The Over-Claiming Technique, Cognitive Ability, and Knowledge in Non-Academic Areas
Craig Nathanson, Kevin M. Williams, and Delroy L. Paulhus

Department of Psychology

University of British Columbia
ABSTRACT

The over-claiming technique yields indices of accuracy, which correlates most strongly with cognitive ability, and bias, which correlates most strongly with narcissism. Previous studies with the over-claiming technique have relied solely on academic domains. In this sense, research in this area is limited in its generalizability to non-academic domains. To this end, the current study addressed whether similar results as obtained for academic items were found for non-academic items. Participants were administered the Over-Claiming Questionnaire (OCQ), which was comprised of both academic items and non-academic items, the latter of which were made up of names of music artists. In addition, participants completed standard indices of cognitive ability and narcissism. Results with accuracy indicated that cognitive ability correlated as strongly with overall music accuracy as that with overall academic accuracy. Moreover, cognitive ability was consistently positively correlated with accuracy across all music categories. However, although narcissism was correlated with overall academic bias, similar results were not observed for overall music bias. These results suggest that previous conceptions of crystallized intelligence are limited in that they fail to include knowledge in such non-academic domains as names of music artists. Furthermore, crystallized intelligence is manifest across such diverse domains as classical to country artists. Finally, the results with music bias suggest that over-claiming may be associated with setting, such that narcissists only self-enhance on situationally-relevant domains.
INTRODUCTION

The over-claiming technique— a method that yields indices of accuracy and bias in knowledge— has been limited largely to academic domains (e.g., Paulhus, Harms, Bruce, & Lysy, 2002; Williams, Paulhus & Nathanson, 2002). To date, the domains of items have included literature, history, science, and social science. These domains and items are academic inasmuch as they represent ‘cultural literacy’ (Hirsch, 1988), that is, a set of names, places, and events of which most educated people should be aware. In this sense, these items are more in the domain of knowledge one acquires largely through study (academic), rather than knowledge one acquires through experience or interest (non-academic).

The over-claiming technique, as manifest in the Over-Claiming Questionnaire (OCQ), has been fruitful in elucidating both the association between cognitive ability and knowledge and the nature of over-claiming. Previous studies have suggested that cognitive ability (e.g., an IQ test) predicts accurate knowledge of academic items, that is, the ability to correctly discriminate between real and fictitious items. In this sense, OCQ accuracy may be seen as an index of crystallized intelligence (Horn & Cattell, 1966).

Previous studies (e.g., Williams et al., 2002) found that narcissism is a reliable predictor of over-claiming with narcissists claiming a high degree of familiarity with both real and fictitious items. Other suspected individual difference predictors, such as perfectionism, self-concept clarity, and perfectionism, were not associated with over-claiming.

To the extent that these studies included only academic items they are limited in generalizability. Arguably, crystallized intelligence may include domains of knowledge that are outside the academic sphere. Traditional measures of cognitive ability may be associated with knowledge in non-academic areas, such as knowledge of country or rap music artists. Similarly, the domain of knowledge may be irrelevant to narcissists in their tendency to over-claim.

To test these theories, we administered an OCQ with both academic and non-academic items. Accuracy and bias scores were then correlated with standard tests of cognitive ability and narcissism.
METHOD

Participants

Participants were N = 223 students from a second-year undergraduate psychology course at a large Canadian university. All participants completed the tasks in a laboratory setting for bonus course credit.

Materials

Narcissism. We assessed narcissism with the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979), widely taken to be the ‘gold-standard’ of narcissism assessment. The 40-item NPI uses a forced-choice format that requires participants to indicate their agreement with one of two statements, one of which is the ‘narcissistic option.’ The alpha reliability of the NPI in our sample was .XX.

Cognitive ability. To assess cognitive ability, we used the Wonderlic IQ Test (Wonderlic, 1983). Although there is a maximum time limit of 12 min to complete the 50-item Wonderlic, the test behaves like a power test in that items are presented in increasing order of difficulty. Items are drawn from the verbal, quantitative, and spatial areas. The alpha reliability of the Wonderlic was .83 in our sample using the odd-even method.

The OCQ. The OCQ requires participants to indicate their familiarity with presented items in specified categories, some of which are real and some of which are fictitious (i.e., ‘foils’). Based in signal-detection theory (Macmillan and Creelman, 1991), responses on the OCQ are divided into hits, i.e., indicating familiarity with real items or lack of familiarity with fictitious items, and false alarms, i.e., indicating familiarity with fictitious items. Accuracy was calculated as the mean number of false alarms subtracted from the mean number of hits and bias was calculated as the mean number of hits added to the mean number of false alarms (Paulhus and Petrusic, 2001).

Participants were asked to indicate their familiarity using a 5-point Likert scale ranging from 1 (“never heard of it”) to 5 (“completely familiar”) on nine different specified categories. Each category each contained 10 items.

Academic categories and items were those typically found on the OCQ: History, literature, politics, and social science and law. Real items included ‘The Lusitania’ and ‘Tort reform’. Foils included ‘El Puente’ and ‘Inflamed cabinet’. The alpha reliability of accuracy scores from the
academic categories was .XX, and the reliability of the bias scores was .AA. Overall accuracy and bias scores from the academic categories are the average of the respective scores for each category.

Music categories and items were chosen to run the gamut of musical genres and artists (e.g., Rentfrow & Gosling, 2003a). The categories were rock artists, jazz artists, country artists, rap artists, and classical artists (Rentfrow and Gosling, 2003b). Real items included ‘Louis Armstrong’ and ‘Blink-182.’ Foils included ‘K-Steel’ and ‘Pill Dogs.’ The alpha reliability of accuracy scores from the music categories was .YY, and the reliability of bias scores was .BB. Overall accuracy and bias scores from the music categories was calculated in an identical fashion to those for the academic categories.
RESULTS

*Overall scores.* The correlations of cognitive ability and narcissism with overall accuracy and bias are found in Table 1. These findings both replicate and expand previous research. As per previous results, cognitive ability correlated with overall academic accuracy ($r = .38, p < .001$). More interesting, however, is the novel finding that the correlation between cognitive ability with overall music accuracy ($r = .41, p < .001$) is as strong as that with academic accuracy.

Again following previous research, narcissism correlated with overall academic bias ($r = .18, p < .01$). However, narcissism although narcissism correlated positively with overall music bias, the correlation was not significant ($r = .12$). Even while controlling for music accuracy, narcissism had a beta weight of .17 ($p = \text{n.s.}$).

*Accuracy categories.* Table 2 presents the correlations between cognitive ability and accuracy scores from the academic and music categories, respectively. For the academic categories, correlations ranged between .26 and .30 and averaged .27. For the music categories, the correlations ranged between .09 and .30 and averaged .22. These findings suggest that the knowledge of those individuals high in cognitive ability extends beyond purely academic domains into more specialized or obscure areas.
Table 1

*Correlations between cognitive ability, narcissism, and overall accuracy and bias scores*

<table>
<thead>
<tr>
<th></th>
<th>Overall accuracy</th>
<th></th>
<th>Overall bias</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Academic</td>
<td>Music</td>
<td>Academic</td>
<td>Music</td>
</tr>
<tr>
<td>Cognitive ability</td>
<td>.38**</td>
<td>.41**</td>
<td>.00</td>
<td>.06</td>
</tr>
<tr>
<td>Narcissism</td>
<td>-.04</td>
<td>-.09</td>
<td>.18*</td>
<td>.12</td>
</tr>
</tbody>
</table>

N = 223  * p < .05  ** p < .001
Table 2

Correlations between cognitive ability and accuracy scores in academic and music categories

<table>
<thead>
<tr>
<th>Academic categories</th>
<th>History</th>
<th>Science</th>
<th>Social Science and Law</th>
<th>Politics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive ability</td>
<td>.26**</td>
<td>.30**</td>
<td>.27**</td>
<td>.27**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Music categories</th>
<th>Rock artists</th>
<th>Jazz artists</th>
<th>Country artists</th>
<th>Rap artists</th>
<th>Classical artists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive ability</td>
<td>.30**</td>
<td>.09</td>
<td>.26**</td>
<td>.30**</td>
<td>.24**</td>
</tr>
</tbody>
</table>

N = 223  **p < .01
DISCUSSION

Our results expand our understanding of both crystallized intelligence and self-enhancement. The similar association between cognitive ability and music knowledge as that with academic knowledge suggests that OCQ accuracy functions effectively as an index of knowledge in non-academic domains. Furthermore, it appears that regardless of the non-academic domain being tapped, be it classical or country music, individuals high in cognitive ability are able to discriminate between real and fictitious items. Taken together, these findings challenge earlier work (e.g., Rolfhus and Ackerman, 1996, 1999) suggesting that cognitive ability is associated solely with a wide range of academic knowledge. We suggest that cognitive ability may be associated with the accrual of knowledge in non-academic categories as well. In this sense, these findings extend the notion of crystallized intelligence to include a wider range of categories than previously considered. Given that these results have expanded the application of the OCQ to assessing knowledge in non-academic categories, future research will need to include other non-academic categories, such as sports, movies, and television. Including other non-academic categories will allow us to test whether the notion of crystallized intelligence may be extended even wider.

However, the results with music bias suggest that narcissists do not over-claim in non-academic areas. At first, it may appear puzzling that narcissism does not predict overclaiming of musical knowledge. A potential explanation for this result might be due to the diversity of musical genres. This heterogeneity may indicate different bias criteria for different categories. However, the intercorrelations between the bias scores on the music sections suggest homogeneity, with an average intercorrelation of $r = .37$. We suspect that for narcissists, setting affects bias. That is, the relevance of the items to the situation in which they are presented may bear on their tendency to over-claim given that with little item-to-situation relevance narcissists behave more like non-narcissists. Future studies will need to clarify this relationship by administering a non-academic OCQ in non-academic settings.


