# Intelligence of the Batswana

Richard Lynn*
*University of Ulster, Coleraine, Northern Ireland*

**Key Words:** Batswana; IQ; Progressive Matrices; Math; Science; Literacy.

The IQ of the Batswana is estimated from the scores obtained by Batswana high school pupils on the Progressive Matrices, and from the EQs (educational quotients) of Batswana school students in international studies of attainment in mathematics, science and literacy. The IQ is estimated 72 and the EQ as 69.2. These can be averaged to 70.6 rounded to 71 as an IQ for the Batswana.

IQs for all the 192 nations in the world have been provided by Lynn & Vanhanen (2006). In the case of 113 nations, these IQs are derived from intelligence tests administered to samples and scaled in relation to an IQ of 100 (sd = 15) for Britain. In the case of the remaining 79 nations for which no studies of intelligence could be found, IQs were estimated from culturally and racially similar geographically adjacent nations. Measured IQs are preferable to estimated IQs, so we are engaged on a research program designed to provide measured IQs for the nations for which these have not been available hitherto. As part of this program, we present data for measured IQ of the Batswana. This was previously estimated at 70, derived as the average of measured IQs in South Africa (72), Zambia (71) and Zimbabwe (66).

Data for measured IQ of the Batswana are presented from two sources, namely from a study of the Standard Progressive Matrices, and from a study of the abilities of school students in mathematics and science.

The Standard Progressive Matrices is widely regarded as one of the best measures of non-verbal reasoning ability and has been used in numerous studies throughout the world. This test has used by Maqsud (1997) in a study of the intelligence of Batswana high school pupils in the north-west province of South Africa. This province is divided from

* Address for corespondence: lynnr540@aol.com

Botswana by the Molopo river, and the Batswana peoples live on both sides of the river. The same language (Setswama) is spoken by the Batswana peoples in the north-west province and in Botswana. Thus, the Batswana peoples are racially and culturally the same in both countries, and the intelligence of Batswana peoples in the north-west province of South Africa should be similar to that of these peoples in Botswana.

Maqsud's study entailed the administration of the Standard Progressive Matrices (SPM) to a sample of 140 (80 boys, 60 girls) standard 9 school students (their ages ranged between 17-20 years) from two randomly selected high schools in the north-west province of South Africa. They all belonged to the Batswana tribe and spoke Setswama as their native language. Their median score on the SPM was 39. This is at the 5$^{th}$ percentile of the British 1993 standardization sample (Raven, Raven, & Court, 2000), and represents an IQ of 75. It is reasonable to assume that the data were collected about 1995, two years before the publication date, and therefore at approximately the same time as the British 1993 standardization sample. The sample was also given a test of mathematics and scores on this were significantly associated with the SPM scores, although the value of the correlation is not given. This significant association shows the validity of the SPM for this sample.

This IQ of 75 for Batswana cannot be accepted as representative of the population because a number of studies have shown that high school students have higher IQs than the general population and than those not in school (e.g. Ceci, 1991; Ceci & Williams, 1997; Christian, Bachman & Morrison, 2001). The likely reasons for this are that the more intelligent tend to remain in school while the less intelligent leave, and that schooling improves their IQ. An estimate of the advantage of schooling is given by Glick & Sahn (2009) from a study in Senegal in which they calculate that each 1 year of schooling among 14-17 year olds increases cognitive ability (tested as "basic practical knowledge, e.g. of nutrition, HIV/AIDS, government institutions and related topics") by 1.9 IQ points. Thus 17 year olds in school had a 5.7 IQ advantage over those who had not been in school during the preceding three years.

We adopt this figure for our present purposes.

Approximately 50 percent of blacks were in school at this time, according to the 1996 census (Statistics South Africa, 1996). Hence those not in school would have had an IQ 5.7 points lower than the 75 of those in school obtained in the study = 69.3. The IQ for the total population can therefore be estimated as the average of those in school (75) and those not in school (69.3) = 72.

An estimate of the IQ of the Batswana is also available from three studies of the performance of school students in mathematics and science, and in "literacy achievement" in a number of countries. These have been analyzed to give two mathematics and science EQs (educational quotients) of 73.7 and a "literacy achievement" quotient of 60.2 (Lynn & Meisenberg (2010). (A similar analysis has been made by Rindermann, Sailer & Thompson, 2009). The average of the three results is 69.2 is closely similar to the IQ of 72 estimated from the Progressive Matrices. It is proposed that the two data sets can be averaged to 70.6 as an estimate of the IQ of the Batswana.

## References

Ceci, S.J.
(1991) How much does schooling influence general intelligence and its cognitive components? A reassessment of the evidence. *Developmental Psychology*, 27: 703–722.

Ceci, S.J., & Williams, W.M.
(1997) Schooling, intelligence, and income. *American Psychologist*, 52: 1051–1058.

Christian, K., Bachman, H.J., & Morrison, F.J.
(2001) Schooling and cognitive development. In R.J. Sternberg & E.L. Grigorenko (Eds.), *Environmental effects on cognitive abilities* (pp. 287–335). Hillsdale, NJ: Lawrence Erlbaum.

Glick, P. & Sahn, D.E.
(2009) Cognitive skills among children in Senegal: Disentangling the roles of schooling and family background. *Economics of Education Review* 28: 178-189.

Lynn, R. & Meisenberg, G.
(2010) The average IQ of sub-Saharan Africans: Comments on Wicherts, Dolan, & van der Maas. Intelligence (to appear)

Lynn, R., & Vanhanen, T.
(2006) *IQ and global inequality.* Augusta (GA): Washington Summit.

Maqsud, M.
(1997) Effects of metacognitive skills and nonverbal ability on academic achievement of high school pupils. *Educational Psychology,* 17: 387-397.

Raven, J., Raven, J.C. & Court, J.H.
(2000) *Standard Progressive Matrices.* Oxford: Oxford Psychologists Press.

Rindermann, H., Sailer, M. & Thompson, J.
(2009) The impact of smart fractions, cognitive ability of politicians and average competence of peoples on social development. *Talent Development and Excellence,*
1: 3-25.

*Statistics South Africa*
(1996) Pretoria: Government printer. Private Bag X44 Pretoria 0001.