

Allegiance or Fidelity? A Clarifying Reply

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Recently, in the journal *Clinical Psychology: Science and Practice*, there appeared a systematic review (Blair, Marcus, & Boccaccini, 2008) accompanied by a commentary (Lilienfeld & Jones, 2008) suggesting an “allegiance effect” in the reporting of the predictive accuracy of actuarial risk assessment systems. The authors of these two articles suggested some possible errors or misrepresentation on the part of original developers or other researchers and proposed some remedies. We examined these two articles in conjunction with all the available evidence for the *Violence Risk Appraisal Guide* and *Sex Offender Risk Appraisal Guide* and concluded there is no evidence of an allegiance effect.

Key words: meta-analysis, SORAG, violence risk assessment, VRAG. [*Clin Psychol Sci Prac* 17: 82–89, 2010]

Recently, in the pages of *Clinical Psychology: Science and Practice*, there appeared a meta-analysis accompanied by a commentary (Blair, Marcus, & Boccaccini, 2008; Lilienfeld & Jones, 2008) suggesting an “allegiance effect” in the reporting of empirical studies of actuarial risk assessments, such as those we developed (Quinsey, Harris, Rice, & Cormier, 2006). These instruments of ours, the *Violence Risk Appraisal Guide* (VRAG) and *Sex Offender Risk Appraisal Guide* (SORAG), clearly predicted relevant outcomes (Blair et al., 2008), and no superior method for assessing the risk of violence among forensic cases was proposed. However, the

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authors of the meta-analysis reported that studies by the VRAG and SORAG designers yielded significantly larger predictive effects, mean $r = .36$, than those of other researchers, mean $r = .30$. They tested some possible explanations for this average difference but found empirical support for none.

The accompanying commentary (Lilienfeld & Jones, 2008), while reserving judgment as to whether this allegiance would be observed with other assessments, suggested but did not test other explanations for the findings of Blair et al. (2008) and for allegiance effects in general. Some of these reflected inadvertent error or misrepresentation by test designers or others—data “massaging,” selective reporting, other researchers’ allegiance to their own assessments. (Blair et al., 2008, also acknowledged a possible “allegiance-to-allegiance” on the part of meta-analysts.) Some general remedies were also described. The applicability of the commentators’ explanations and the value of their recommendations (whether for psychological assessment, in general, or actuarial tools, in particular) depend on there being allegiance effects in the first place. As our summaries have not indicated allegiance (Rice, 2008), we examined the issue further.

DIFFERENCES WITH BLAIR ET AL. (2008)

Because statistics derived from Relative Operating Characteristics (ROCs) are preferred over correlation coefficients (Leistico, Salekin, deCoster, & Rogers, 2008; Rice & Harris, 1995, 2005), we analyzed areas under the ROC using standard conversions where required (Rice & Harris, 2005) instead of Pearson correlation coefficients¹ as used by Blair et al. (2008). We agree with the meta-analysts and commentators (Blair et al., 2008; Lilienfeld & Jones, 2008) that test

designers might well stick more closely to recommended scoring procedures and data sources than other researchers. Thus, we compared all studies by ourselves with those by others, and by categorizing others' studies as using scoring methods and outcomes similar to those recommended for the VRAG and SORAG (Quinsey, Harris, Rice, & Cormier, 1998, 2006), or very different methods and outcomes (Table 1).

Different Outcomes

Actuarial assessments are explicitly designed and recommended for specific outcomes—violent recidivism in the case of the VRAG and SORAG, and “sexual” recidivism (offenses that can be identified as contact or noncontact sexual crimes on police rap sheets) in the case of the Static-99. Blair et al. (2008) stated that “there is not always a clear reason for selecting one type of recidivism over another” (p. 350). Then, citing a meta-analysis (Leistico et al., 2008) of the Hare Psychopathy Checklist (PCL-R; Hare, 2003), they averaged over various outcomes within single studies. This decision struck us as inappropriate because the PCL-R was not designed as a structured risk assessment for any particular outcome while the converse is true of the VRAG and SORAG. They were both explicitly designed to predict violent (including violent sexual) criminal offenses after release to the community—the specific outcome is critically important. It is the prediction of that outcome that ought to have been examined if possible. Here, if a study reported on the prediction of violence in general, that was examined. If other outcomes were reported instead, we counted that which reflected some kind of violence. In such cases, the study was assigned to the “Very Different Procedures and/or Outcomes” category. Some studies in that category examined general criminal recidivism (Bélanger & Earls, 1996), only “sexual” recidivism (whether violent or not; e.g., Hanson & Harris, 2000), or the first detected recidivism whether or not violence occurred afterwards (Loza, Villeneuve, & Loza-Fanous, 2002). We also counted in the “Very Different Outcomes” a study of sex offenders that used nonsexual violent recidivism as the outcome (Sjostedt & Langstrom, 2002). Five studies that employed only institutional misconduct as the outcome formed a fourth category (Table 1).

Different Procedures

Two studies in the “Very Different Procedures and/or Outcomes” category used highly nonstandard scoring procedures. That is, Tengstrom (2001) scored two items as constants, three were approximated, and one was apparently reverse scored. Doyle and Dolan (2006) based scoring and outcome on interviews and gave the lowest possible score for three missing items (instead of zero or prorating as set out in instructions; Quinsey et al., 1998, 2006).

The VRAG and SORAG as Different

Blair et al. (2008) treated findings separately for the VRAG and SORAG when both were reported in a single study. The VRAG and SORAG share most of their items and are very highly correlated (approximately 0.9; Harris et al., 2003; Langton et al., 2007; Yaghoub, Fedoroff, Curry, & Amundsen, in press). Thus, we averaged predictive effects across the two whenever they were evaluated in one study. This always involved differences < 0.05 (in ROC area).

Missed Studies, New Studies, and Overlap

Blair et al. (2008) referred to a website that has listed all known tests pertaining to the accuracy of the VRAG and SORAG (<http://www.mhcop-research.com/ragreprs.htm>). Nevertheless, their analysis missed several studies listed therein that met their inclusion criteria (e.g., Doyle & Dolan, 2006; Pham, Ducro, Marghem, & Réveillère, 2005; Quinsey, Book, & Skilling, 2004; Quinsey, Coleman, Jones, & Altrows, 1997; Quinsey, Jones, Book, & Barr, 2006). Several studies, mostly by others, have appeared since (e.g., Coid et al., 2009; Gray, Fitzgerald, Taylor, MacCulloch, & Snowden, 2007; Hilton, Harris, Rice, Houghton, & Eke, 2008; Kingston, Yates, Firestone, Babchishin, & Bradford, 2008; Kroner, Stadtland, Eidt, & Nedopil, 2007; Rettenberger & Eher, 2007; Rice, Harris, Lang, & Chaplin, 2008; Snowden, Gray, Taylor, & MacCulloch, 2007). Blair et al. (2008) considered Quinsey, Rice, and Harris (1995) as a study of the SORAG; it was not. Also, Hanson and Harris (2000) was not by us—it is A. J. R. Harris (no relation).

In addition, we examined a published, peer-reviewed study in preference to an unpublished report (Yessine & Bonta, 2006, versus Bonta & Yessine,

Table 1. All known tests of the *Violence Risk Appraisal Guide* (VRAG) and *Sex Offender Risk Appraisal Guide* (SORAG)

	N	ROC	Comments (v) = VRAG, (s) = SORAG, (vs) = both, averaged
Group 1: Developers			
Rice & Harris, 1995	799	0.74	Includes development samples (v)
Quinsey et al., 1997	69	0.68	Matching on age and diagnosis; not a follow-up (v)
Rice & Harris, 1997	159	0.77	Sex offenders, but only those not in Rice & Harris, 1995 (v)
Glover et al., 2002	106	0.72	(v)
Harris et al., 2002	347	0.75	Only males; higher ROC with constant follow-up but not listed here; hospital diagnosis (v)
Harris et al., 2003	396	0.73	Sex offenders from three institutions (vs)
Quinsey et al., 2004	58	0.69	PCL-R replaced with CATS (v)
Harris et al., 2004	741	0.72	PCL-SV; missing 2 VRAG items; others approximated; mostly self-report violent recidivism (v)
Quinsey, Jones, et al., 2006	198	0.59	Used VRAG categories (v)
Hilton et al., 2008	649	0.67	Missing three VRAG items; domestic violence recidivism (v)
Rice et al., 2008	61	0.67	SORAG not available for several participants (v)
Total	3,583	0.71	Total N and weighted mean ROC area
Group 2: Similar methods and violent recidivism			
Dempster, 1998	95	0.85	Unpublished master's thesis; used VRAG and SORAG categories (vs)
Polvi, 2001	215	0.70	Unpublished dissertation (v)
Cooke et al., 2001	250	0.71	Not peer reviewed (v)
Nugent, 2001	123	0.68	Unpublished dissertation (v)
Pham, 2002	58	0.84	Unpublished conference presentation (v)
Bartosh et al., 2003	186	0.64	PCL-R replaced with CATS; missing two other SORAG items (s)
Mills et al., 2005	209	0.65	Volunteer subjects (v)
Douglas et al., 2005	188	0.79	Not a follow-up (v)
Pham et al., 2005	114	0.82	(v)
Ducro & Pham, 2006	133	0.72	(s)
Looman, 2006	242	0.70	Article has an error in computation of ROC area (s)
Hastings et al., 2006	326	0.74	Self-reported violent recidivism (v)
Urbanik et al., 2006	79	0.72	(v)
Yessine & Bonta, 2006	165	0.73	PCL-R missing for most cases; other VRAG items approximated (v)
Johansen, 2007	280	0.76	PCL-R replaced with CATS; unpublished dissertation (vs)
Kroner et al., 2007	113	0.70	(v)
Langton et al., 2007	468	0.70	Mostly treated sex offenders (vs)
Snowden et al., 2007	421	0.76	(v)
Gray et al., 2007	404	0.74	Approximately 20% female (v)
Rettenberger & Eher, 2007	254	0.76	(s)
Thomson et al., 2008	135	0.80	Forensic patients with schizophrenia; release positively associated with VRAG scores (v)
Rosales & Rossegger, 2008	107	0.62	Conference abstract (v)
Kingston et al., 2008	192	0.76	Modifications to some SORAG items (s)
Coid et al., 2009	1,645	0.69	Scoring based on interview (v)
Ho et al., 2009	96	0.74	Several other outcomes yielded smaller effects (v)
Rettenberger et al., in press	394	0.72	(s)
Yaghoub et al., in press	526	0.72	Unusual definition of static and dynamic factors (vs)
Total	7,418	0.72	Total N and weighted mean ROC area
Group 3: Very different procedures and/or outcomes			
Bélanger & Earls, 1996	57	0.82	General recidivism; violent recidivism not reported; not peer reviewed (v)
Hanson & Harris, 2000	267	0.70	Not a follow-up; rap sheet sexual recidivism; violent recidivism not reported (v)
Grann et al., 2000	404	0.68	At least 3 VRAG items missing or approximated; violent recidivism inconsistently defined (v)
Hartwell, 2001	164	0.67	Rap sheet sexual recidivism; violent recidivism not reported; unpublished manuscript (s)
Tengstrom, 2001	106	0.68	Several VRAG items missing/approximated or reversed (v)
Sjostedt & Langstrom, 2002	51	0.69	Several VRAG items missing/approximated; low reliability; nonsexual violent recidivism (v)
Loza et al., 2002	124	0.54	Volunteers; by interview; counted first recorded recidivism regardless of later violence (v)
Doyle & Dolan, 2006	112	0.66	For three missing VRAG items used lowest possible score; interview-based outcome (v)
Knight & Thornton, 2007	537	0.62	Rap sheet sexual recidivism; violent recidivism not reported; not peer reviewed (vs)
Total	1,822	0.66	Total N and weighted mean ROC area
Group 4: Institutional misconduct			
Doyle et al., 2002	87	0.71	Included threatened and attempted violence (v)
Endrass et al., 2008	106	0.50	Estimated; all they say is that it was not related for violence (v)
McDermott et al., 2008	108	0.54	Volunteers, some female, staff and patient victims combined (v)
Lindsay et al., 2008	212	0.71	Violence scored from nursing notes (v)
Snowden et al., 2009	52	0.77	Violence scored from nursing notes; also a large effect predicting frequency of violent acts (v)
Total	565	0.64	Total N and weighted mean ROC area
Overall	13,388	0.71	Grand Total N; weighted mean ROC area; all methods, outcomes, and sources (k = 52)
Unclassifiable			
McBride, 1999	?	?	Includes institutional misconduct; unpublished conference presentation (v)
Nichols et al., 1999	?	?	Institutional misconduct; unpublished conference presentation (v)
Nadeau et al., 1999	?	0.65	Institutional misconduct; unpublished conference presentation (v)
Douglas et al., 1999	?	0.60	Most VRAG items approximated; unpublished conference presentation (v)

2005). Relatedly, as Blair et al. and Lilienfeld and Jones suggested the “file drawer” problem as a general explanation for possible allegiance effects, we could not agree with the decision to exclude unpublished findings. We examined all studies we could find, published or not.

Finally, the literature contains overlapping and extended sets of data (as acknowledged by Blair et al., 2008 cf. Barbaree, Seto, Langton, & Peacock, 2001, versus Langton et al., 2007). For example, the original construction sample for the VRAG (Harris, Rice, & Quinsey, 1993) was effectively superseded by an extended sample with a longer follow-up (Rice & Harris, 1995) so that we do not here consider the former separately. Similarly, the entire sample of sex offenders (Rice & Harris, 1997) overlapped with the latter sample (Rice & Harris, 1995). For present purposes (and in our reports about replications; Quinsey, Harris, et al., 2006), we examined only the nonoverlapping sub-sample as a replication of the VRAG’s predictive accuracy. In the present examination (as Blair et al. (2008) also attempted to do), we avoided such “double counting” by considering only the most complete among any overlapping samples (e.g., Loza & Loza-Fanous, 2001, plus Kroner & Loza, 2001, were superseded by Loza et al., 2002; Kroner & Mills, 2001, was superseded by Mills, Jones, & Kroner, 2005; Nunes, Firestone, Bradford, Greenberg, & Broom, 2002, was superseded by Kingston et al., 2008; and Rice & Harris, 2002, was superseded by Harris et al., 2003).

RESULTS AND DISCUSSION

The results of our evaluation are shown in Table 1. Four studies we were aware of could not be classified (Douglas, Hart, Dempster, & Lyon, 1999; McBride, 1999; Nadeau, Nadeau, Smiley, & McHattie, 1999; Nichols, Vincent, Whittemore, & Ogloff, 1999); all were unpublished conference presentations. Each of the four classifiable groups of studies shown (total $k = 52$) exhibited significant heterogeneity in effect size, chi-square statistics = 26.55 (d.f. = 10), 58.57 (d.f. = 26), 18.20 (d.f. = 8), and 19.14 (d.f. = 4), respectively, all $p < .05$.

We see no allegiance effect for violent recidivism. Readers can draw their own conclusions and might disagree with our unblinded classification of the 36 recidi-

vism studies by other researchers (27 in Group 2 and 9 in Group 3). However, averaging across these two groups yielded a mean weighted ROC area = 0.71 (compared to 0.71 for all 11 studies by developers, a few of which also used nonstandard scoring or outcomes other than violent recidivism in general). The weighted average of all 41 studies by others (in Groups 2, 3, and 4), irrespective of methods and outcomes, was 0.70. Regarding published, peer-reviewed studies versus unpublished findings, there were 41 instances of the former, weighted mean ROC area = 0.71, and 11 of the latter, weighted mean ROC area = 0.70. Nothing can be attributed to file drawers, especially as there was no allegiance effect. Overall, the VRAG and SORAG scored using recommended procedures for the assessment of the risk of violent community recidivism yielded a mean weighted ROC area greater than 0.72, a large effect by common standards in the behavioral sciences (Cohen, 1988; Rice & Harris, 2005).

The prediction by the VRAG and SORAG of violent community recidivism in the present systematic review is consistent with, indeed essentially identical to, that reported in meta-analyses by others (Hanson & Morton-Bourgon, 2009). The present review does make two things evident. First, although we occasionally deviate from our recommended procedures for scoring the VRAG and SORAG from comprehensive forensic files (e.g., Harris, Rice, & Camilleri, 2004), such deviations are larger and more frequent in studies conducted by others (e.g., Doyle & Dolan, 2006; Tengstrom, 2001). Second, we have tested the VRAG and SORAG principally for the purpose for which we designed them—criminally violent community recidivism. Although we have sometimes reported the prediction of other outcomes as well (e.g., Harris et al., 2003; Hilton et al., 2008), other researchers (e.g., Doyle, Dolan, & McGovern, 2002; Hanson & Harris, 2000; Knight & Thornton, 2007; McDermott, Quabeck, Scott, Edens, & Busse, 2008; Sjostedt & Langstrom, 2002) are more likely to have studied only outcomes the instruments were not designed to predict. Although it is laudable to study various outcomes, the unsystematic inclusion by Blair et al. (2008) of studies of various outcomes in evaluating the instruments’ predictive accuracy confounded study origin with the outcome for which the systems were explicitly designed.

We suggest these differences between our own research and that of a few others are a sort of “allegiance,” but it is fidelity to validated procedures (a possibility acknowledged by Lilienfeld & Jones, 2008) and intended uses as set out in our published work (Harris et al., 1993; Quinsey et al., 1998, 2006), rather than the errors or misrepresentations they also suggested as the basis for allegiance effects. Readers may, of course, use Table 1 to examine other sources of variation in predictive effects. Also, as illustrated by Blair et al. (2008), sorting out study origins and sample overlap can be tricky. In the end, however, we conclude that examining all currently available data yields no evidence of an allegiance effect, and therefore, no basis in our work for a commentary (Lilienfeld & Jones, 2008) on the topic.

NOTE

1. Blair et al. (2008) neglected the fact that the correlations they reported were point-biserial r because outcomes were dichotomous. They did not convert or adjust their correlation coefficients between studies to compensate for the dependency between such coefficients and individual study base rates (Rice & Harris, 2005). The present analyses of heterogeneity used standard methods based on Cohen’s d statistic (Wolf, 1986).

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