup> century jobs and careers thus far.
- STEM skills also are central in preparing a thoughtful and critical workforce.

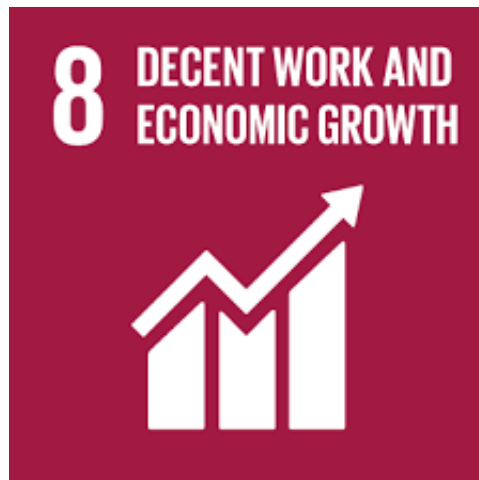


# The Changing World of Work

- In the very near future, stable and decent work will become far less accessible.
- The challenges are greatest for our most vulnerable students and communities.
- The work of the ITEST community fits into a broader agenda for human rights and decent work.
  - A major objective of ITEST is broadening participation of diverse communities in the STEM workforce pipeline.

# Work as a Human Right

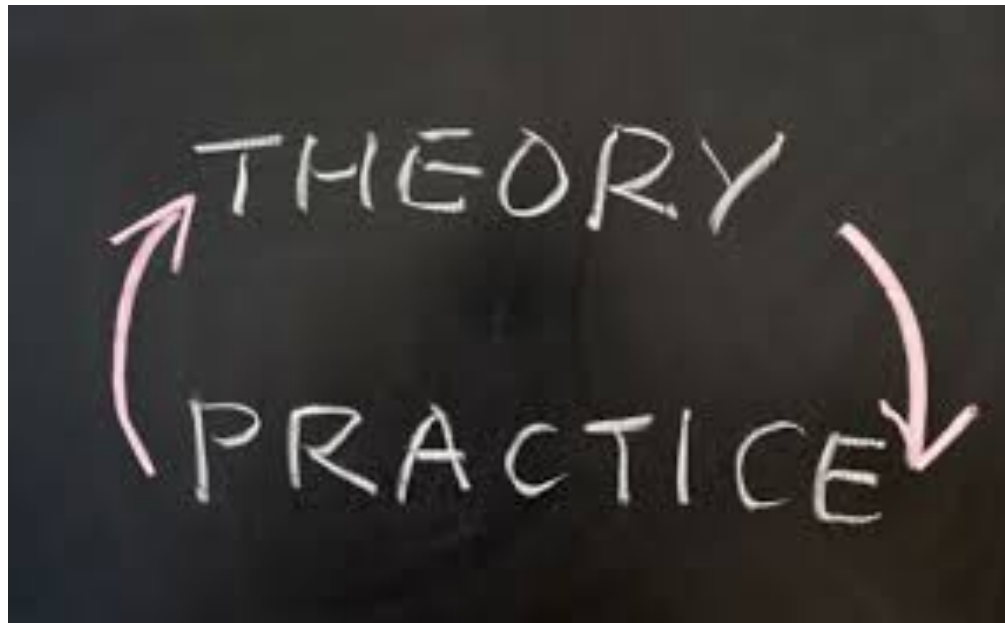
- The 2015 UN Sustainable Development Goals (SDG) represent a follow-up to the Millennium Development Goals:
- The relevant statement from the SDGs underscores the growing acceptance of the Decent Work Agenda and its intersection with a broader range of human rights' issues:
  - Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.





# Emerging Theories

- Why do we need new or emerging theories?
- The next few slides will provide a rationale....



# Changing Assumptions

- The OLD: “Everyone has the ability to make work choices”
- The NEW: Real, environmental constraints are present



# Changing Assumptions

- The OLD: “Work is a contained part of people’s lives”
- The NEW: With both men and women well-represented in the modern workforce, but the necessity for home and family care remaining, the intersection of work and personal life is here to stay.



# Changing Assumptions

- The OLD: “The world of work is predictable.”
- The NEW: Increased globalization, the increased gap between the rich and poor, instability of the workplace, and rapid technological shifts demand flexibility. Expect change.



# Changing Assumptions

- The OLD: “An individual will make one decision early in life.”
- The NEW: The unpredictable world of work will likely necessitate multiple choice points across the lifespan.





# The Psychology of Working Framework and Theory

- My colleagues and I have offered a critique of existing career development theories and new perspectives/theories.
- Our intention has been to create an inclusive perspective that connects career development theory to broader social and economic contexts as well as relevant psychological factors.
- We have developed....
  - A relational theory of working
  - A new psychology of working theory
  - Inclusive counseling practices that are tailored for specific client populations.
  - Systemic recommendations for the development of decent work

# The Psychology of Working Framework: Assumptions

- Work is a central aspect of life.
- Working is central to mental health.
- The psychological study of working includes everyone who works and who wants to work.
- Work and non-work experiences are often seamlessly experienced in the natural course of people's lives.

# The Psychology of Working Framework: Assumptions

- An experience-near understanding of the role of work in people's lives is integral to the psychological exploration of working.
- The psychology-of-working perspective seeks to identify how social, economic, and political forces influence the distribution of resources and affordances.



# Psychological Meaning of Working

- Working is one of the constants in our lives-constant as the Northern star...
  - The experience of working unifies human beings across time frames and cultures.
  - Working includes effort, activity, and human energy in given tasks that contribute to the overall social and economic welfare of a given culture.
  - Moreover, working includes paid employment as well as work that one does in caring for others within one's family and community.

# Need for Survival and Power

- The first function, survival and power, is a fundamentally different way of viewing one's work life in comparison to the traditional perspectives that have defined career development thought to date.
- Work provides people with a means of obtaining the necessary goods and services to be able to eat, have clothing, and be sheltered.



# Need for Survival and Power

- Review the evolutionary history of work:
  - Work is essential to human survival
  - As societies became more complex and multi-layered, work became more varied.
  - People moved from hunter-gathering lifestyles to agricultural lifestyles, leading to notions of land ownership.
  - With land ownership came about the acquisition of economic and social power.

# Need for Social Connection

- The second function focuses on the role of work in providing people with a means of social connection.
- At a rudimentary level, work fosters direct contact with others, opening space up for developing meaningful connections.
- Human beings are “hard-wired” to strive for close emotional bonds fueled by interpersonal connection.

# Need for Social Connection

- On another level, work also provides people with a connection to the broader social world.
- By working, we are able to contribute to the overall social and economic aspects of our lives, thereby yielding a strong connection to our communities and cultures.



# Working and Caregiving

- Another important relational component of working is caregiving.
- Caregiving includes:
  - Taking care of children
  - Taking care of sick or disabled family members
  - Taking care of the elderly



# Needs for Self-Determination

- The third need is based on the potential for working to become self-determined.
- Work often can be quite disinteresting, physically arduous, and even painful as well as psychologically denigrating.
  - Work is not, however, unidimensional. Work has the potential to satisfy and indeed, when supportive conditions are in place, work can create the context for genuine self-expression.

# Needs for Self-Determination

- Self-Determination Theory:
  - Under optimal conditions, working also can lead to the experience of self-determination.
  - Self-determination is often characterized by:
    - Autonomy
    - Competence
    - Relatedness
    - Experience of authenticity and engagement
- Motivation as an internal resource that can explain many aspects of human behavior, including tasks that involve activities that are not necessarily intrinsically interesting.



# Moving from a Framework to a Theory

- The beginning:
  - Boston College—early 2000s
    - Ryan Duffy and Matt Diemer
  - Coimbra, Portugal—2014
- The current era:
  - The Psychology of Working Theory



# The Psychology of Working Theory

- Goals:
  - Develop a 21<sup>st</sup> century theory that captures the full scope of work and career.
  - Create a theory that is inclusive and encompasses people with varied levels of access to opportunity and volition.
  - Develop an interdisciplinary theory integrating knowledge from sociology and related social sciences.

# The Psychology of Working theory

- Predictors:
  - Macro-level:
    - Economic constraints
    - Marginalization
  - Psychological variables
    - Work volition
    - Career adaptability

# Moderators

- Some moderators
- Serve to attenuate/accentuate the links between economic constraints and marginalization with work volition, career adaptability, and securing decent work
  - Proactive personality
  - Critical consciousness
  - Social support
  - Economic conditions

# A Shifting Focus: Decent Work

- Adapted from ILO's guidelines for countries
- Decent work consists of
  - (a) physical and interpersonally safe working conditions
  - (b) hours that allow for free time and adequate rest
  - (c) organizational values that complement family and social values
  - (d) adequate compensation
  - (e) access to adequate health care.

# Outcomes

- Psychology of Working needs:
  - Survival
  - Social Connection
  - Self-determination
- Distal outcomes
  - Well-being
  - Work fulfillment

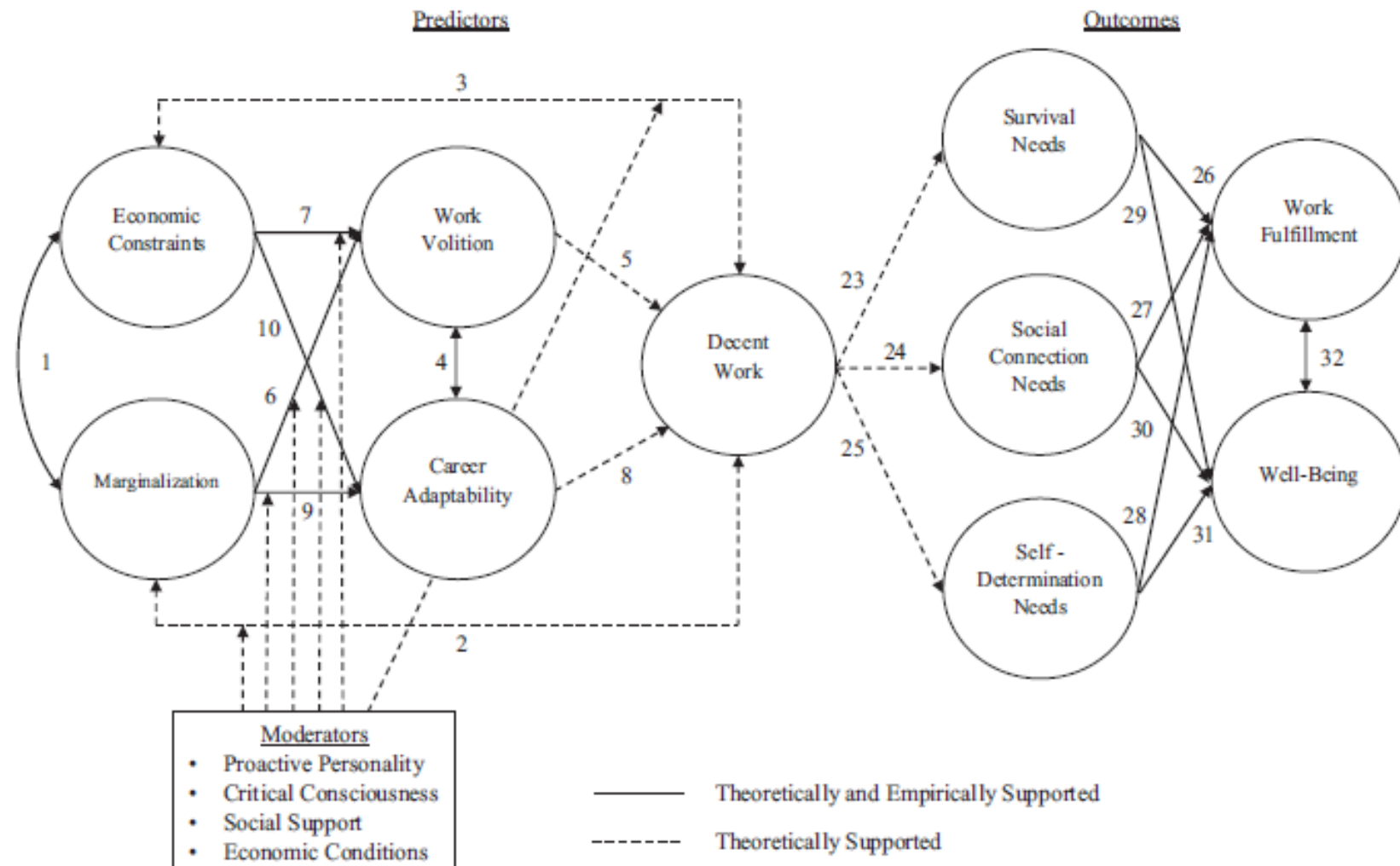


Figure 1. Theoretical Model. Proactive personality, critical consciousness, social support, and economic conditions are proposed to moderate the paths from economic constraints and marginalization to work volition, career adaptability, and decent work, respectively: proactive personality (*Propositions 11–13*), critical consciousness (*Propositions 14–16*), social support (*Propositions 17–19*), and economic conditions (*Propositions 20–22*).

# Implications for ITEST and STEM

- The ITEST projects can be understood as systematic career development interventions
  - Given that they are framed within the purview of helping students to consider their plans for the future, career development theory can be a major part of the intellectual framework for our efforts.
- Interventions in the K-12 years are essential to foster broader participation in the STEM workforce.



# Psychology of Working and STEM

- The future for STEM is not entirely clear.
- Automation may replace many STEM-related occupations (e.g., coding).
- Different theories will be needed to understand career development.
- Let's consider the implications for STEM of the Psychology of Working

# Implications....

- People need to develop flexible and adaptive responses to the changes in the world of work.
- We need to understand and take into account the growing impact of contextual factors in our work lives.
- We can help to empower clients and students by...
  - Helping them to author their own life stories
  - Enhancing their critical consciousness about the causes of disparities and inequality.
  - Building their sense of proactivity and adaptability

# Implications

- The Psychology of Working is the first theory in our field to place social and economic variables in the same model as psychological variables.
- Some consider this intellectual heresy.
- We consider this an attempt at mapping reality.
- Research:
  - We can explore how students develop and sustain STEM interests in models that take into account social and economic factors
  - We can identify psychological constructs that are robust enough to break down these powerful contextual factors.

# Implications

- What would STEM programs using psychology of working as the conceptual framework look like?
  - Focus on identifying barriers and developing ways to work-around obstacles.
  - Focus on enhancing empowerment and critical thinking.
  - Exploration of internalization of social identities.
  - Continued efforts at career exploration and skills development, with the intention of enhancing self-efficacy and interests.
  - Development of psychological attributes that help people navigate difficult social barriers:
    - Proactive personality
    - Social support
    - Adaptive cognitive and psychological skills

# Implications

- **Education and Career Planning in an Uncertain Future**
  - How do we conceive of STEM education in a future where STEM may no longer may the ticket out of poverty and marginalization?
    - Enhance our view of bright future careers to include caregiving and empathy skills.
    - Identify the growth edges of the human-technology frontier.
  - Enhance STEM education in ways that are linked to the full array of educational and career pursuits.
    - STEM-infused curriculum framed around meaning and purpose.
- What do you think schools will look like in 10 years as automation and artificial intelligence continue to reshape our world?

# Thank you!

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