

Expanding the Criterion Domain: Counterproductive Work Behaviors

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This handout is intended for conference attendees of the 2008 Assessment Center Study Group Conference in Stellenbosch, South Africa.

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Presentation Based On...

- Ones, D. S., Viswesvaran, C., & Schmidt, F. L. (1993).** Comprehensive meta-analysis of integrity test validities: Findings and implications for personnel selection and theories of job performance. *Journal of Applied Psychology, 78*, 679-703.
- Ones, D. S., & Viswesvaran, C. (1998).** Integrity testing in organizations. In S. B. Bacharach, A. O'Leary-Kelly, J. M. Collins & R. W. Griffin (Eds.), *Dysfunctional behavior in organizations: Violent and deviant behavior* (pp. 243-276). London, UK: JAI Press.
- Ones, D. S., & Viswesvaran, C. (2003).** Personality and counterproductive work behaviors. In A. Sagie, S. Stashevsky & M. Koslowsky (Eds.), *Misbehavior and Dysfunctional Attitudes in Organizations* (pp. 211-249). Hampshire, UK: Palgrave/MacMillan.
- Ones, D. S., & Viswesvaran, C. (2001).** Personality at work: Criterion-focused occupational personality scales used in personnel selection. In B. W. Roberts & R. Hogan (Eds.), *Personality psychology in the workplace* (pp. 63-92). Washington, DC: American Psychological Association.
- Ones, D. S., & Viswesvaran, C. (2001).** Integrity tests and other criterion-focused occupational personality scales (COPS) used in personnel selection. *International Journal of Selection and Assessment, 9*, 31-39.
- Berry, C. M., Ones, D. S., & Sackett, P. R. (2007).** Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology, 92*, 410-424.
- Dilchert, S., Ones, D. S., Davis, R. D., & Rostow, C. D. (2007).** Cognitive ability predicts objectively measured counterproductive work behaviors. *Journal of Applied Psychology, 92*, 616-627.



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Background

- Every year, the consequences of individuals' counterproductive work behaviors incur billions in costs to organizations and societies around the world.
- Potential damage caused by deviant behavior increases as a function of an individual's position power.
- Consequences of CWB are especially severe in certain sectors.



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Background

- Over the past decade, a large body of research has developed around "counterproductive work behaviors" (CWB).
- CWB include, but are not limited to:
 - theft and related behavior
 - destruction of property
 - misuse of information
 - misuse of time
 - white collar crime
 - absenteeism & tardiness
 - drug and alcohol abuse
 - disciplinary problems
 - poor quality work
 - sabotage
 - inappropriate physical & verbal behavior
 - sexual harassment
 - violence
 - accidents and unsafe behaviors



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Key Questions:

1. How do these seemingly different behaviors relate to one another?
2. What is the relationship between organizational and interpersonal CWB?
3. Are there group differences in CWB?
4. What are the relationships between the Big Five personality dimensions and CWB?
5. What are the relationships between compound personality measures and CWB?
6. What is the validity of cognitive ability tests and other cognitive ability proxies for predicting CWB?



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Relationships among CWB

Based on:

Ones, D. S., & Viswesvaran, C. (2003). Personality and counterproductive work behaviors. In A. Sagie, S. Stashevsky & M. Koslowsky (Eds.), *Misbehavior and Dysfunctional Attitudes in Organizations* (pp. 211-249). Hampshire, UK: Palgrave/MacMillan.

Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology*, 92, 410-424.



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Objectives

To provide a quantitative review of the counterproductive work behaviors literature to assess relationships among different forms of counterproductivity.

- Quantitatively cumulated data from the industrial, work and organizational psychology literature examining...
 - ❖ relationships among single acts of counterproductivity
 - ❖ relationships between CWB facets
 - ❖ relationships between organizational and interpersonal CWB



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Methods

- Sought:
 - Intercorrelations among single acts of counterproductivity
 - Often calculable from internal consistency reliabilities and number of items of CWB scales
 - Intercorrelations between distinct categories of CWB (e.g., theft, substance abuse) and other CWB
 - Intercorrelations between two main dimensions of CWB, organizational CWB, and interpersonal CWB
- Computed mean correlations among CWB and corrected them for unreliability in the measures.



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Relationships Between Specific Forms of CWB and Other CWB

Correlations between...	Mean r	Mean ρ
Single CWB	.28	--
Withdrawal & other CWB	.44	.58
Aggression/violence & other CWB	.42	.55
Substance abuse & other CWB	.30	.44
Theft/property violence & other CWB	.44	.62

Adapted from Ones & Viswesvaran (2003).



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Interpersonal and Organizational CWB

- Distinction between Interpersonal CWB and Organizational CWB has become popular in recent years.
- Much of this popularity may stem from ease of measurement due to Bennett & Robinson's (2000) self-report measure of workplace deviance.
- Despite this popularity, factor-analytic evidence testing Interpersonal CWB and Organizational CWB distinction is in conflict.



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Results: Interpersonal CWB and Organizational CWB Correlation

ID and OD were highly correlated.

Correlation between...	<i>N</i>	<i>k</i>	<i>Mean r</i>	<i>Mean ρ</i>
Interpersonal CWB-Organizational CWB	10,104	27	.52	.62

Adapted from Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). *Journal of Applied Psychology*.

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Group Differences on CWB

Based on:

Dilchert, S., Ones, D. S., Davis, R. D., & Rostow, C. D. (2005). Group differences in detected counterproductivity among law enforcement personnel: Implications for organizational diversity. In F. Avallone, H. K. Sinangil & A. Caetano (Eds.), *Convivence in organizations and society* (pp. 203-208). Milan: Guerini Studio.



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Objectives

- Examine the different types of CWB (interpersonal, organizational, and overall) among a large sample of police officers to...
 - provide an indication of the extent to which individuals from different groups engage in these kinds of behaviors
 - examine whether organizational consequences (e.g., terminations for cause) differ across groups and thus cause concern for organizational diversity



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Sample

- **2,216 individuals** (86.2% male), employed at over 100 different agencies across several American states.
- **Ethnicity:**
 - 1,726 Whites (77.9%)
 - 451 Blacks (20.4%)
 - 17 Hispanics (0.8%)
 - 11 Asians (0.5%)
 - 11 “Other” (0.5%).
- Median age 28 years; mean level of education 13.4 years ($SD = 1.9$)
- Average time with the employing agency at the time CWB data were gathered was 1.9 years ($SD = 1.5$).



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CWB Measures

- **Objective** frequency counts of **detected behaviors** obtained from organizational records.
- Factor analysis revealed correspondence to the **interpersonal** versus **organizational** dimensions established by Robinson and Bennett (1995).

Composites were computed to form separate scales of CWB

- targeted at **other individuals** (9 items, $\alpha = .68$),
- targeted at **the organization** (11 items, $\alpha = .75$)
- and an **overall scale of counterproductivity** ($\alpha = .81$)



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Analyses

When investigating group differences in counterproductivity, it is important to control for differences in opportunity to engage in CWB due to differences in time individuals have spent in their current position or with a specific organization.

- Scores on the CWB scales were regressed on time on the job and standardized residuals were obtained.
- Descriptive statistics were obtained for standardized residuals separately by sex as well as separately by race and ethnic group.
- Means and pooled standard deviations were used to obtain standardized group differences (Cohen's *d*), **controlling for time on the job**, for all relevant group comparisons.



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Group Differences in Observed Counterproductive Behaviors

Group comparison		Overall CWB				Organizational CWB				Interpersonal CWB				
		n1	n2	<i>d</i>	CI	n1	n2	<i>d</i>	CI	n1	n2	<i>d</i>	CI	
<i>Gender</i>														
Males	Females	1,911	305	.15	.05 - .26	1,909	305	.17	.06 - .27	1,910	305	.09	-.01 - .19	
<i>Race</i>														
Whites	Blacks	1,726	451	-.02	-.10 - .07	1,724	451	-.00	-.09 - .08	1,725	451	-.03	-.12 - .05	
<i>Within race</i>														
Whites:	Males	Females	1,526	200	.16	.04 - .28	1,524	200	.16	.04 - .28	1,525	200	.11	-.02 - .23
Blacks:	Males	Females	352	99	.16	-.03 - .35	352	99	.18	-.01 - .37	352	99	.08	-.10 - .27
<i>Within gender</i>														
Males:	Whites	Blacks	1,526	352	-.03	-.13 - .06	1,524	352	-.02	-.12 - .08	1,525	352	-.04	-.14 - .06
Females:	Whites	Blacks	200	99	-.04	-.25 - .16	200	99	-.02	-.22 - .19	200	99	-.07	-.27 - .14

Note. CWB = counterproductive work behaviors; *n* = group sample size; *d* = group difference expressed in standard deviation units. Positive *d*-values indicate that the first group displayed higher average frequencies of counterproductive work behaviors. CI = 90% two-tailed confidence interval.

Adapted from Dilchert, S., Ones, D. S., Davis, R. D., & Rostow, C. D. (2005)



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Conclusions

- Men, on average, engage in counterproductive work behaviors more frequently than do women.
 - However, the group differences in frequencies of detected incidents observed in this study are small.
- Group differences observed between Blacks and Whites were even smaller than those between men and women.
 - Differences of this magnitude can be regarded as negligible.



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Relationships Between the Big Five Personality Dimensions and CWB

Based on:

Berry, C. M., Ones, D. S., & Sackett, P. R. (2007).

Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology*, 92, 410-424.



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Research Questions

1. What are the relationships between the Big Five personality measures and CWB?
2. What are the strongest Big Five correlates of Interpersonal CWB and Organizational CWB?
3. Does each exhibit different patterns of relationships with the Big Five personality measures?



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Method

- Meta-analyzed relationships between measures
- Corrected mean sample-size-weighted correlations for unreliability in both variables (where appropriate)



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Big Five Personality Variables and CWB

Variable	Estimated ρ^a
Big Five personality	
Emotional Stability	-.26
Extraversion	-.03
Openness to Experience	-.08
Agreeableness	-.44
Conscientiousness	-.35

^a Each of these estimates was calculated via composite theory formulas from Ghiselli et al. (1981, pp. 163–164).

Adapted from Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). *Journal of Applied Psychology*.



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Relations with the Big Five

Variables		N	k	ρ
Emotional Stability	interpersonal CWB	2,842	10	-.24
	organizational CWB	2,300	7	-.23
Extraversion	interpersonal CWB	2,360	8	.02
	organizational CWB	1,836	5	-.09
Openness	interpersonal CWB	2,360	8	-.09
	organizational CWB	1,772	5	-.04
Agreeableness	interpersonal CWB	3,336	10	-.46
	organizational CWB	2,934	8	-.32
Conscientiousness	interpersonal CWB	3,458	11	-.23
	organizational CWB	2,934	8	-.42

Adapted from Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). *Journal of Applied Psychology*.



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Relationships of Justice Variables with CWB: A Basis for Comparison

Variables	I-CWB	O-CWB
Distributive Justice	-.13	-.12
Interactional Justice	-.25	-.21
Procedural Justice	-.21	-.21

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Conclusions

- Personality measures are strong predictors of CWB
 - Conscientiousness
 - Agreeableness
 - Emotional Stability
- The weights of the personality variables vary by the Interpersonal/Organizational distinction.
- Personality variables are among the best predictors of CWB.

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Compound Personality Measures and CWB

Based on:

Ones, D. S., Viswesvaran, C., & Schmidt, F. L. (1993).

Comprehensive meta-analysis of integrity test validities: Findings and implications for personnel selection and theories of job performance. *Journal of Applied Psychology, 78*, 679-703.

Ones, D. S., & Viswesvaran, C. (2001). Personality at work: Criterion-focused occupational personality scales used in personnel selection. In B. W. Roberts & R. Hogan (Eds.), *Personality psychology in the workplace* (pp. 63-92). Washington, DC: American Psychological Association.

Ones, D. S., & Viswesvaran, C. (2001). Integrity tests and other criterion-focused occupational personality scales (COPS) used in personnel selection. *International Journal of Selection and Assessment, 9*, 31-39.



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Compound Traits & Avoiding Counterproductive Work Behaviors

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Conclusions

- Job and criterion focused occupational personality scales offer excellent criterion-related validity for CWB.
- Job and criterion focused occupational personality scales offer excellent criterion-related validity for overall job performance as well.



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Relationships between Cognitive Ability and CWB

Based on:

Dilchert, S., Ones, D. S., Davis, R. D., & Rostow, C. D. (2007). Cognitive ability predicts objectively measured counterproductive work behaviors. *Journal of Applied Psychology, 92*, 616-627.



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Sample

3,021 police officer applicants

applying to jobs at 143 agencies across several US states

85.2% male; 79.8% Whites, 22.9% Blacks .9% Hispanics, .4% Asians. Average age 30.2 years ($SD = 8.4$).

1,799 individuals were hired

Criterion data were available for all of these individuals,

listwise N with cognitive ability test scores **816**.

Predictive design, all predictor measures collected at time of application.

Median tenure **1 year and 8 months** at time criterion data were collected.



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Cognitive Ability Measures

Cognitive ability test scores:

ShIPLEY Institute of Living Scale:

Verbal (40 synonym items) and abstraction (20 number and letter series items) subtests and total IQ score

Range restriction in cognitive ability test scores among hired applicants ($u = .60$)!

Cognitive ability proxies:

- Years of education (self-reported)
- High School grade point average (self-reported)
- College grade point average (self-reported)



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Operational Validity of Cognitive Ability Test in Predicting Counterproductive Work Behaviors

Predictor	CWB Overall		CWB Interpersonal		CWB Organizational	
	ρ	CI	ρ	CI	ρ	CI
SILS IQ	-.33	-.43 – -.22	-.21	-.34 – -.09	-.36	-.46 – -.25
Verbal	-.18	-.30 – -.06	-.07	-.20 – .06	-.23	-.35 – -.11
Abstraction	-.30	-.41 – -.41	-.22	-.34 – -.09	-.31	-.42 – -.20

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Conclusion

- Individuals low on cognitive ability engage in counterproductive work behaviors more frequently than others.
- In personnel selection, standardized tests of cognitive ability can be used to reduce deviant work behaviors.



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Overall Conclusions

- Different forms of CWB display moderate to high correlations with each other.
- Organizational and interpersonal CWB are strongly correlated.
- Three of the Big Five dimensions of personality are useful predictors of CWB
 - Emotional Stability equally well for interpersonal and organizational CWB
 - Agreeableness better for interpersonal CWB
 - Conscientiousness better for organizational CWB
- Big Five personality traits are somewhat stronger predictors of CWB than organizational justice variables.
- Compound personality variables are excellent predictors of CWB.
- Even cognitive ability tests are useful in predicting CWB.



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Further Readings

These readings can be obtained online:

<http://www.psych.umn.edu/faculty/ones>

Ones, D. S., Viswesvaran, C., & Schmidt, F. L. (1993). Comprehensive meta-analysis of integrity test validities: Findings and implications for personnel selection and theories of job performance. *Journal of Applied Psychology, 78*, 679-703.

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