

Interpersonal Skills Assessment: Social and Collaborative Factors and the 21st Century Workforce

Stephen M. Fiore, PhD, Wendy L. Bedwell, MDE
and Eduardo Salas, PhD
University of Central Florida



Presentation Overview

- What are “21st Century Interpersonal Skills”?
 - Why are Interpersonal Skills Important?
- What are “Interpersonal Skills” in the Social Sciences Literature?
 - How are Interpersonal Skills Assessed?
- What are the Challenges with Interpersonal Skills Assessment?

"21st Century Interpersonal Skills"

Representative Guidance on Practicing Interpersonal Skills...

- Don't criticize, condemn or complain.
- Be a good listener. Encourage others to talk about themselves.
- Try honestly to see things from other person's point of view.
- Use encouragement. Make the problem seem easy to correct.

"21st Century Interpersonal Skills"

Dale Carnegie (1936)

How to Win Friends and Influence People

- Fundamental Techniques in Handling People
 - Don't criticize, condemn or complain.
- Six ways to make people like you
 - Be a good listener. Encourage others to talk about themselves.
- Win people to your way of thinking
 - Try honestly to see things from other person's point of view.
- Be a Leader
 - Use encouragement. Make the problem seem easy to correct.

"21st Century Interpersonal Skills"

Conceptualizing 21st Century Skills

- Proliferation of concepts associated with interpersonal skills
 - Numerous inconsistencies in how labeled and how defined
 - May find that different labels describe the same skill or the same label describes different skills

□ **Commonly Used Labels** (Ferris, Witt, & Hochwarter, 2001; Hochwarter et al., 2006; Klein et al., 2006; Riggio, 1986; Schneider, Ackerman, & Kanfer, 1996; Sherer et al., 1982; Sternberg, 1985; Thorndike, 1920)

- | | |
|---------------------|------------------------|
| ■ Social Skills | ■ Soft Skills |
| ■ Social Competence | ■ Social Self-efficacy |
| ■ People Skills | ■ Social Intelligence |

POINT 1. Although notion of interpersonal skills is not "new", the lack of conceptual clarity with 21st Century Skills is deeply problematic at theoretical, methodological, and practical level.

Why are IPS Important?

❑ Organizations Consider IPS Crucial to Productivity

- Interpersonal competence said to be twice as important to employee performance as GMA (Goleman, 1988)

❑ Engineering Firms Identifying IPS Needs

- Among engineering and software development teams, a general knowledge of cooperation strategies, related to higher performance (Sonnentag & Lange, 2002).

❑ Scientific Organizations Recognizing Importance of IPS

- Interdisciplinary researchers need to be skilled interpersonally to form and maintain collegial collaborative relationships with those outside their primary discipline (Nash et al., 2003).

Why are IPS Important?

- **IPS and Employment**
 - Informally and formally used as selection criteria
- **IPS and College Entrance**
 - ETS Personal Potential Index evaluating aspects of collaborative potential of applicants
- **IPS in K-12**
 - Collaborative learning – increasing requirements for interactive learning and study
 - Collaborative problem solving – project teams beginning to be used earlier and earlier (e.g., collaborate on science projects)

POINT 2. The need for interpersonal skills increasingly prevalent and being pushed down to lower and lower levels in the educational system.

What are IPS?

- **Attitudinal, Behavioral, and Cognitive Components in IPS**
 - Social perception and social cognition involving processes such as attention, and decoding in interpersonal situations.
 - ***A form of social intelligence***
 - knowledge of social customs, expectations, and problem solving (McDonald, Flanagan, Rollins, & Kinch, 2003, p. 220).
 - rests on “ability to understand” behaviors, cognitions, and *attitudes* of individuals (including oneself) and to translate understanding into appropriate behavior in social situations (Marlowe, 1986, p. 52).
- Involves continuous correction of social performance based on reactions of others during social exchanges (Argyle, 1979).
 - Feedback loops where one continually adapts behaviors based on verbal and non-verbal cues from others involved in the social exchange.

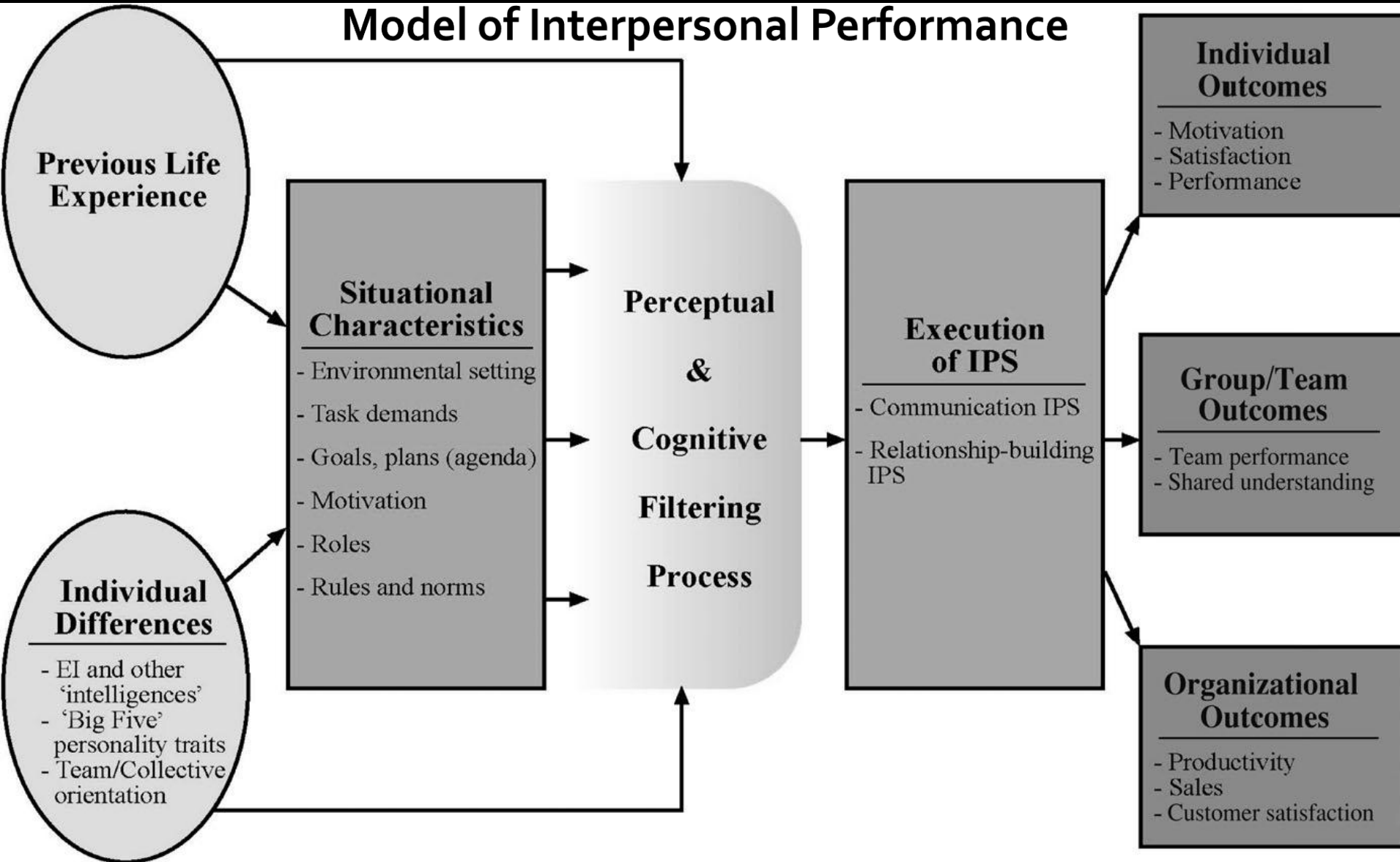
Making Sense of IPS

- Klein, DeRouin, & Salas (2006) reviewed and synthesized literature on IPS to develop:
 - Taxonomy of IPS and Model of Interpersonal Performance
 - Definition of IPS
 - An umbrella term that refers to “goal-directed behaviors, including communication and relationship-building competencies, employed in interpersonal interaction episodes characterized by complex perceptual and cognitive processes, dynamic verbal and nonverbal interaction exchanges, diverse roles, motivations, and expectancies” (p. 81).

Klein, C., DeRouin, R. E., & Salas, E. (2006). Uncovering workplace interpersonal skills: A review, framework, and research agenda. In G. P. Hodgkinson & J. K. Ford (Eds.), *International review of industrial and organizational psychology* (Vol. 21, pp. 80-126). New York: Wiley & Sons, Ltd.

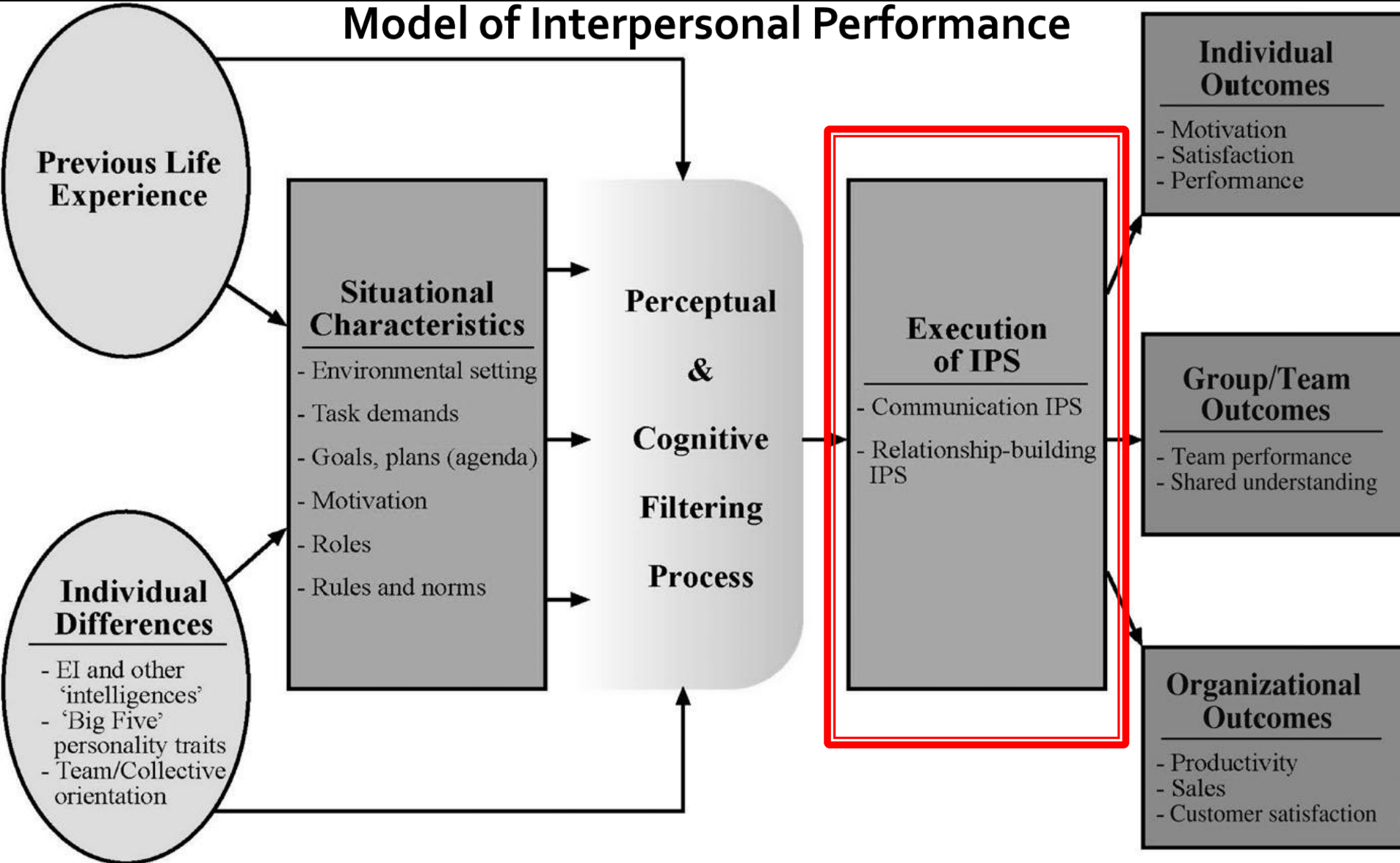
Making Sense of IPS

Model of Interpersonal Performance



Making Sense of IPS

Model of Interpersonal Performance



Making Sense of IPS

Interpersonal Skill	Description	Related Skill(s)
COMMUNICATION SKILLS		
<i>Active listening</i>	Paying close attention to what is being said, asking the other party to explain exactly what he or she means, and requesting that ambiguous ideas or statements are repeated	Listening with empathy and sympathy; listening for understanding
<i>Oral communication</i>	Sending verbal messages constructively	Enunciating; expressing yourself clearly; communicating emotion; interpersonal communication
<i>Written communication</i>	Writing clearly and appropriately	Clarity; communicating intended meaning
<i>Assertive communication</i>	Directly expressing one's feelings, preferences, needs, and opinions in a way that is neither threatening nor punishing to another person	Proposing ideas; social assertiveness; defense of rights; directive; asserting your needs
<i>Nonverbal communication</i>	Reinforcing or replacing spoken communication through the use of body language, gestures, voice, or artifacts	Expression of feelings; perception/recognition of feelings; facial regard

Making Sense of IPS

Interpersonal Skill	Description	Related Skill(s)
RELATIONSHIP-BUILDING SKILLS		
<i>Cooperation and coordination</i>	Understanding and working with others in groups/teams; includes offering help and pacing activities to fit the needs of the team	Adaptability; shared awareness; monitoring and feedback; interpersonal relations; communication; decision making; group problem solving
<i>Trust</i>	An individual's faith or belief in the integrity or reliability of another person or thing; willingness of a party to be vulnerable to the actions of another party based on the expectation that certain actions important to the trustor will be performed	Self-awareness; self-disclosure; swift trust
<i>Intercultural sensitivity</i>	Appreciating individual differences among people	Acceptance; openness to new ideas; sensitivity to others; cross-cultural relations
<i>Service orientation</i>	Basic predispositions and an inclination to provide service, to be courteous and helpful in dealing with customers, clients, and associates	Exceeding customer's expectations; customer satisfaction skills; ability to maintain positive client relationship; building rapport
<i>Self-presentation</i>	Process by which individuals attempt to influence the reactions and images people have of them and their ideas; managing these impressions encompasses a wide range of behaviors designed to create a positive influence on work associates	Self-expression; face-saving and impression management; managing perceptions; self-promotion

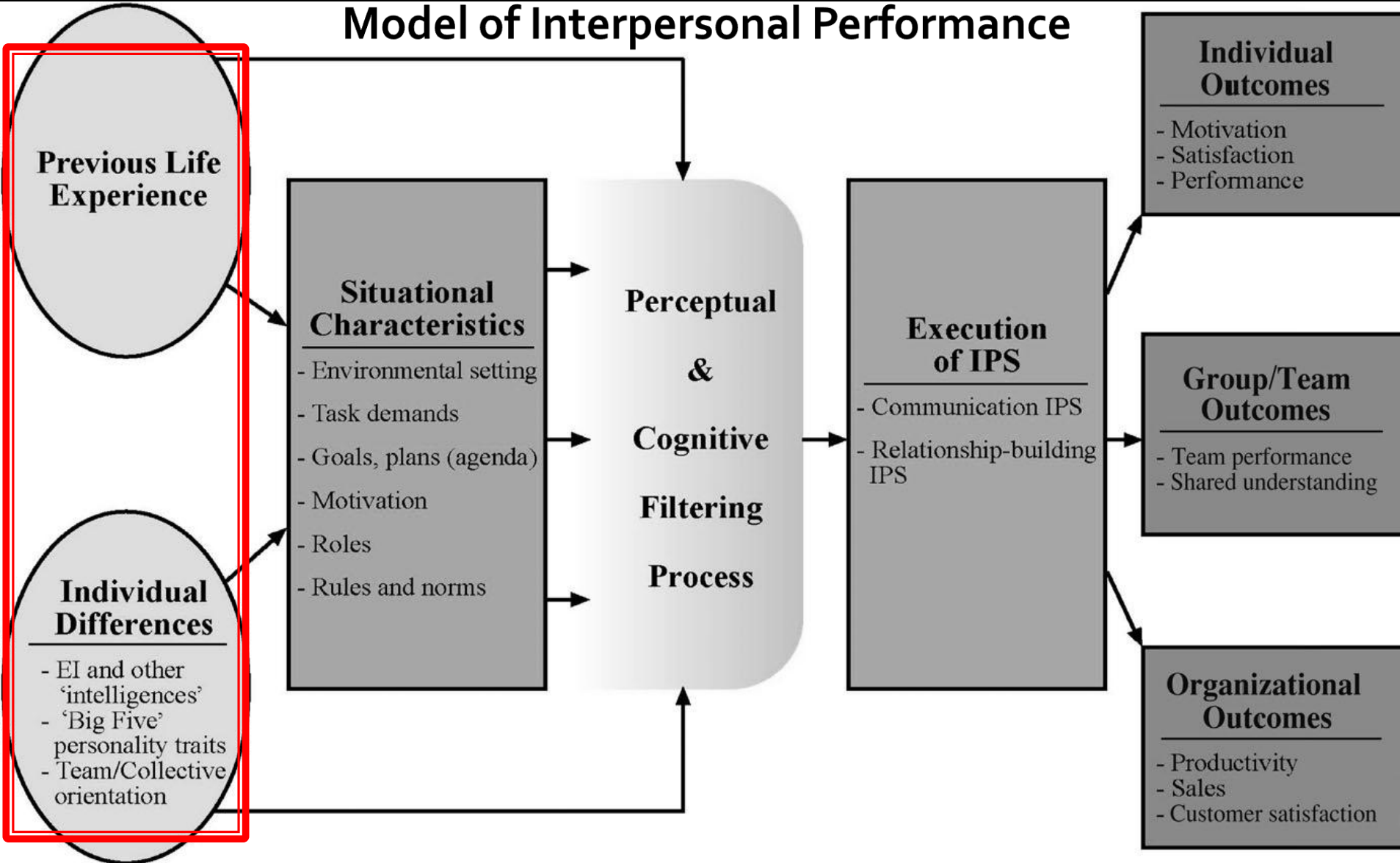
Making Sense of IPS

- Benefits of Klein, DeRouin, & Salas (2006) definition and model:
 - IPS displayed in goal-directed behaviors
 - IPS based on competencies
 - *Competencies driven by both attitudinal and cognitive processes*
- By focusing on the behaviors that are motivated by cognitions and attitudes, this definition allows for:
 - Measurement of specific actions
 - Avenues for exploring antecedents to effective IPS
 - Incorporation into selection decisions, performance appraisal systems, and training and development initiatives

POINT 3. Model provides theoretical guidance for testing relationships and for developing complex and embedded measurement items.

Assessing IPS

Model of Interpersonal Performance



Assessing IPS

- Previous Social Experience – addresses opportunities an individual has had to engage in successful and unsuccessful social interactions
- Can be measured by:
 - **Behavioral Narratives**
 - Narratives providing valuable information regarding personal social experiences via self-report (e.g., personal statements) or from others (e.g., letters of recommendation).
 - **Benefits**
 - Behavioral narratives focused specifically on interactions could provide useful information with regard to IPS.
 - **Issues**
 - May contain other related constructs such as abilities and personality.
 - Narratives are, by definition, historical, so current views or intentions not easily considered as related to given domain (Mael, 1991).

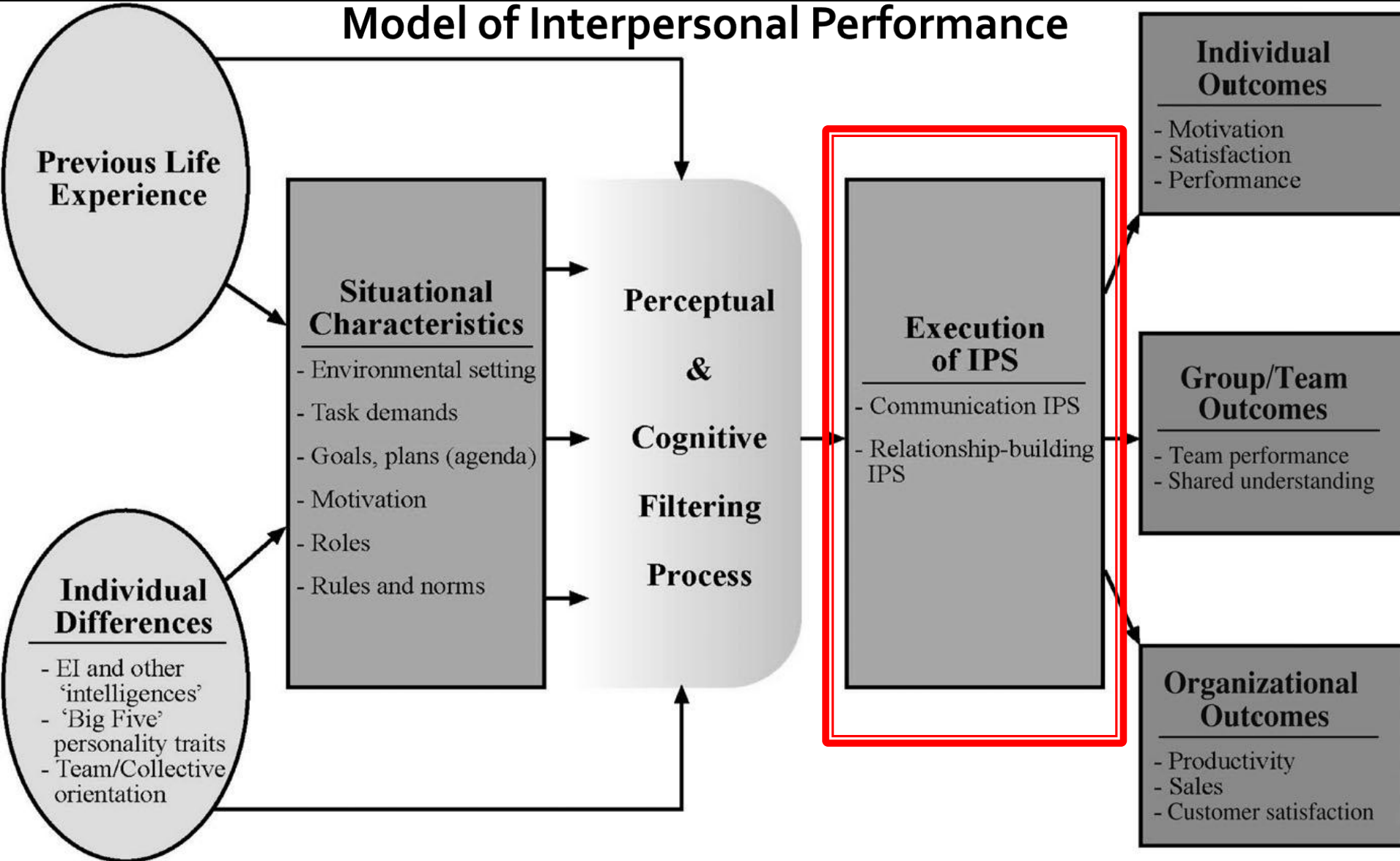
Assessing IPS

- Individual Differences – basic dimensions in which people can vary significantly such as dispositions or capabilities that ultimately influence their behavior (Motowildo, Borman, & Schmit, 1997).
 - Emotional intelligence, various personality traits, and team/collective orientation (i.e., one's focus on the team or collective goals above one's own goals).
- Can be measured by:
 - **Social Skills Inventory** (Riggio, 1986)
 - Emotional Expressivity and Emotional Sensitivity
 - Social Expressivity and Social Sensitivity
 - Emotional Control and Social Control
 - High internal consistency and test-retest reliability
 - Some subscales show large correlations with personality scales (e.g., the 16 Personality Factor Questionnaire, Cattell, Eber, & Tatsuoka, 1980)
 - Measuring anything beyond personality?



Assessing IPS

Model of Interpersonal Performance



Assessing IPS

- Relationship-Building Skills and Communication Skills – Each has specific skills included as subdimensions that, collectively, represent critical aspects of interpersonal competence.
- Much work has considered importance of interpersonal skills particularly with regard to teamwork (e.g., Salas, Burke, & Cannon-Bowers, 2000; Stevens & Campion, 1994).
- Can be measured by:
 - **Questionnaires using Self-Ratings**
 - Kantrowitz (2005) develop a 107-item self-report “soft skills” with two scales:
 - (1) performance standards for each behavior
 - (2) comparison of performance to others in their working groups.
 - Skill dimensions covered communication, leadership, performance management, self-management, interpersonal, political/cultural, and counterproductive skills.
 - **Questionnaires using Peer-Ratings**
 - Loughry, Ohland, and Moore (2007) developed the Comprehensive Assessment of Team Member Effectiveness (CATME).
 - 87-item measure with 5 general categories of team member contribution: (1) contributing to the team’s work, (2) interacting with teammates, (3) keeping the team on track, (4) expecting quality, and (5) having relevant KSAs.

Assessing IPS

Relationship-Building Skills and Communication Skills

■ Can be measured by:

■ **Situational Judgment Tests**

- Stevens and Campion's (1999) "Teamwork Test" is 35 multiple-choice hypothetical teamwork situations.
- Includes such IPS as:
 - Conflict Resolution
 - Communication
 - Coordination
- Criterion-validation efforts showed the test was related to both peer and supervisory ratings of teamwork and to job performance
- Also highly correlated to employee aptitude tests.

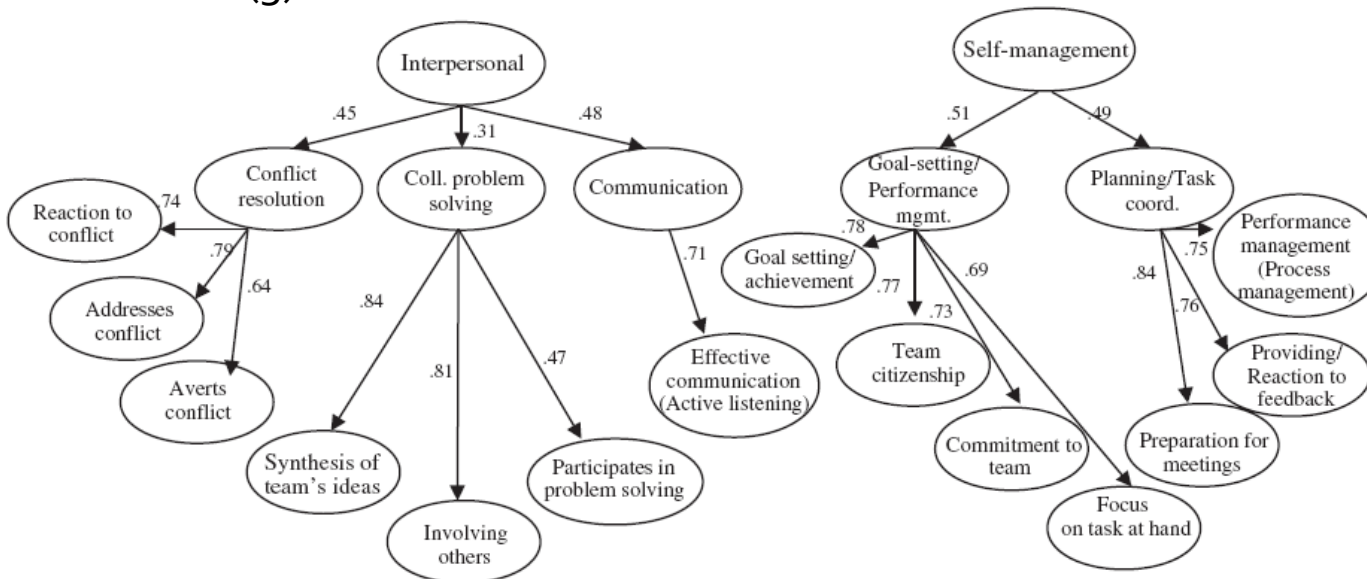


Assessing IPS

Relationship-Building Skills and Communication Skills

Behavioral Observation Scales

- Focuses on need to observe skills as occur rather than relying on self- (or other) report
- Behavioral referents are observable and focus rater's attention to relevant facets of IPS.
- Taggar & Brown (2001) developed BOS for interpersonal skills and self-management.
 - Derived BOS from critical incidents to provide context relevant examples.
 - Interpersonal skills consisted of (1) conflict resolution, (2) collaborative problem solving, and (3) communication.



POINT 4. Methods of assessing IPS exist but many developed out of literature on teams. Issue is relevance of these to non-team contexts.

Challenges with IPS

- **1. Granularity of Assessment: Interpersonal Expertise**
 - We have no constructs for considering more sensitive variations in “interpersonal expertise” (cf. Fiore, Hoffman, & Salas, 2008; Hoffman, 1998)
- **NEXT STEPS: A Gauge for a “Continuum of Interpersonal Expertise”**

Level of Expertise	Conceptual Definition
Naïve	No experience with the domain
Novice	Someone with some (“minimal”) exposure to the domain
Initiate	Novice who has been through initiation and has begun introductory instruction
Apprentice	Student undergoing a program of instruction beyond the introductory level. Is immersed in the domain by living with and assisting someone at a higher level.
Journeyman	Someone who can perform labor unsupervised, although working under orders. An experienced and reliable worker, or one who has achieved a level of competence.
Expert	Distinguished or brilliant journeyman, highly regarded by peers, whose judgments are uncommonly accurate/reliable, whose performance shows economy of effort, and who can deal effectively with rare cases.
Master	Traditionally, a master is any journeyman or expert who is also qualified to teach those at a lower level. In some areas, a master was one of an elite group of experts whose judgments set the regulations, standards, or ideals.

Challenges with IPS

2. Fidelity of Assessment: Creating Context

- IPS, by definition, require interaction with some “other”
 - BUT, majority of testing is still done in individualized manner
- Need to adopt more sophisticated simulation technologies (e.g., Fiore, Metcalfe, & McDaniel, 2007) to contextualize interactions

NEXT STEPS: Simulation & Games

- Role-Playing Games
 - Can these be populated with IPS related “events” triggered by avatars to assess player response
- Soft-skills Simulations
 - Can be low to high-tech
 - Smith-Jentsch et al. developed “ER Waiting Room” simulation with scripted recorded responses
 - May be able to elicit emotional responses



Challenges with IPS

□ 3. Current Relevance of IPS: Interacting in the Age of Tweets

- IPS constructs formulated when work and social interactions were synchronous and face-to-face
- Now asynchronous and distributed (e.g., Fiore, Cuevas, Salas, & Bowers, 2003)
- Older conceptualizations may not map to new generation (“It’s rude to call someone on the phone.”)

NEXT STEPS: Studying Virtual Interactions

- Social Media (Tweets, Facebook, and MMRPG)
 - We need to examine data mining techniques for studying patterns of interactions
 - We need to examine new ways to link content of interactions (i.e., communications) to (online)behavioral process to understand what now constitutes interpersonal skills



Challenges with IPS

- ❑ 4. Coming to Terms: Terminology in 21st Century Skills
 - Address inconsistencies in how concepts are labeled and how defined (Fiore & Salas, 2006).

NEXT STEPS: Pursue Etymological Analyses

- ❑ Cooperation
 - ❑ Etymology: 17c: from Latin cooperari to work together. 1398, from L.L. cooperationem "a working together," from cooperari "to work together," from com- "with" + operari "to work" (see operation).
- ❑ Collaborate
 - ❑ Etymology: 19c: from Latin com- together + laborare to work. - 1871, back-formation from collaborator (1802), from Fr. collaborateur, from L. collaboratus, pp. of collaborare "work with," from com- "with" + labore "to work."
- ❑ Coordination
 - ❑ Etymology: 1605, from L.L. coordinationem (nom. coordinatio), from L. coordinare "to set in order, arrange," from com- "together" + ordinatio "arrangement," from ordo "order."

Interpretation

- Collaboration and cooperation have a similar origin – both are derived from a combination of Latin words meaning “work” and “together”.
- Coordination is unique - derived from 3 distinct concepts – “arrange,” “order,” and “together.” *Derived independent of anything to do with human interaction*
- **Team Coordination defined as** “Orchestrating the sequence and timing of interdependent actions” (Marks, Mathieu, & Zaccaro, 2001, p. 363).

Summary

□ Points About IPS

1. Lack of conceptual clarity with 21st Century Skills is deeply problematic at theoretical, methodological, and practical level.
2. Need for interpersonal skills increasingly prevalent and being pushed down to lower and lower levels in the educational system.
3. Model provides theoretical guidance for testing relationships and for developing complex and embedded measurement items.
4. Methods of assessing IPS exist but many developed out of literature on teams. Issue is relevance of these to non-team contexts.

□ Challenges for IPS

1. Granularity of Assessment: Interpersonal Expertise
2. Fidelity of Assessment: Creating Context
3. Current Relevance of IPS: Interacting in the Age of Tweets
4. Coming to Terms: Terminology in 21st Century Skills

Thank You

sfiore@ist.ucf.edu

wbedwell@ist.ucf.edu

esalas@ist.ucf.edu



**INSTITUTE for
SIMULATION
& TRAINING**