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Career Development Theory

History and Implications for STEM Career Development

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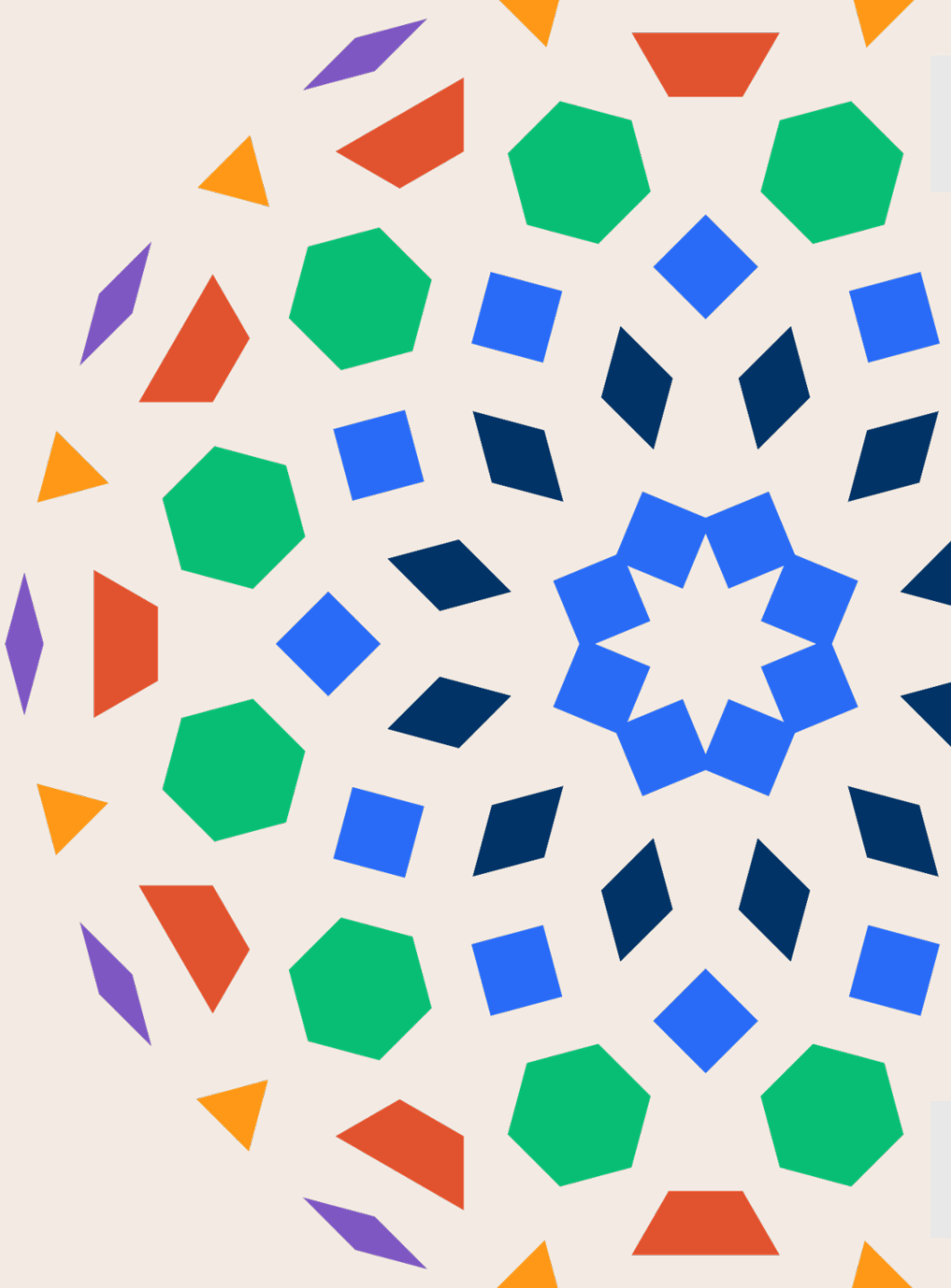


About the STELAR Center

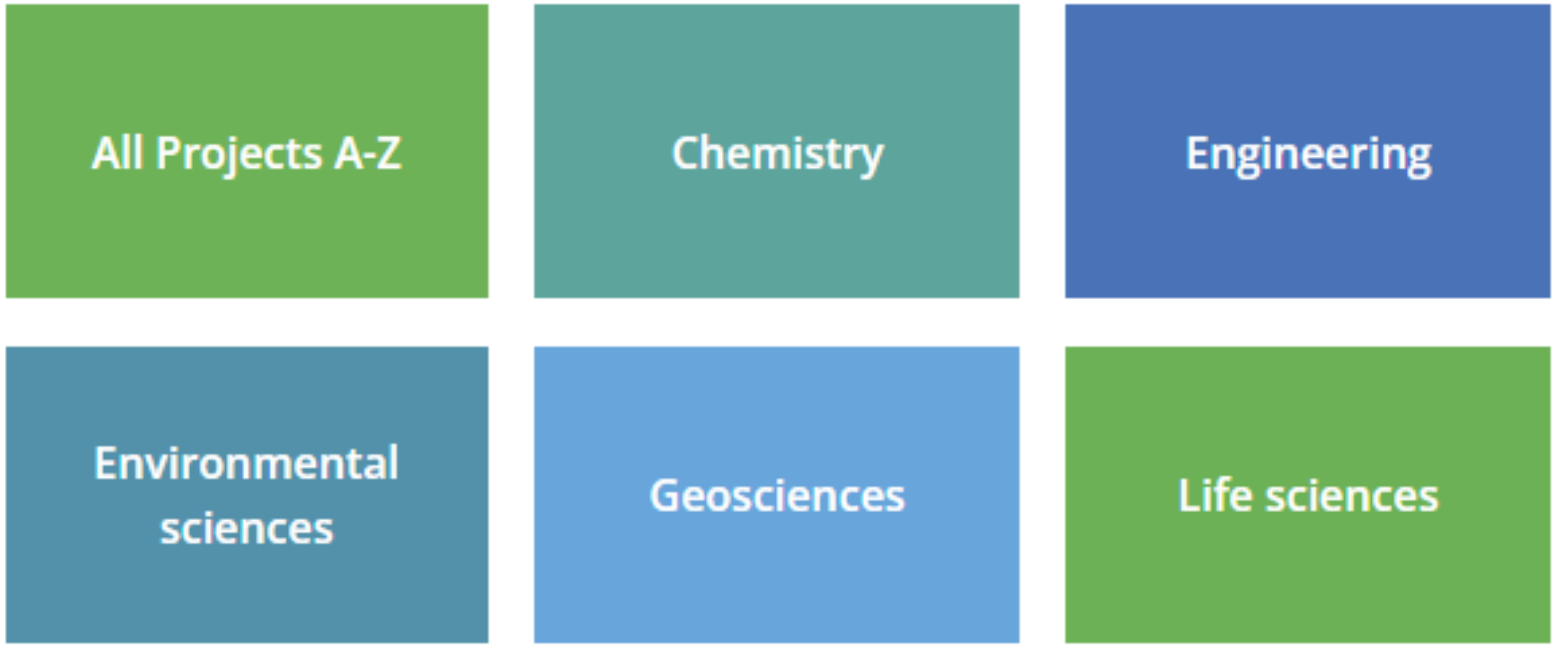
EDC.ORG

- STELAR is the resource center for NSF's **Innovative Technology Experiences for Students and Teachers (ITEST)** Program
- EDC has supported the ITEST program since 2003
- Supporting projects funded by ITEST
- Engaging in outreach to raise awareness of ITEST research
- Supporting ITEST proposal development

What STELAR does:

- Facilitate projects' success through **technical support**
- Inform and influence the field by **disseminating** both ITEST project-level findings and program-level level syntheses
- Deepen the impact and reach of the program by **broadening participation** in the ITEST portfolio

ITEST Project Profiles



SEARCH FOR PROJECTS

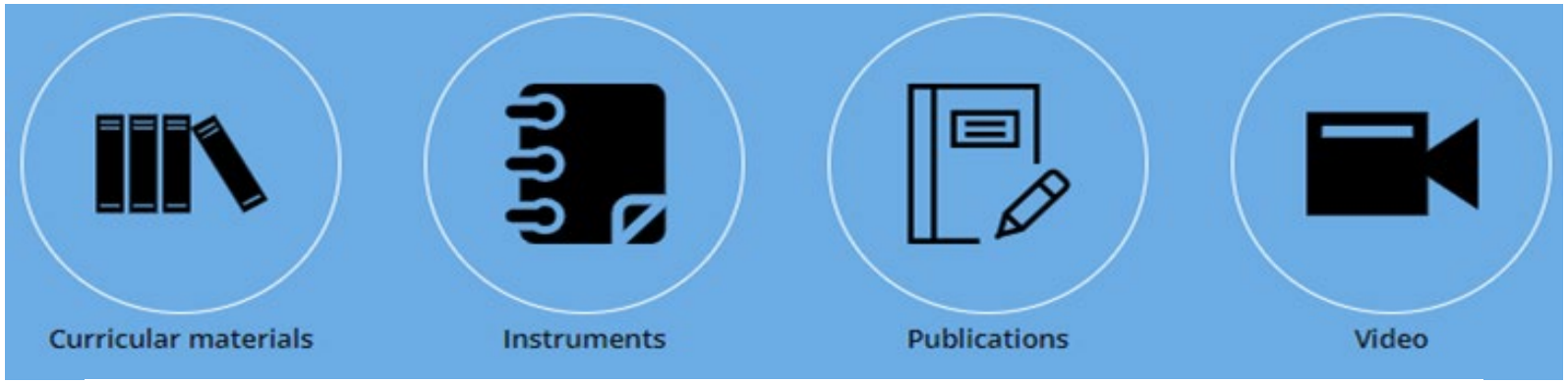
Multiple criteria within a field is an OR condition. Multiple fields are AND conditions.

TEXT SEARCH

- DISCIPLINE(S)
- PROJECT PARTICIPANT(S)
- PROJECT GRADE SPAN(S)
- PROJECT SETTING(S)
- STATES WHERE WORK OCCURS
- PROJECT STATUS

ITEST Project Resources

Resource Library



Proposal Supports

Connect with STELAR

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- Email us at stelar@edc.org

Career Development Theories – History and Implications for STEM Career Development

- Apprenticeship
- Trait Factor Theories
- Single Element Theories
- Integrated Element Theories
- Career Maturity
- Implications for Career Education

Medieval Apprentices

Trait-Factor Theory - Link Intelligence Levels with Occupational Classifications

- Professional
- Technical
- Skilled
- Semi-Skilled
- Unskilled

- Intelligence Tests
- General Aptitude Test Battery (GATB)

Decision-Making Theory

Essential Elements

1. Individuals choose careers to maximize gain and minimize loss.
2. Individuals can be assisted to predict the outcomes of alternatives and the possibility of such outcomes.
3. Choices occur under uncertainty and risk.
4. Choice is motivated by two factors:
    A. Value of each alternative.
    B. Appraisal of chances for success.

Examples of Researchers:

- Herr
- Blau
- Tiedeman

Definitions and Samples of Items in the Attitude Scale of the Career Maturity Inventory (Crites, Revised in1995)

Dimension	Definition	Sample Item
Involvement in the Choice Process	Extent to which individual is actively participating in the process of making a choice	“I seldom think about the job I want to enter.”
Orientation Toward Work	Extent to which individual is work or pleasure-oriented in his attitudes toward work and the values he places upon work	“Work is dull and unpleasant” and “Work is worthwhile mainly because it lets you buy the things you want.”
Independence in Decision-Making	Extent to which individual relies upon others in the choice of an occupation	“I plan to follow the line of work my parents suggest”
Preference or Vocational Choice Factors	Extent to which individual bases his choice upon a particular factor	“Whether you are interested in a job is not as important as whether you can do the work”
Conceptions of the Choice Process	Extent to which an individual has accurate or inaccurate conceptions about making an occupational choice	“A person can do any kind of work he want as long as he tries hard”

Sociological Theory

Essential Elements:

1. Sociological factors influence career development
    1. Social class membership
    2. Home influences
    3. School
    4. Community
    5. Pressure groups
    6. Role perception

2. Sociological factors determine employment opportunities.

Examples of Researchers:

- Lent
- Gottfredson
- Savickas

Psychological Theory

Each individual has unique needs that direct them to occupations or environments which satisfy those needs

1. Psychological
2. Safety
3. Belongingness and Love
4. Importance, Self-Esteem, Independence
5. Information
6. Understanding
7. Beauty
8. Self-Actualization

Examples of Researchers:

- Maslow: Hierarchy of Needs
- Roe: Unconscious Parental Influence
- Holland: Personality Types

Developmental Theory

1. Begins early in life & proceeds along a continuum of experiences.
2. Life Stages.
3. Personality development & career development are interdependent variables in the maturation process.
4. Occupational choice is a developmental process.
5. The process of vocational/career development is that of developing and implementing a self-concept

Examples of Researchers

- Super
- Ginzberg
- Havighurst
- Crites

Life Stages (Super)

1. Growth (Birth – 14)
    A. Fantasy
    B. Interest
    C. Capacity
2. Exploration (15-24)
    A. Tentative
    B. Transitional
    C. Trial
3. Establishment (24-44)
    A. Trial
    B. Stabilization
4. Maintenance (45-65)
5. Decline (65 on)
    A. Deceleration
    B. Retirement

Ten Elements of A Theory of Vocational Development (Super)

1. People differ in abilities, interests, personalities
2. Individuals are qualified for a number of occupations
3. Each occupation requires a characteristic pattern of abilities, interests, and personality traits – with a range of tolerance.
4. Vocational preference, competence, and self-concept changes with time and experience.
5. This change process (#4) may be summed up in a series of life stages
6. Nature of individual career patterns is determined by socioeconomic level, mental ability, personality characteristics and opportunities.
7. Development through life stages can be guided.
8. Vocational development is developing and implementing a self-concept.
9. The process of compromise between individual and social factors, and self-concept and reality is role playing.
10. Work satisfaction and life satisfaction is found through adequate outlets for abilities, interests, personality and values.

Career Development is Irreversible (Ginzberg)

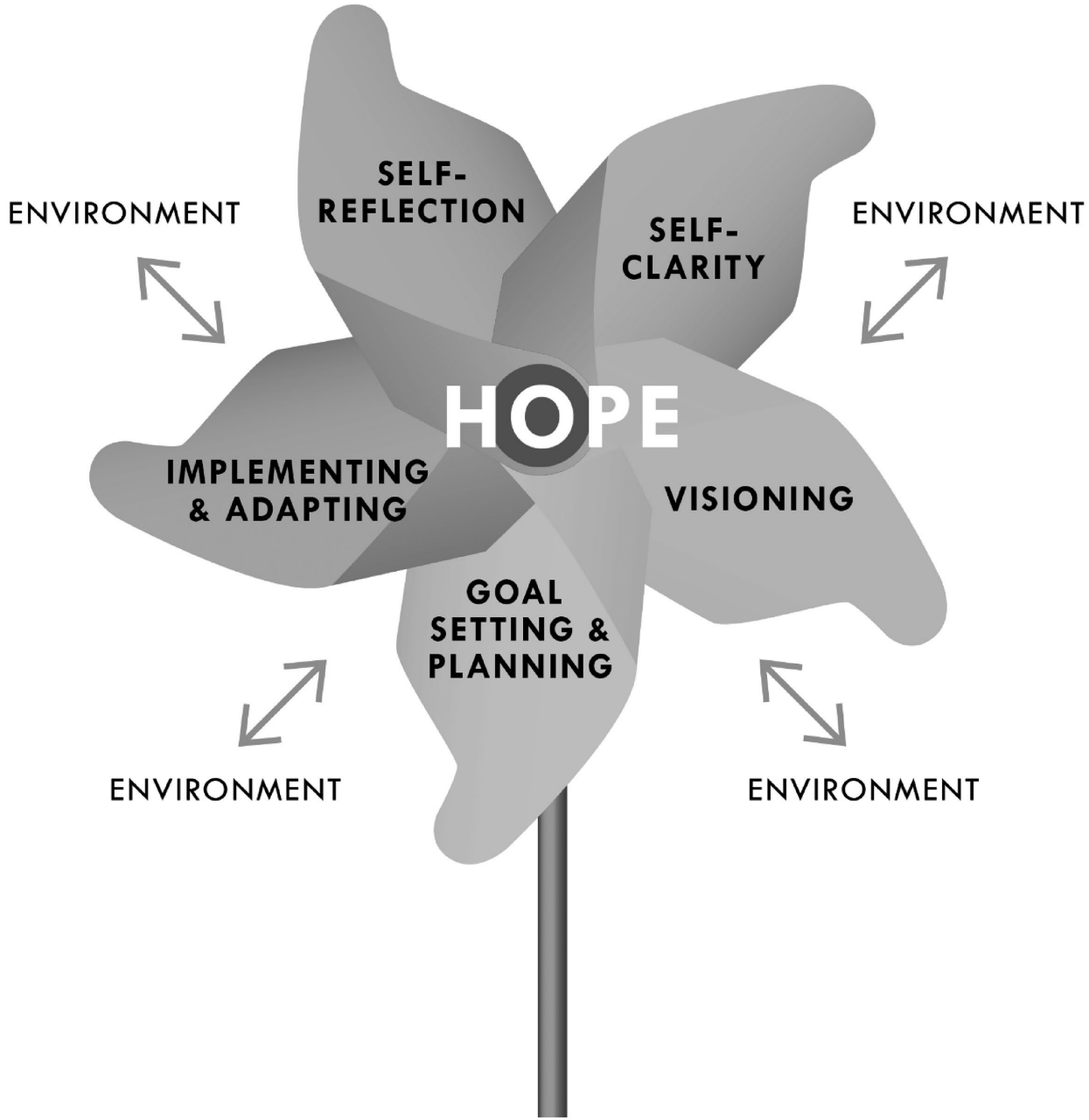
- CD is not a single decision make at a specific time – it is a multi-year developmental process largely irreversible
- Irreversible = experiences (e.g. in childhood) that may influence your career direction cannot be unlearned
- As you develop and experience the world those experiences will influence your next steps/decisions
- Although experiences cannot be unlearned, new experiences will contribute to and influence an individual's ongoing career decision-making
- To optimize job satisfaction individuals work to find the best "fit" between their needs/desires and opportunities available.

Influence of Environment

- Opportunity Structures Theory (Roberts, 1999) - Importance of environment in which we are born particularly socioeconomic class and opportunities we are exposed to
- Theory of Planned Happenstance (Mitchell, Levin and Krumboltz, 1999) - Become aware of and take advantage of opportunities, its OK not to plan
- Sociological Careership Theory (Hodkinson and Sparkes, 1999) - People have freedom to make their own choices; however, choices are limited to those of which they are aware
- Chaos Theory of Careers (Pryor and Bright, 2003) - People and complex systems interacting with and influenced by a complex world environment and its chance events
- Relational Theory of Careers (Blustein, Schultheiss and Flum, 2004) - Career development is socially situated and intrinsically relational with context playing an important role; a person's conceptualization of work and career is developed through relationships with others.

Influence of Culture

- Social Cognitive Career Theory – Includes personal and environmental factors such as cultural values, which shape self-efficacy, outcome expectations, and career goals (Lent 2013).
- Gottfredson's Theory of Circumscription and Compromise (2005) explores how societal and cultural norms influence the narrowing of career options during development.
- Savickas (2013) Theory of Cultural Career Construction helps us understand how individuals construct careers within specific cultural contexts. The individual career development is the dynamic construction process of pursuing mutual adaptation between the subjective self and the external objective world, and different people construct different stories.
- Cross-Cultural Career Counseling Models - Leong and colleagues address how cultural barriers, such as stereotypes and expectations, influence career decision-making. Arthur &: McMahon (2005) focus on culturally sensitive career counseling models and indigenous career development perspectives.


ENVIRONMENT
SELF-
REFLECTION
SELF-
CLARITY
ENVIRONMENT
HOPE
IMPLEMENTING
& ADAPTING
VISIONING
GOAL
SETTING &
PLANNING
ENVIRONMENT
ENVIRONMENT

Theories to Note:

- Super's Theory of Vocational Development – developmental nature of Career Development and life stages
- Holland's Theory of Careers – alignment personality types with types of work environments (RAISEC)
- Lent's Social Cognitive Career Theory - environmental but also individual factors (self-efficacy, outcome expectations, learning experienes, personal interests) influence one's career decision making
- Savickas' Theory of Cultural Career Construction - individuals construct careers within specific cultural contexts.
- John Krumboltz Planned Happenstance theory - its OK to not always plan, because unplanned events could lead to good careers.

Holland’s Theory of Careers

Holland's Theory of Careers: What Color is my Parachute?

Personality types can be matched to work environments:

Realistic	Social
Investigative	Enterprising
Artistic	Conventional

- People are most successful when there is a close alignment with their personality and their work environment where people share similar values, ways of working and solving problems,
- Many different people can perform successfully in any one specific job
- One person can perform successfully in many jobs

Holland's RIASEC Personality and Environmental Types

Realistic

- Prefers working with: **things**
- Characteristics: **frank, practical, focused, mechanical, determined, rugged**
- Activities and skills: **mechanical, manual, physical and athletic tasks**
- Sample Careers: **Fitness trainer, firefighter, mechanic, builder, farmer, landscaper**
- Sample Majors: **criminal justice studies, athletic training, construction management**
- Values: **tradition, freedom, independence**

Investigative

- Prefers working with: **things and ideas**
- Characteristics: **analytical, intellectual, reserved, independent, ambitious**
- Activities and skills: **working with abstract ideas, solving intellectual problems, collecting data**
- Sample Careers: **biologist, researcher, physician, mathematician, computer systems analyst**
- Sample Majors: **botany, engineering, mathematics, pre-med, food technology**
- Values: **independence, logic, achievement**

Holland's RAISEC

Artistic

- Prefers working with: **ideas and people**
- Characteristics: **complicated, original, impulsive, independent, expressive, creative**
- Activities and skills: **using imagination, creative expression**
- Sample Careers: **artist, musician, actor creative writer, photographer**
- Sample Majors: **art, theater, graphic design, music**
- Values: **esthetic experience, self-expression, imagination, non-conformity**

Social

- Prefers working with: **people**
- Characteristics: **cooperative, helpful, empathetic, kind, tactful, warm, sociable, generous**
- Activities and skills: **interacting with and helping people, teaching, guiding**
- Sample Careers: **teacher, clergy counselor, nurse, school bus monitor**
- Sample Majors: **nursing, education, counseling, social work**
- Values: **altruism, ethics, equality**

Holland's RAISEC

Enterprising

- Prefers working with: **data and people**
- Characteristics: **persuasive, energetic, sociable, adventurous, ambitious, assertive**
- Activities and skills: **leading, managing, persuading and organizing people**
- Sample Careers: **manager, lawyer, business administrator, politician**
- Sample Majors: **pre-law, business, management, political science**
- Values: **tradition, achievement, ambition**

Conventional

- Prefers working with: **data and things**
- Characteristics: **careful, conforming, conservative, responsible, controlled**
- Activities and skills: **ordering, attending to details**
- Sample Careers: **accountant, banker, actuary, editor, office manager, librarian**
- Sample Majors: **business, accounting**
- Values: **tradition, ambition, obedience, economic achievement, comfort**

Holland's Characteristics – which 2 or 3 are you? RIASEC

- **Realistic:** Works with things, focused, practical, mechanical, traditional, freedom, independence **(R)**
- **Investigative:** Things and ideas, intellectual, analytical, independent, ambitious, logic, achievement **(I)**
- **Artistic:** Ideas and people, complicated, original, impulsive, independent, expressive, creative, uses imagination, creative expression, original, impulsive, independent, expressive, creative **(A)**
- **Social:** Works with people, cooperative, helpful, empathetic, kind, tactful, warm, sociable, generous, altruism, ethics, equality **(S)**
- **Enterprising:** Works with data and people, persuasive, energetic, sociable, adventurous, ambitious, assertive; leading, managing, persuading and organizing people; tradition, achievement, ambition **(E)**
- **Conventional:** Works with data and things; careful, conforming, conservative, responsible, controlled; attending to details; tradition, ambition, obedience, economic achievement, comfort **(C)**

Examples: Resources for Career Development

EXAMPLES OF REPORTS:

- Journal of Science Education and Technology Special Issue - Stories from ITEST: Inspiring Young People to Pursue STEM Careers
- K-8 STEM Career Competencies Report
- Building the Foundational Skills Needed for Success in Work at the Human-Technology Frontier
- Examining Urban Students' Constructions of a STEM/Career Development Intervention Over Time
- Critical consciousness and career development among urban youth

EXAMPLES OF PROJECTS:

- Synthesis: Impact of integrating innovative technologies in STEM classrooms on K-12 students' STEM career outcomes **2019–2023**
- Middle Grades Career Mentors: Digital Resources for Effective CTE STEM Mentoring **2015–2018**

EXAMPLES OF PROJECTS: (Con't)

- Developing a culturally responsive pedagogical framework for STEM self-efficacy and career interest in the middle grades **2020–2023**
- Inspiring Commitment for STEM Career Paths through Extended Women's Hackathons **2016–2022**
- Engaging Native American Students in STEM Career Development Through a Culturally-Responsive After-School Program Using Virtual Environments and 3-D Printing **2021–2025**
- Science Technology Engineering and Math: Developing Education and Career Opportunity Systems **2017–2022**
- Influence of Industry-Informed STEM Pathways on Student Experiences and Outcomes in Non-Selective Urban School **2018–2022**
- Using drone technology, communal motivation, and strength-based approaches to engage middle school female students from rural areas in STEM **2022–2026**

Write in the Chat:
What are your “take aways” from this webinar?

Write in the Chat:

What Career Development theories/models have you found useful in your work?

Write in the Chat:

In your research, what are you learning about the factors that influence students career development?

What Career Development theories/models have you found useful in your work?

Evaluation

Share your feedback: go.edc.org/TheoriesOfCareerDev_EvalSurvey

Questions

Evaluation

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Thank you Merci Gracias شكرا

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