

# **The Impact of Solitary Confinement on Inmate Behavior: A Meta-Analytic Review**

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# Previous Literature Reviews

- Previous reviews of the SC literature have relied on ideographic methods to summarize findings.
- The most extensive review conducted to date (see Scharff-Smith, 2006) did not use quantitative techniques (e.g., vote counting technique or calculation of effect size estimate) to summarize findings.

# Current Literature Review

- This study represents one of the first meta-analytic reviews of the research on SC.
- The results have important policy implications for the management of correctional institutions, as well as practical applications within the context of offender treatment.
- Specifically, this meta-analysis aims to further our understanding of the empirical evidence on the effects of SC:
  - Cumulating knowledge
  - Identifying gaps in the empirical literature
  - Generating recommendations for future research

# Eligibility Criteria

- In order to be eligible for inclusion, studies were required to:
  - Use some measure of SC as the independent variable
  - Use a randomized or comparison control group design
  - Contain sufficient data to calculate an effect size (i.e., Pearson  $r$  or phi coefficient) between SC and outcome
- The longest follow-up period available was coded.

# Dependent Measures

- **Medical/physiological indicators**
  - Physical health (e.g., increased blood pressure); lowered sensory arousal (e.g., EEG, VEP)
- **Psychological indicators**
  - Anger, hostility, anxiety, depression, psychosis, paranoid ideation, intelligence, cognitive impairment, somatization, coping, negative attitude, hypersensitivity, global functioning
- **Behavioral indicators**
  - Post-release recidivism; institutional misconduct

# Effect Size Calculation and Interpretation

- Pearson  $r$  was selected as common metric with 95% confidence intervals (CIs) to estimate the magnitude of effect size (ES).
  - Positive correlation indicates an *iatrogenic effect*.
  - Negative correlation indicates a *positive effect*.
- Studies could contribute more than one ES as long as each one represented an estimate for unique samples of offenders.
- If a study reported multiple outcome measures for a similar construct, the estimates in this domain were averaged.
- Random effects model results are reported.

# Effect Size Calculation and Interpretation

- Interpretation focuses on the CIs of the point estimates.
  - The CI provides a robust estimate of the probability of replicating a specific result (Cumming, 2012).
  - If the CI contains 0, it does not necessarily mean that there is no effect (see Schmidt & Hunter, 1997).
  - CIs with a width greater than .10 are considered to be imprecise (see Gendreau & Smith, 2007).
- The statistic  $I^2$  is used to evaluate the heterogeneity of the ES estimates (Higgins & Thompson, 2002)

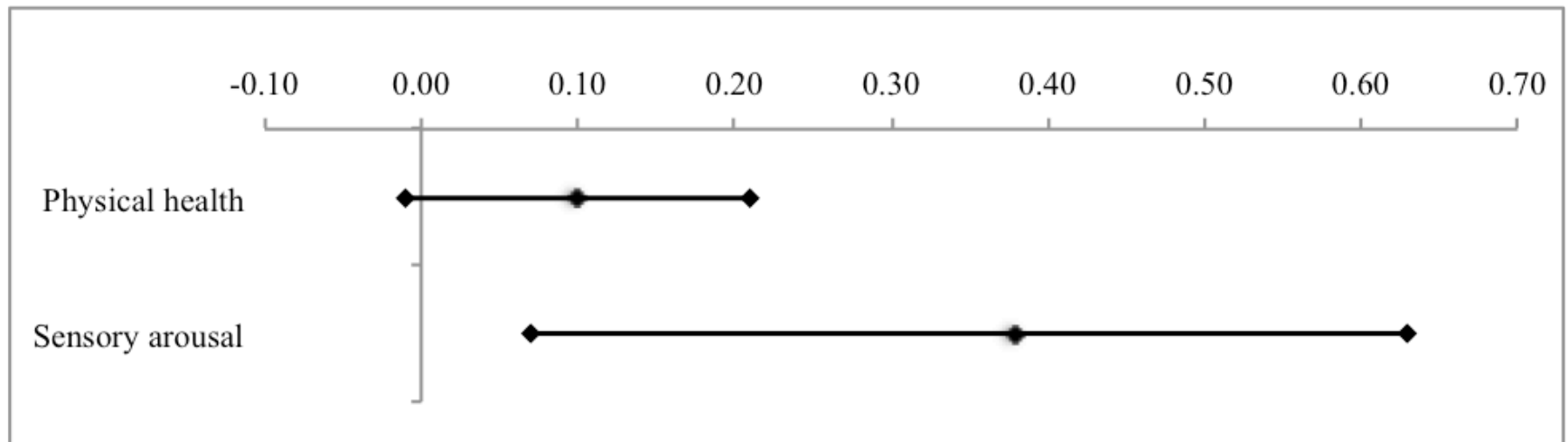
# Description of Studies

- Total # of studies reviewed = 150
- Total # of studies included = 14 ( $\approx 90\%$  rejection rate)
  
- 71% of studies were published after 2000
- 64% of studies were conducted in the U.S.
- All samples were  $\geq 80\%$  male inmates
  
- Total # of effect size estimates = 65
  - Medical/Physiological  $k = 6$
  - Psychological  $k = 50$
  - Behavioral  $k = 9$



# Physiological Measures

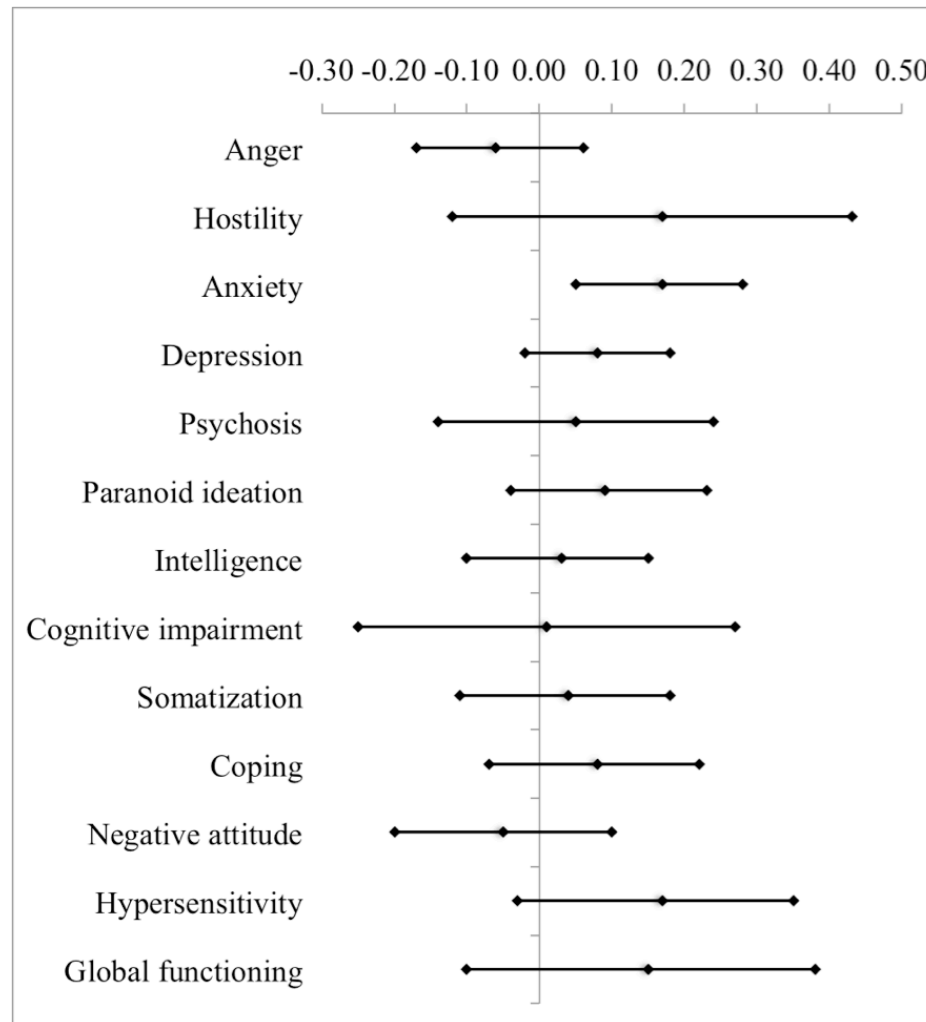
	<i>r</i>	95% <i>CI</i>	<i>I</i> <sup>2</sup>	<i>n</i>	<i>k</i>
Physical health	.10	-.01 to .21	0%	314	4
Sensory arousal	.38	.07 to .63	0%	40	2



# Psychological Measures

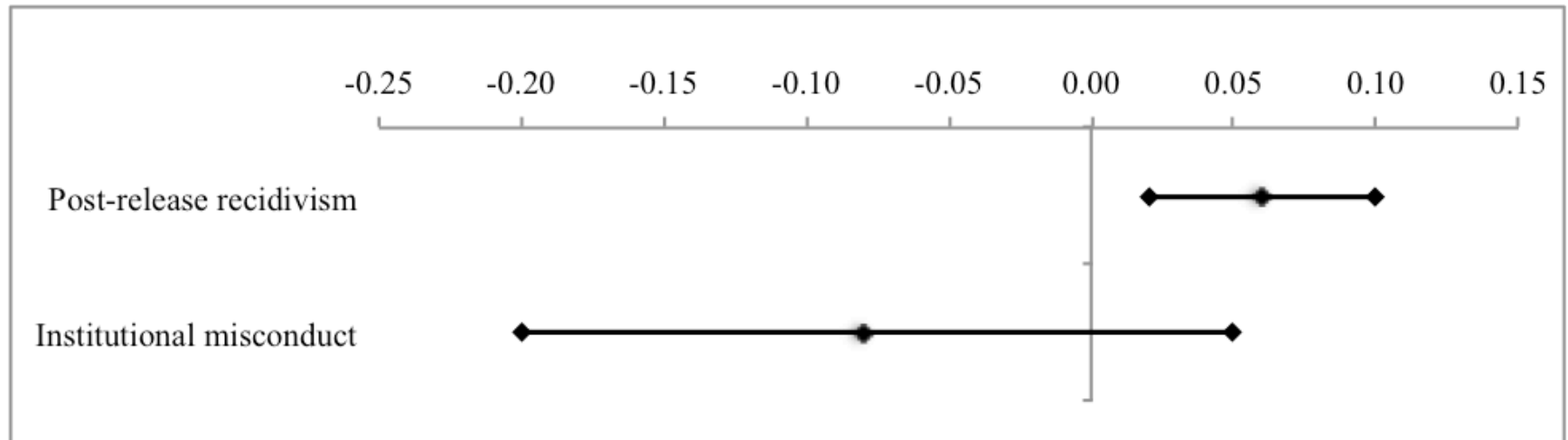
	<i>r</i>	95% <i>CI</i>	<i>I</i> <sup>2</sup>	<i>n</i>	<i>k</i>
Anger	-.06	-.17 to .06	0%	315	3
Hostility	.17	-.12 to .43	74%	244	5
Anxiety	.17	.05 to .28	36%	474	6
Depression	.08	-.02 to .18	13%	474	6
Psychosis	.05	-.14 to .24	39%	219	4
Paranoid ideation	.09	-.04 to .23	0%	219	4
Intelligence	.03	-.10 to .15	23%	315	3
Cognitive impairment	.01	-.25 to .27	79%	314	4
Somatization	.04	-.11 to .18	8%	219	4
Coping	.08	-.07 to .22	0%	179	2
Negative attitude	-.05	-.20 to .10	0%	179	2
Hypersensitivity	.17	-.03 to .35	40%	219	4
Global functioning	.15	-.10 to .38	73%	280	3

# Psychological Measures



# Behavioral Measures

	<i>r</i>	95% CI	<i>I</i> <sup>2</sup>	<i>n</i>	<i>k</i>
Post-release recidivism	.06	.02 to .10	25%	4,636	7
Institutional misconduct	-.08	-.20 to .05	87%	1,904	2



# Moderators

- Very little information was available on important moderators (i.e., age, gender, race, mental health status, risk for recidivism).
- Data on situational variables were virtually non-existent.
- Design strength
  - Weaker designs ( $k = 24$ ):  $r = .21$  [.12, .29]
  - Stronger designs ( $k = 41$ ):  $r = .03$  [<.001, .05]

# Conclusion

- Despite its long history of use in corrections, SC does not have an extensive empirical literature base.
- Most reviewers tend to suggest that SC is detrimental to the well-being of inmates.
- However, this meta-analysis does not support the popular contention that SC produces long-lasting psychological damage.
- Medical/physiological effects have often been misinterpreted.
- There is tentative support for the notion that SC increases recidivism.

# Contact Information

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