Personality Validity in Predicting Job Performance: How Much Does Context Matter?

2018 International Personnel Assessment Council Conference

Alexandria, VA

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Acknowledgements

- Co-authors Dr. Ann Marie Ryan (MSU), Dr. Tamera McKinniss (ACT, Inc.), & Dr. Jason Way (ACT, Inc).

Personality in Employee Selection

- Since 1990's, resurgence of interest in personality

- Driven by meta-analytic results suggesting personality related to important organizational outcomes (Barrick & Mount, 1991; Barrick, Mount, & Judge, 2001)

- Since this resurgence, numerous advancements in research & practice

Personality in Employee Selection

- Two big developments
  - Lower level personality constructs (facets, aspects)
  - Job context

INTERSECTION

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Structure of Personality

- Five Factor Model (FFM) emerged as a dominant framework for personality (Digman, 1990)
  - Conscientiousness
    - Responsibility, organization, dependable
  - Extraversion
    - Sociability, assertiveness, gregariousness
  - Openness to Experience
    - Imaginative, curious, original
  - Agreeableness
    - Cooperativeness, trusting, courteous
  - Neuroticism (or Emotional Stability)
    - Anxiety, anger, emotionality

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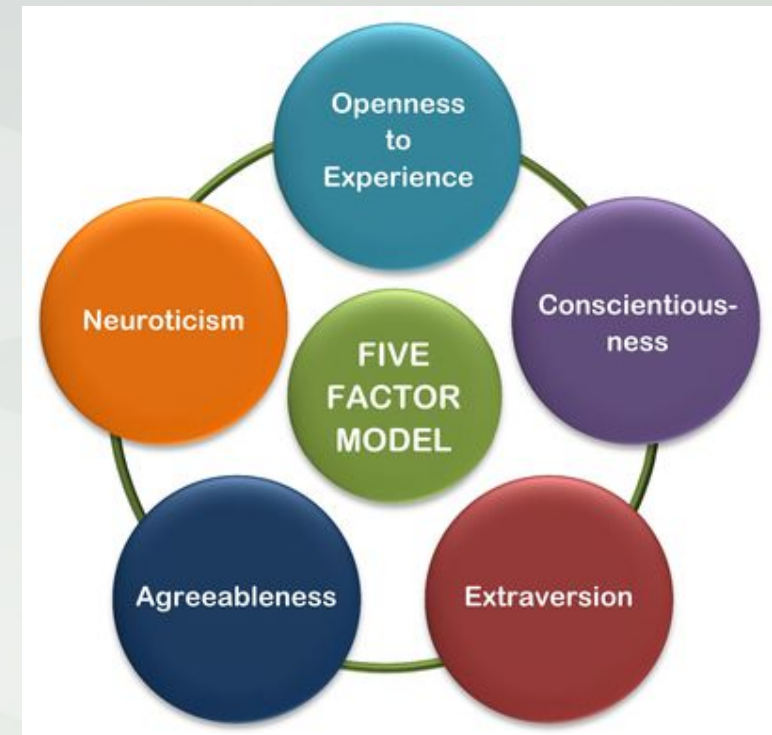
Five Factor Model of Personality

- FFM useful and related to important outcomes
  - Job performance (Barrick & Mount, 1991; Barrick et al., 2001)
  - Long term career success (Judge, Higgins, Thoresen, & Barrick, 1999)
  - Job satisfaction (Judge, Heller, & Mount 2002)
  - Motivation (Judge & Ilies, 2002)
- Represent large "buckets" of tendencies
- Calls to look at narrower slices of personality (Barrick & Mount, 2005; Schneider, Hough, & Dunnette, 1996)

Extraversion

Narrower Personality Variables

- Many different models (Woods & Anderson, 2016)

| Trait	Facets
Neuroticism	Anxiety, Hostility, Depression, Self-Consciousness, impulsivity, Vulnerability to Stress
Extraversion	Warmth, Gregariousness, Assertiveness, Activity, Excitement Seeking, Positive Emotions
Openness to Experience	Fantasy, Aesthetics, Feelings, Actions, Ideas, Values
Agreeableness	Trust, Straightforwardness, Altruism, Compliance, Modesty, Tendermindedness
Conscientiousness	Competence, Order, Dutifulness, Achievement Striving, Self-Discipline, Deliberation

(NEO-PI-R: Costa & McCrae, 1992)

Why Facets?

- Within traits, facets can display differing relationships with outcomes (Tett, Steele, & Burnett, 2003)

- Facets can more precisely be paired with outcomes (Barrick & Mount, 2005)

- Demonstrated value in predicting organizationally relevant outcomes compared to traits (e.g. Ashton, 1998; Dudley, Orvis, Lebiecki, & Cortina, 2006; Judge, Rodell, Klinger, Simon, & Crawford, 2013)

- Current study focuses on facet level personality variables

Narrower Criteria

- Job performance is multidimensional (Campbell & Wiernik, 2015)
  - E.g. interpersonal, adaptive, counterproductive work behaviors, etc.
- Suggested matching personality to theoretically relevant subcomponents lead to higher validity (Schneider et al., 1996)
- Ex.   Agreeableness → Interpersonal performance
- Current study focuses on narrower criteria
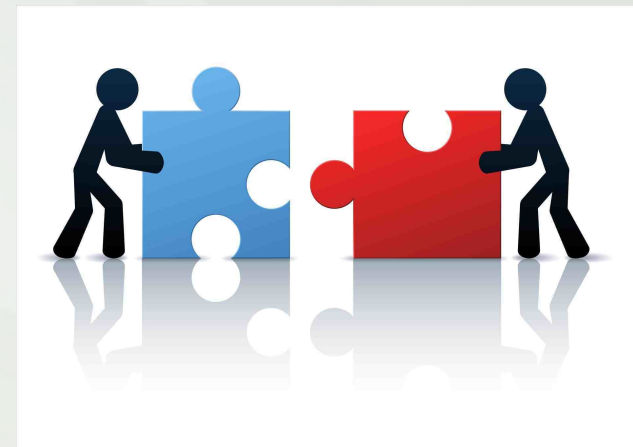
Does the Context Matter?

- Person-situation debate
- About 40 years ago, concluded both matter (Mischel, 1977)
- Theoretical frameworks emerged to describe what aspects of context matter in workplace
  - Situational Strength (see Meyer, Dalal, & Herminda, 2010)
  - Trait Activation Theory (Tett & Burnett, 2003)

Situational Strength

- Situation can be strong or weak depending on cue or constraints present as to expected or accepted behavior (Mischel, 1977; Weiss & Adler, 2003)

- General hypothesis that personality more predictive of behavior in weak situations than strong

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Situational Strength
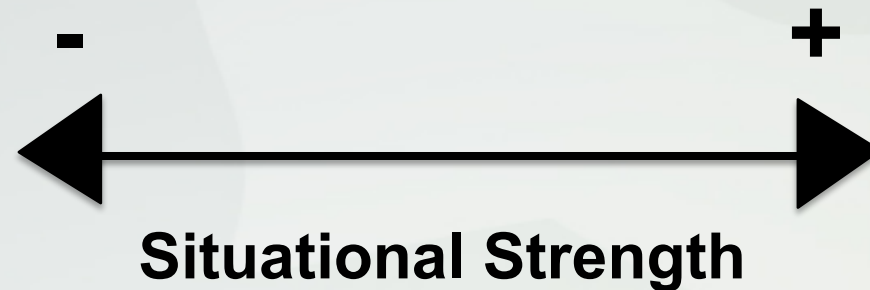
Trait Activation Theory

- Environment will "cue" certain traits to be activated (Tett & Burnett, 2003)
- Essentially, personality trait more predictive in environment where activated

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**Predictive Validity
of Extraversion**
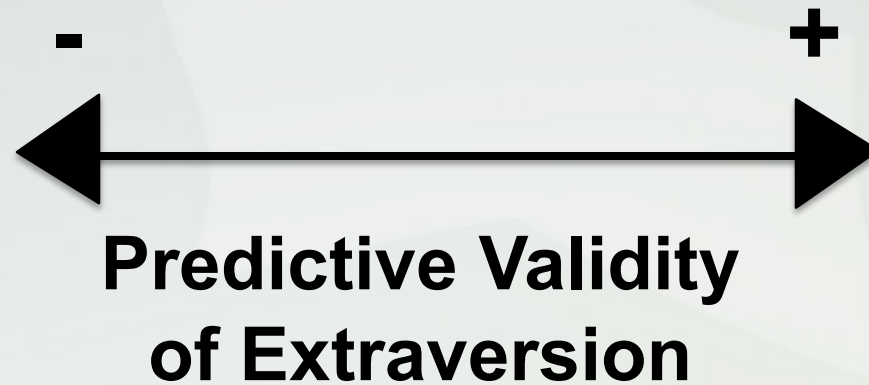
Empirically Testing Theories of Context Effects

- Judge & Zapata, 2015
  - Meta-analytically tested situational strength & trait activation theory
  - Homogeneous samples from literature, paired with Occupational Network (O*NET) data
  - Looked at effects on predicting job performance
  - Results generally supported both theories
- Study builds on Judge & Zapata (2015):
  - Focusing on facets
  - Utilizing specific criteria
  - Non-inferred job titles
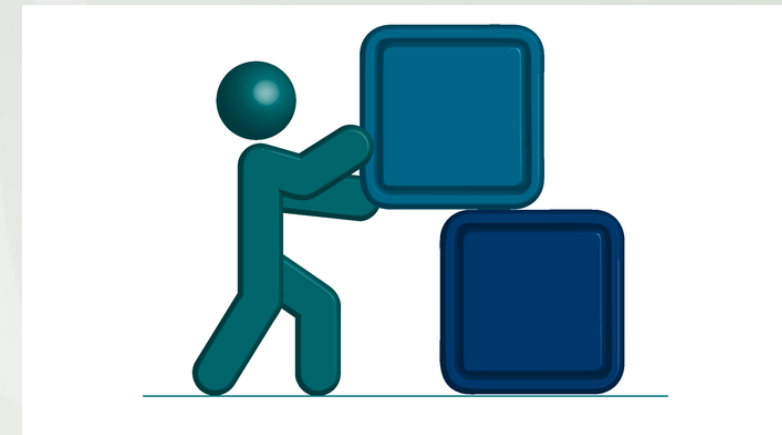
Current Study

- Hypothesized sixty-five theoretically driven personality facet-job performance facet relationship moderators

- Variables Included:

  - *Personality Facets:* Carefulness, Discipline, Order, Stability, Optimism, Cooperation, Goodwill, Sociability, Influence, Striving, Creativity

  - *Performance Facets:* Core Task Performance, Interpersonal Performance, Adaptive Performance, Compliance

  - *Job Characteristics:* Situational Strength Process Composite, Situational Strength Outcomes Composite, Independence, Attention to Detail, Dealing with Unpleasant or Angry People, Social Skills, Level of Competition, Innovation

Current Study

Level 2 (Occupation)

- -

Level 1 (Individual)
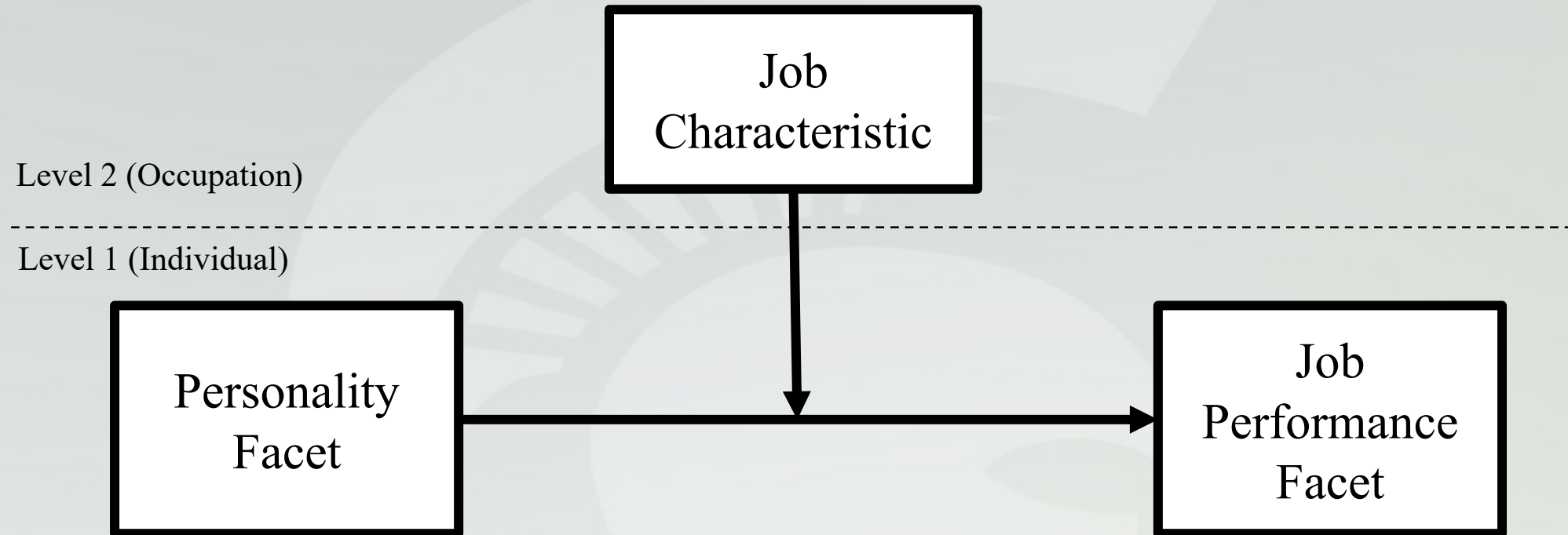
General Form of Hypothesized Models

Example:

H2: Independence and attention to detail requirements in a job will moderate the validities of discipline, order, and carefulness in predicting core task performance and compliance performance such that validities will be stronger when these characteristics are high.

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Sample

- Large, multiorganizational sample
  - 1,479 employees
  - 146 jobs
    - Wide Range (Nurses, Hairdressers, Cooks, Computer Programmers, etc.
- 15 organizations
  - Primarily from healthcare system (~70%)

Measures

- Personality
  - WorkKeys® Talent assessment (ACT, 2009)
  - 165-item, internet administered inventory
  - 6-point Likert scales
  - 12 facets
  - Designed to measure job relevant personality facets
  - Adequate reliability (α = .81 to .89)

Measures

Scale	Tendency to....	Related Five Factor Model Trait
Carefulness	think and plan carefully before acting or speaking.	Conscientiousness
Discipline	be responsible, dependable, and follow through with tasks without becoming distracted or bored.	Conscientiousness
Order	be neat and well-organized.	Conscientiousness
Stability	maintain composure and rationality in situations of actual or perceived stress.	Emotional Stability
Optimism	have a positive outlook and confidence in successful outcomes.	Emotional Stability
Cooperation	be likable and cordial in interpersonal situations.	Agreeableness
Goodwill	be forgiving and to believe that others are well-intentioned.	Agreeableness
Sociability	enjoy being in other people's company and to work with others	Extraversion
Influence	impact and dominate social situations by speaking without hesitation and often becoming a group leader.	Extraversion
Striving	have high aspiration levels and to work hard to achieve goals	Extraversion
Creativity	be imaginative and to think "outside the box".	Openness

Adapted from ACT, 2009

Measures

- Job Performance
  - Standardized supervisory ratings
  - 4 specific job performance facets
    - Interpersonal performance
      - 12 items (α = .93)
    - Core task performance
      - 10 items (α = .95)
    - Compliance performance
      - 15 items (α = .90)
    - Adaptive performance
      - 13 items (α = .95)

Measures

- ▪ Job Characteristics
  - ▪ Utilized O*NET job ratings
    - • Consistent with Judge & Zapata, 2015
  - ▪ Situational strength
    - • Outcomes composite
      - – Impact of decisions on coworkers/results, consequences of error, responsibility for health/safety of others
    - • Process composite
      - – Unstructured (vs. structured) work, freedom to make decisions, variety

Measures

- ▪ Job Characteristics
  - ▪ Trait Activation Theory
    - Independence in completing work
    - Attention to detail
    - Social skills
    - Level of competition
    - Innovation/creativity
    - Dealing with unpleasant or angry people

Analyses

- Three-level multilevel regression utilized
  - Random intercept model
  - Conducted in R, Multilevel package (Bliese, 2016)
  - Level 1 group-mean centered (Hofmann & Gavin, 1998)

Level 3 **Company**

Level 2 **Occupation**

Level 1 **Individual**

Results

- Generally did not support our hypotheses
- 3/65 hypothesized relationships supported
  - Two situational strength
  - One trait activation

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Results

- Process situational strength composite moderated the relationship between influence and core task performance ($p < .05$) (H1a)
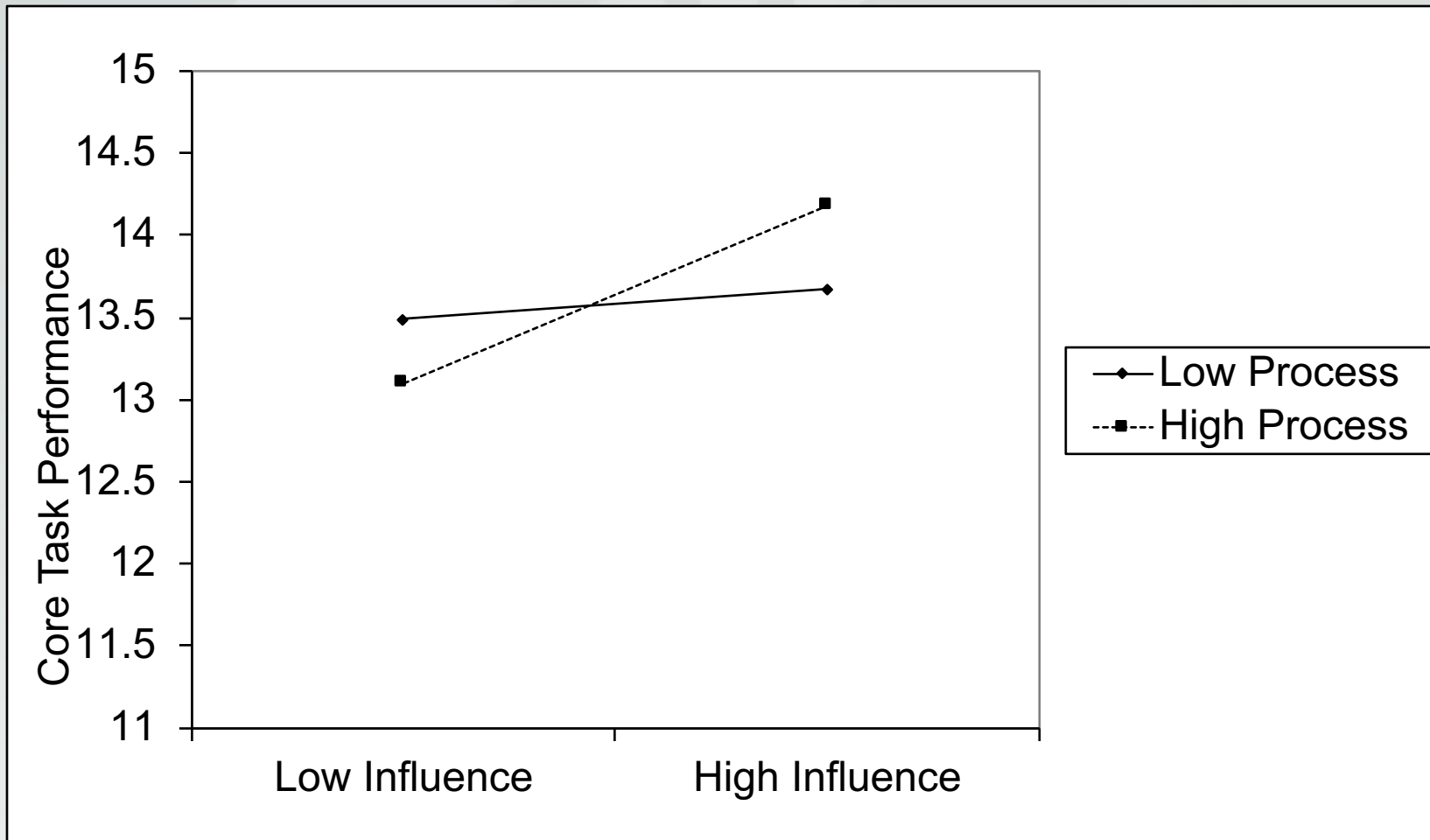
Results

- Process situational strength composite moderated the relationship between striving and core task performance ($p < .05$) (H1a)
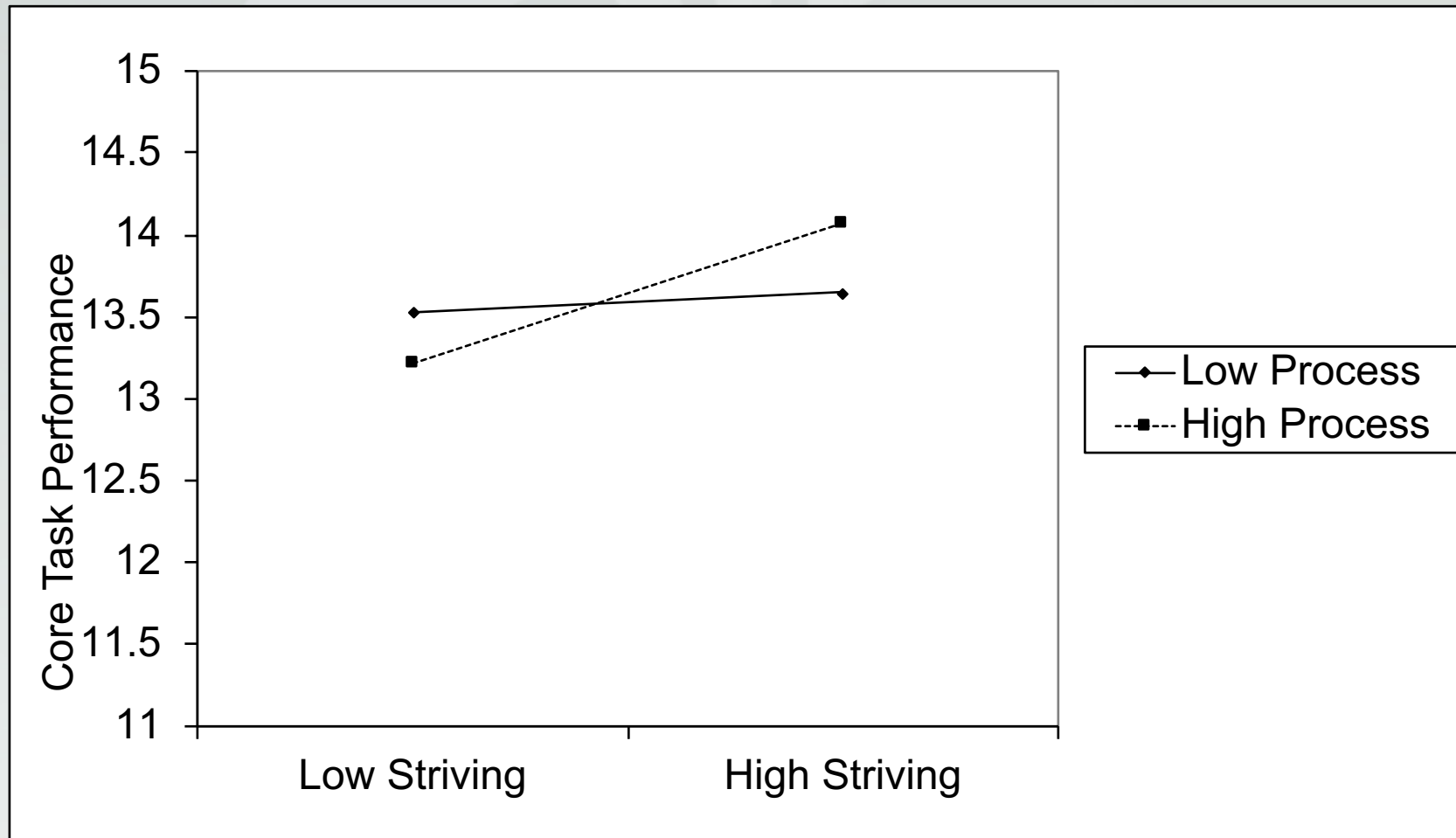
Results

- Dealing with unpleasant or angry people moderated the relationship between influence and core task performance *(p < .05) (*H4a)
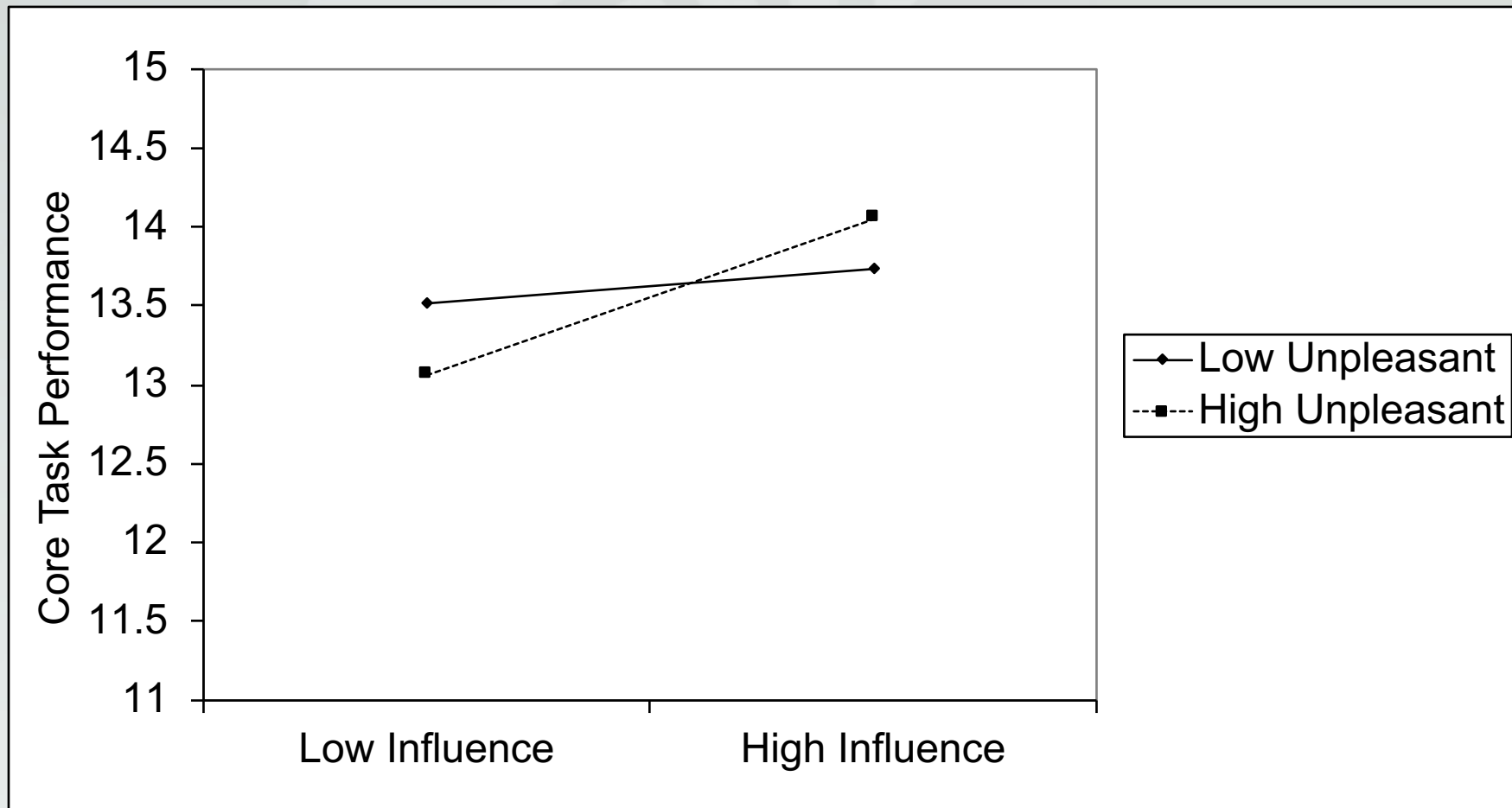
Discussion

- Generally did not find support for situational strength or trait activation theory effects at facet level on specific criteria
- Why?
  - Used different method that Judge & Zapata (2015)
  - Large number of jobs in healthcare field
  - Intercorrelations between facets, performance ratings
  - Used generalized O*NET data

Future Research

- Replication of study
- Collect local job information
- Other ways to incorporate context
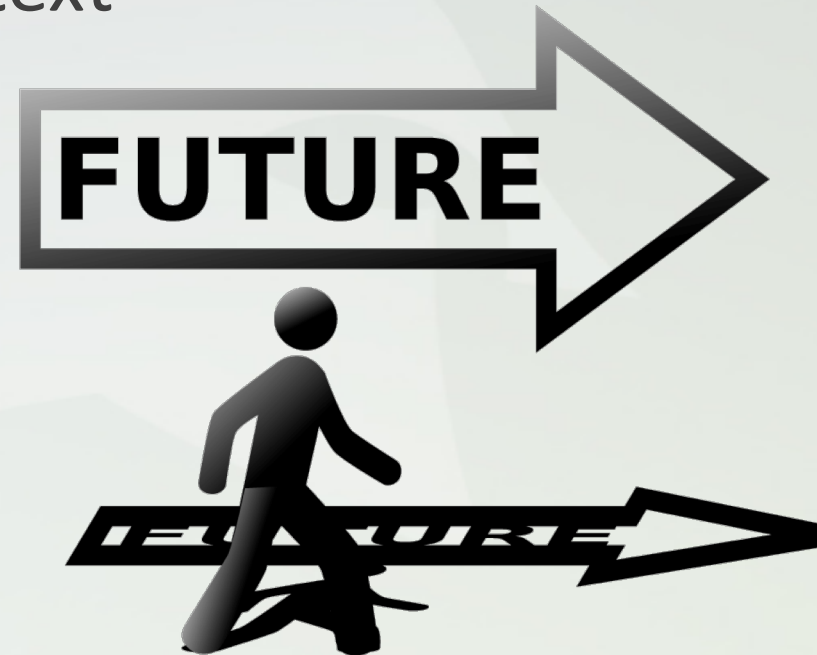
Questions?

Thank You!

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Supplemental Materials

Hypotheses

H1a: "Process" strength factors (i.e., structured work, lack of freedom to make decisions, and low task variety) will moderate the validities of personality measures in predicting core task performance such that relationships will be stronger when the job is weaker on these factors.

H1b: "Outcomes" strength factors (i.e., impact of decisions on others, consequences of error, and responsibility for others) will moderate the validities of cooperation and goodwill in predicting core task performance and interpersonal job performance such that relationships will be stronger when the job is weaker on these factors.

H1c: "Outcomes" strength factors (i.e., impact of decisions on others, consequences of error, and responsibility for others) will moderate the validity of creativity in predicting core task performance and adaptive performance such that relationships will be stronger when the job is weaker on these factors.

H2: Independence and attention to detail requirements in a job will moderate the validities of discipline, order, and carefulness in predicting core task performance and compliance performance such that validities will be stronger when these characteristics are high.

H3: Required levels of dealing with unpleasant or angry people and social skills requirements will moderate the validities of optimism and stability in predicting core task performance and interpersonal job performance such that validities will be stronger when these characteristics are high.

Hypotheses (Cont.)

H4a: Required levels of dealing with unpleasant people, social skills, and competition will moderate the validity of influence in predicting core task performance and interpersonal job performance such that validities will be stronger when these characteristics are high.

H4b: Required levels of competition will moderate the validity of striving in predicting core task performance and interpersonal job performance such that validities will be stronger when these characteristics are high.

H4c: Required social skills and dealing with unpleasant people will moderate the validity of sociability in predicting core task performance and interpersonal job performance such that validities will be stronger when these characteristics are high.

H5: Requirements of social skills, dealing with unpleasant people, and competition will moderate the validities of cooperation and goodwill in predicting core task performance and interpersonal job performance such that validities will be stronger when these characteristics are high.

H6: Required independence and innovation will moderate the validity of creativity in predicting core task performance and adaptive performance such that validities will be stronger when these characteristics are high.

Level 1 Correlation Matrix

	N	Mean	SD	1	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Carefulness	1479	64.43	8.76														
2. Cooperation	1479	63.21	6.67	.52													
3. Creativity	1478	60.75	9.21	.34	.47												
4. Discipline	1479	66.95	8.17	.59	.58	.48											
5. Striving	1478	62.01	9.62	.37	.48	.57	.58										
6. Goodwill	1479	64.84	7.64	.46	.68	.40	.50	.37									
7. Influence	1479	52.48	10.47	.21	.28	.58	.40	.58	.24								
8. Optimism	1479	63.40	8.80	.42	.61	.42	.54	.50	.66	.37							
9. Order	1478	64.32	8.37	.50	.45	.27	.64	.45	.33	.19	.41						
10. Sociability	1479	61.93	11.93	.20	.50	.47	.40	.51	.49	.57	.51	.26					
11. Stability	1479	55.79	10.84	.42	.54	.45	.51	.41	.50	.42	.61	.23	.41				
12. Core Performance	1446	14.63	3.30	.13	.13	.07	.21	.12	.14	.11	.15	.16	.10	.14			
13. Interpersonal Performance	1401	15.48	3.04	.11	.18	.04	.14	.07	.15	.05	.14	.12	.11	.16	.75		
14. Compliance Performance	1305	15.06	2.48	.17	.15	.06	.18	.06	.14	.04	.12	.14	.05	.13	.63	.65	
15. Adaptive Performance	1007	14.59	2.99	.06	.08	.06	.12	.11	.09	.11	.09	.07	.09	.11	.87	.81	.65

N = 992-1479. All values above .07 are significant at $p < .01$; .06 -.07 significant at $p < .05$.

Level 2 Correlation Matrix

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Structured v. unstructured	74.52	11.96													
2. Freedom to make decisions	74.30	12.30	.77**												
3. Variety	75.85	9.32	.35**	.32**											
4. Process composite	0.00	.81	.87**	.86**	.69**										
5. Impact of decisions	67.99	11.71	.46**	.52**	.39**	.57**									
6. Consequence of error	43.36	14.78	.17	.17	.30**	.26**	.41**								
7. Responsibility for others	54.10	20.73	.01	.06	.02	.04	.30**	.40**							
8. Outcomes composite	0.00	.76	.28**	.33**	.31**	.38**	.75**	.79**	.74**						
9. Independence	72.99	9.59	.41**	.37**	.59**	.56**	.32**	.15	-.11	.16					
10. Attention to detail	83.72	8.12	.34**	.23*	.55**	.46**	.18*	.31**	-.19*	.14	.55**				
11. Unpleasant or angry people	54.20	14.91	-.14	-.20*	.25**	-.04	.22*	.16	.34**	.32**	.00	-.15			
12. Social skills requirement	87.29	10.10	.29**	.25**	.42**	.40**	.30**	.04	.08	.18*	.17	.09	.55**		
13. Level of competition	50.04	13.52	.16	.29**	.27**	.30**	.36**	.11	-.06	.18	.10	.20*	-.03	.03	
14. Innovation/creativity	61.74	11.82	.52**	.51**	.69**	.71**	.38**	.16	-.09	.20*	.69**	.53**	-.15	.15	.32**

N = 121   *p < .05   **p < .01

Results (H1)

Hypothesis	IV	DV	Moderator	N Level 1	N Level 2	N Level 3	P Value of Interaction	Unstandardized Regression Weight of Interaction
H1a	Carefulness	Core Job Performance Composite	Process Composite	1192	190	14	0.95	0.00
	Discipline	Core Job Performance Composite	Process Composite	1192	190	14	0.34	0.02
	Order	Core Job Performance Composite	Process Composite	1191	190	14	0.46	0.01
	Stability	Core Job Performance Composite	Process Composite	1192	190	14	0.08	0.02
	Optimism	Core Job Performance Composite	Process Composite	1192	190	14	0.60	0.01
	Cooperation	Core Job Performance Composite	Process Composite	1192	190	14	0.16	0.03
	Goodwill	Core Job Performance Composite	Process Composite	1192	190	14	0.69	0.01
	Sociability	Core Job Performance Composite	Process Composite	1192	190	14	0.06	0.03
	Influence	Core Job Performance Composite	Process Composite	1192	190	14	0.01	0.04
	Striving	Core Job Performance Composite	Process Composite	1191	190	14	0.05	0.03
	Creativity	Core Job Performance Composite	Process Composite	1191	190	14	0.25	0.02
H1b	Cooperation	Core Job Performance Composite	Outcomes Composite	1192	190	14	0.28	0.02
	Goodwill	Core Job Performance Composite	Outcomes Composite	1192	190	14	0.27	0.02
	Cooperation	Interpersonal Job Performance Composite	Outcomes Composite	1168	174	7	0.44	0.01
	Goodwill	Interpersonal Job Performance Composite	Outcomes Composite	1168	174	7	0.59	0.01
H1c	Creativity	Core Job Performance Composite	Outcomes Composite	1191	190	14	0.09	0.02
	Creativity	Adaptive Performance Composite	Outcomes Composite	802	71	2	0.73	0.01

Note. Level 1 N reflects individuals; Level 2 N reflects jobs, separately considered by organization; Level 3 reflects organization *p* < .05

Results (H2)

Hypothesis	IV	DV	Moderator	N Level 1	N Level 2	N Level 3	P Value of Interaction	Unstandardized Regression Weight of Interaction
H2	Discipline	Core Job Performance Composite	Independence	1192	190	14	0.71	0.00
	Order	Core Job Performance Composite	Independence	1191	190	14	0.84	0.00
	Carefulness	Core Job Performance Composite	Independence	1192	190	14	0.60	0.00
	Discipline	Core Job Performance Composite	Attention to Detail	1192	190	14	0.41	0.00
	Order	Core Job Performance Composite	Attention to Detail	1191	190	14	0.61	0.00
	Carefulness	Core Job Performance Composite	Attention to Detail	1192	190	14	0.26	0.00
	Discipline	Compliance Composite	Independence	1093	155	7	0.16	0.00
	Order	Compliance Composite	Independence	1092	155	7	0.65	0.00
	Carefulness	Compliance Composite	Independence	1093	155	7	0.43	0.00
	Discipline	Compliance Composite	Attention to Detail	1093	155	7	0.52	0.00
	Order	Compliance Composite	Attention to Detail	1092	155	7	0.42	0.00
	Carefulness	Compliance Composite	Attention to Detail	1093	155	7	0.33	0.00

Note. Level 1 N reflects individuals; Level 2 N reflects jobs, separately considered by organization; Level 3 reflects organization *p* < .05

Results (H3)

Hypothesis	IV	DV	Moderator	N Level 1	N Level 2	N Level 3	P Value of Interaction	Unstandardized Regression Weight of Interaction
H3	Optimism	Core Job Performance Composite	Unpleasant/Angry People	1192	190	14	0.75	0.00
	Stability	Core Job Performance Composite	Unpleasant/Angry People	1192	190	14	0.42	0.00
	Optimism	Interpersonal Job Performance Composite	Unpleasant/Angry People	1168	174	7	0.70	0.00
	Stability	Interpersonal Job Performance Composite	Unpleasant/Angry People	1168	174	7	0.45	0.00
	Optimism	Core Job Performance Composite	Social Skills	1192	190	14	0.61	0.00
	Stability	Core Job Performance Composite	Social Skills	1192	190	14	0.87	0.00
	Optimism	Interpersonal Job Performance Composite	Social Skills	1168	174	7	0.67	0.00
	Stability	Interpersonal Job Performance Composite	Social Skills	1168	174	7	0.90	0.00

Note. Level 1 N reflects individuals; Level 2 N reflects jobs, separately considered by organization; Level 3 reflects organization *$p < .05$

Results (H4)

Hypothesis	IV	DV	Moderator	N Level 1	N Level 2	N Level 3	P Value of Interaction	Unstandardized Regression Weight of Interaction
H4a	Influence	Core Job Performance Composite	Unpleasant/Angry People	1192	190	14	0.04	0.00
	Influence	Interpersonal Job Performance Composite	Unpleasant/Angry People	1168	174	7	0.07	0.00
	Influence	Core Job Performance Composite	Social Skills	1192	190	14	0.11	0.00
	Influence	Interpersonal Job Performance Composite	Social Skills	1168	174	7	0.57	0.00
	Influence	Core Job Performance Composite	Competition	1192	190	14	0.13	0.00
	Influence	Interpersonal Job Performance Composite	Competition	1168	174	7	0.55	0.00
H4b	Striving	Core Job Performance Composite	Competition	1191	190	14	0.10	0.00
	Striving	Interpersonal Job Performance Composite	Competition	1167	174	7	0.14	0.00
H4c	Sociability	Core Job Performance Composite	Social Skills	1192	190	14	0.16	0.00
	Sociability	Interpersonal Job Performance Composite	Social Skills	1168	174	7	0.62	0.00
	Sociability	Core Job Performance Composite	Unpleasant/Angry People	1192	190	14	0.18	0.00
	Sociability	Interpersonal Job Performance Composite	Unpleasant/Angry People	1168	174	7	0.22	0.00

Note. Level 1 N reflects individuals; Level 2 N reflects jobs, separately considered by organization; Level 3 reflects organization *p* < .05

Results (H5)

Hypothesis	IV	DV	Moderator	N Level 1	N Level 2	N Level 3	P Value of Interaction	Unstandardized Regression Weight of Interaction
H5a	Cooperation	Core Job Performance Composite	Social Skills	1192	190	14	0.77	0.00
	Cooperation	Interpersonal Job Performance Composite	Social Skills	1168	174	7	0.87	0.00
	Cooperation	Core Job Performance Composite	Unpleasant/Angry People	1192	190	14	0.98	0.00
	Cooperation	Interpersonal Job Performance Composite	Unpleasant/Angry People	1168	174	7	0.97	0.00
	Goodwill	Core Job Performance Composite	Social Skills	1192	190	14	0.83	0.00
	Goodwill	Interpersonal Job Performance Composite	Social Skills	1168	174	7	0.92	0.00
	Goodwill	Core Job Performance Composite	Unpleasant/Angry People	1192	190	14	0.94	0.00
	Goodwill	Interpersonal Job Performance Composite	Unpleasant/Angry People	1168	174	7	0.89	0.00
H5b	Cooperation	Core Job Performance Composite	Competition	1192	190	14	0.59	0.00
	Cooperation	Interpersonal Job Performance Composite	Competition	1168	174	7	0.20	0.00
	Goodwill	Core Job Performance Composite	Competition	1192	190	14	0.69	0.00
	Goodwill	Interpersonal Job Performance Composite	Competition	1168	174	7	0.66	0.00

Note. Level 1 N reflects individuals; Level 2 N reflects jobs, separately considered by organization; Level 3 reflects organization $*p < .05$

Results (H6)

Hypothesis	IV	DV	Moderator	N Level 1	N Level 2	N Level 3	P Value of Interaction	Unstandardized Regression Weight of Interaction
H6	Creativity	Core Job Performance Composite	Independence	1191	190	14	0.28	0.00
	Creativity	Adaptive Performance Composite	Independence	802	71	2	0.96	0.00
	Creativity	Core Job Performance Composite	Innovation	1191	190	14	0.13	0.00
	Creativity	Adaptive Performance Composite	Innovation	802	71	2	0.97	0.00

Note. Level 1 N reflects individuals; Level 2 N reflects jobs, separately considered by organization; Level 3 reflects organization *p < .05