

# TESTING THE LCP FOR BIAS

Conducted for:

Full Circle Group and The Leadership Circle

by:

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## Introduction

In today's culture there is an increasing sensitivity to potential bias in how people are observed and evaluated. It is impossible to remove all personal bias from individuals' evaluations - people inherently make judgements based on stereotypes and perceptions based on their own experiences. However, the impact of any personal bias on assessment results can be minimized by ensuring that the measurement model and related performance outcomes are not significantly different based solely on group membership of the individuals being evaluated.

There are several sources of measurement bias and corresponding tests that can be conducted to determine whether an assessment tool exhibits such bias. A good review of the research literature corresponding to these tests is provided in an article by Reynolds & Suzuki (2012) entitled *Bias in Psychological Assessment* (<https://onlinelibrary.wiley.com/doi/full/10.1002/9781118133880.hop21004>).

We selected the three tests that are most well-known and accepted by the research community to determine the extent to which the LCP is equally relevant for all leaders, regardless of gender or ethnic affiliation. (Note that gender and ethnicity were self-reported on the LCP and these self-identifications were used to test the relevance of the LCP for various groups.) The remainder of this paper provides the results of these tests.

## Construct Bias

One source of measurement bias is created when the content (items) of the assessment tool focuses on knowledge or values that correspond with the experiences of one group but not another (or could be seen as offensive by one group). An example of this found in the research literature comes from analyses conducted on standardized tests of math skills given to school children. If math word problems (the items on the assessment) are all sports-oriented, it may bias a girl from doing well because she may have less experience in this domain.

The constructs of the LCP are based on a universal model of leadership and the content is oriented around every day business experiences and adult interactions. Given that all evaluators and leaders are part of a business environment and share in those experiences regardless of their group membership, makes it likely that the LCP content will be relevant for all leaders. Further, given that most organizations (particularly larger corporations) have business environments and work groups comprising both men and women as well as leaders from various ethnic backgrounds, work related behaviors and attitudes are unlikely to favor one group's experiences over another.

## Measurement Error

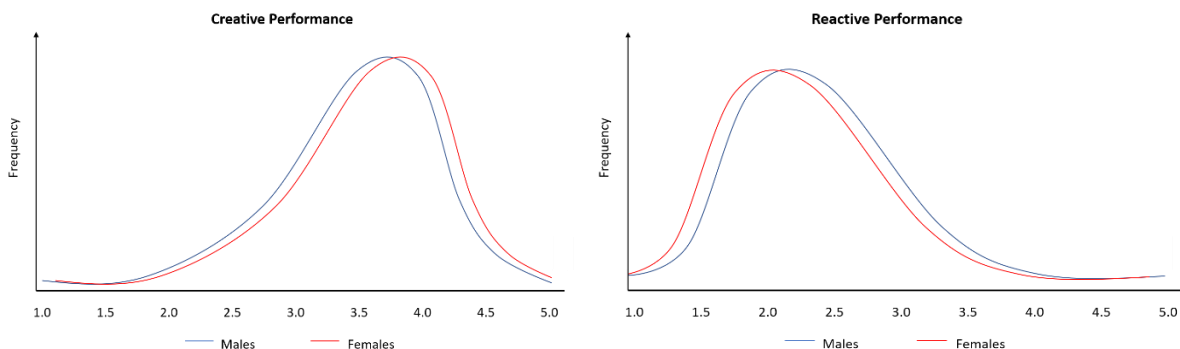
Another key source of bias is introduced when an assessment does not fairly measure all groups. It is especially important to understand that this does not mean that the assessment will not find differences in the mean performance of different groups. There may in fact be real differences between groups and the assessment should be sensitive enough to pick up these differences. For example, a research study conducted by Okozi, Smith, Harvey, & Sherman (2009) entitled Leadership Styles of Ethnic Minority Leaders, appearing in *Communique* by the American Psychological Association

(<https://www.apa.org/pi/oema/resources/communique/2009/08/ethnic-leaders>)

demonstrated that there are differences in the leadership skills and approaches used by leaders of various ethnicities.

What makes an assessment biased is if there is "systematic error in the estimation of a value." That is the LCP would have to systematically overestimate or underestimate one or more of the dimension scores for a particular group. The mean (average) performance may be different on any one dimension but the distribution around the means should be similar.

When we tested this using the LCP data, we found that the distribution curves for all groups were quite similar. Take as an example, the distribution curve for the Creative and Reactive performance of males and female leaders. There is an average difference – that is the peak of the curve is slightly to the right on Creative for female leaders and slightly to the left for Reactive indicating higher average performance for female leaders (consistent with other of our research studies). However, the overall shape of the distribution is similar, and the differences observed between Creative and Reactive are consistent across genders. {Note that there are many female leaders who score below the average male leader and there are many male leaders who score above the average female leader, suggesting that the instrument does not consistently measure female performance higher.)



## Differential Predictive Validity

The goal of any standardized measure is to be able to accurately predict outcomes. If there is measurement bias, the accuracy (or strength) of the predictions will be different for different groups. To test this for the LCP, we correlated developmental performance on every dimension with overall leadership effectiveness (LE scale score) for male and female leaders, as well as leaders who identified with different ethnicities.

Based on the LCP model we would predict that as a leader develops more creative skills, their effectiveness should improve (positive correlation), and as a leader eliminates/reduces reactive tendencies, their effectiveness should improve (negative correlation). As can be seen in the accompanying table, the validity of these predictions is strong and very similar for all groups.

This finding suggests that regardless of the self-identified background of the leader, their development performance as measured by the LCP accounts for a significant portion of the variance in their overall effectiveness. Said another way, the LCP can be used to make predictions about leaders' effectiveness without bias toward any group.

Overall, our tests suggest that the LCP assessment show no systemic bias for gender or ethnicity. It can be an effective tool in providing insights on leadership development for all groups of leaders.

Group Identifying As:	Creative Correlation with LE	Reactive Correlation with LE
<b>Male</b>	r = .93, (p<.001)	r = -.71, (p<.001)
<b>Female</b>	r = .94, (p<.001)	r = -.76, (p<.001)
<b>American Indian</b>	r = .91, (p<.001)	r = -.65, (p<.001)
<b>Asian / Pacific Islander</b>	r = .94, (p<.001)	r = -.79, (p<.001)
<b>Black / African American</b>	r = .94, (p<.001)	r = -.73, (p<.001)
<b>Hispanic / Latin American</b>	r = .93, (p<.001)	r = -.70, (p<.001)
<b>White</b>	r = .94, (p<.001)	r = -.74, (p<.001)

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