



## Cognitive abilities among the Sami: A comment



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### ABSTRACT

A critical commentary of Armstrong et al. (2014) is presented. It is concluded that their article's argument (that the Skolt IQ is broadly in line with Cold Winters theory) is stronger than they give it credit for when other research on the Skolt is taken into account. They can also be more confident than they are in their conclusions with regard to the estimated Sami IQ. © 2014 Elsevier Inc. All rights reserved.

### 1. Introduction

There are a number of different Sami (Lapp) groups, each with their own distinct language. There are currently around 300 Skolt Sami (defined as those whose native language is Skolt) living in Finland, mainly in north east Lapland (Aikio, 2002, p. 34). Most of the Skolt were evacuated to this area from what is now Russia in 1944 when part of Finnish Lapland was ceded to the Soviet Union (Ingold, 1976). The Suoninkyla Skolt settled in Sevetijärvi, the Paatsjoki Skolt settled in Keväjärvi, and the Petsamo Skolt settled in Nellim.

Armstrong, Woodley, and Lynn (2014) have presented a study examining the IQ of the Skolt Sami, based on 4 studies of Finnish and Skolt school children in the villages of Sevetijärvi and Nellim (Forseius, 1973; Forseius & Seitamo, 1970; Seitamo, 1978, 1991). On this basis, they find that the Skolt IQ is only slightly lower than the Finnish IQ: 100.8 as against 101 for the Finns. It is my view that the persuasiveness of their essential theoretical conclusion – that the Sami (or at least the Skolt) have relatively high IQ and that this is congruous with Cold Winters theory – can be strengthened

when one delves in greater detail than they did into the history of the Skolt and the nature of Sami identity. Likewise, their estimation of the current Sami IQ, made hesitantly, can be rendered more convincing by the same process. In essence, they could have been more confident in their conclusions than they were if they had conducted more background research into the Sami. I wish to present this research in this short commentary.

### 2. Discussion of Armstrong et al. (2014)

Armstrong et al. suggest that their findings are 'some-what' congruous with Cold Winters theory as, due to the Skolt being adapted to a relatively cold environment they would be expected to have a relatively high genetic IQ. One possible reason, they suggest, for the Skolt having a lower IQ than the Finns is that their IQ is genotypically higher but the Skolt have a poorer environment, reducing their phenotypic IQ. Armstrong et al. suggest, however, that this is unlikely to be an important explanation because the SES of the Sami and the Finns in the villages sampled was about the same and Finns and Sami alike were engaged in reindeer herding, something which might lead to withdrawal from school and reduction in verbal IQ.

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However, one issue that they do not consider in this regard is alcoholism. Stereotypically, the Sami are regarded as having a severe problem with alcohol (Dutton, 2009). This could lead to a stressful home life, which could impact performance at school, as well as to fetal alcohol syndrome, which reduces IQ (Streissguth, 1997). But the evidence in this regard indicates that the Sami do not drink more than the surrounding population, at least when profession is controlled for. Studies of Sami alcohol use found through the Google Scholar database were examined. (Studies which simply quoted the results of the studies below were obviously excluded). Two studies, in Norway and Sweden respectively, found that Sami and non-Sami reindeer herders consumed about the same amount of alcohol, but that the Sami did so in a more 'hazardous' way (through binge-drinking) (Kaiser, Nordstöm, Jacobsson, & Renberg, 2011; Larsen & Nergard, 1990). One study, in Finland, found that Sami reindeer herders consumed significantly more alcohol than Finnish reindeer herders (Poikolainen, Näyhi, & Hassi, 1992). Six other studies, all of them in Norway or Sweden, indicate that the Sami consume about the same amount of alcohol as non-Sami when controlling for SES (Ahlm, Hassler, Sjölander, & Eriksson, 2010; Edin-Liljegren, Hassler, Sjölander, & Daergren, 2004; Kristen, 1992; Larsen, 1993; Nilsson et al., 2011; Ross et al., 2009). One study found that young Norwegian Sami drank less than young Norwegians (Spein, Melhus, Kristiansen, & Kvernmo, 2012).<sup>1</sup> A study in Sweden (Wiklund, Holm, & Eklund, 1990) and a study in Finland (Soininen, Järvinen, & Pukkala, 2002) found that, controlling for SES, the Sami were no more likely than the non-Sami to die of strongly alcohol-related forms of cancer. As such, overall, out of 12 relevant studies 10 find or imply that there is little difference in levels of alcohol consumption between Sami and local Non-Sami, controlling for SES. We can conclude that the environmental factor of alcoholism is unlikely to be a significant effect on the difference in IQ between Sami and local non-Sami. An element of caution is necessary because the only Finnish study (Poikolainen et al., 1992) specifically on this issue did find that the Sami drink more and are drunk more than are Finns of the same SES. However, this research was conducted in 1988, by which time, as we will see below, many Sami had left Lapland, and those that remained were heavily mixed with the Finnish population. As such, current research from Norway, where the Sami population is more genetically distinct from the local non-Sami than in Finland (Weinstock, 2009), may be more useful for analyzing data on the Skolt Sami in the 1960s, which would have been the least mixed Sami population in Finland at the time (see below). As such, we can cautiously rule out the possible impact of alcoholism on the results.

Another issue that could potentially reduce the IQ of the Skolt sample is language. Armstrong et al.'s meta-analysis indicates that the Skolt perform worse on verbal intelligence than on visio-spatial intelligence. They suggest that this reflects a general pattern found amongst other Arctic peoples. However, part of the explanation may also be that the tests were conducted in Finnish. The Skolt children were

either bilingual or native Skolt speakers. There is evidence that taking an IQ test through a language other than ones own reduces verbal IQ and this is also true of bilinguals, as their vocabulary in both languages is reduced (e.g. Ben-Zeev, 2013; Kellerman & Burry, 2007, Ch. 6). Indeed, Seitamo (1972, 1976) found that Skolt verbal IQ, relative to other kinds of IQ, increased the longer the Skolt children spent in the Finnish language education system. For this reason, the Skolt IQ in the early 1970s was probably slightly higher than Armstrong et al. estimate, making it even more congruous with Cold Winters theory.

Armstrong et al. do not explore the methodological problems with gathering data on the Sami in Finland but, if they had, these would imply that the Skolt evolved to have a significantly higher IQ than they estimate, in line with Cold Winters theory. The studies upon which Armstrong et al. draw defined a Skolt Sami child as one whose native language was Skolt, rather than one who, for example, had documented Skolt Sami ancestry but only Finnish as a native language. The general tendency amongst the Skolt and other Sami until relatively recently has been to not pass on the Sami language to their children but instead to pass on the more prestigious majority language in which they have been educated (such as Finnish). Indeed, in the first half of the twentieth century the Finnish and Norwegian education systems substantially eradicated the Sami languages through a system of boarding schools (Kvernmo, 1998, p. 126). Only after evacuation to Finnish Lapland in 1944 did Skolt Sami have regular contact not just with Finns but with other Sami. Both groups disliked the Skolt, seeing them as strongly Russian-influenced. For example, the Skolt are Orthodox whereas most Finns and Sami are Lutheran and the highly conservative Lutheran group known as the Laestadians began in the nineteenth century amongst the Sami, its founder, the priest Lars Laestadius (1800–1861), being half-Sami himself (Kuokkanen, 2006, fn. 6). Thus, the pressure on Skolt born in the 1930s and 1940s (the parents of the child samples drawn upon by Armstrong et al.) to abandon their Skolt culture was particularly strong (Lehtola, 2004, p. 67). Various studies have found that cultural conservatism is associated with low intelligence (e.g. Meisenberg, Rindermann, Patel, & Woodley, 2012) and, as such, we would expect that the more intelligent Sami (at least until relatively recently when a new ideology began to promote minority languages) would be more inclined to abandon their Skolt language. There would be no benefit to ones children speaking Skolt (indeed, there would be negative consequences) and the more intelligent would better comprehend this. They would also, we might expect, learn superior Finnish anyway, as intelligence would predict a better capacity to learn. For these reasons, a sample of Skolt in Finland in the 1960s–70s is likely to have a significantly lower IQ than the Skolt Sami would have had in the 1920s, when the relationship between genetics and language amongst the Skolt would have been stronger. Accordingly, this methodological problem would imply that the Skolt IQ is even more congruous with Cold Winters theory than Armstrong et al. find.

In addition, migration tends to be predicted by intelligence and this has been demonstrated recently in Finland (Dutton & Lynn, 2014). After the Soviet invasion of the Skolt homelands in 1944, the Skolt, as stated, were relocated to three villages south

<sup>1</sup> One possible explanation for lower than expected alcohol consumption amongst the Sami may be the heavy influence on them of the revivalist Lutheran group known as the Laestadians. Members are not permitted to consume alcohol (see Kuokkanen, 2006, fn. 6).

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