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Gross and fine motor skills: the case of Roma

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Abstract

The purpose of the present study is to evaluate gross and fine motor performance of roma children and to investigate the possible differences between roma and non-roma children. Twenty Roma and 20 non-roma preschoolers and first grade primary school children participated in this study. The two following tests have been used: The Test of Gross Motor Development-2 (TGMD) (Ulrich, 2000), and the Developmental Test of Visual Motor Integration (VMI) (Beery, 1997). The data shows that there were statistically significant differences only in the VMI, which shows roma children's underachievement in fine motor skills. This underdevelopment of fine motor skills may be impeded by the different daily routine of their families and their infrequent attendance of kindergarten. The significance of early childhood education is being emphasized as a key component of roma's school success.

Keywords: *Greek gypsies, motor performance, preschool children*

Introduction

The roma people (or romani, gypsies, or gipsies) constitute the 1-1.5% of Greek population, and the 0.3-0.4% population of Europe (Tanner, 2004). In recent years, there has been pressure to integrate roma children into the education system (Levinson, 2005). According to Levinson and Sparkes (2003) their educational deprivation is the consequence of three interwound causes: racism and segregation, unequal socio-economic background and minority-insensitive educational systems. The pervasive institutionalized racism at all levels of the school system results in segregated education settings that are inherently unequal, and do not lead to adequate skills or needed credentials.

The significant role of motor skills in school activities has numerous references in bibliography (for review see Graham & Weintraub, 1996). Specifically, the development of fine motor skills plays a crucial role in school readiness and cognitive development. Many researches have also explored the

relationship between motor skills and academic achievement. For example, Rule and Stewart (2002) report a moderate correlation between fine motor ability in young children and early literacy performance, while Share, et al. (1984) found interdigital dexterity to be a strong predictor of reading achievement.

Researchers assume that roma children seem to have excellent gross motor skills, because of their cultural particularities; on the contrary there is an under development in fine motor skills (Daroszi, 1996; Szeman, 1995). The purpose of the present study is to evaluate motor performance of roma children and to investigate the possible differences between roma and non-roma children.

Method

Participants

Forty preschoolers and first grade primary school children (18 boys and 22 girls), randomly selected, ranged in age from 6 to 10 years (mean age 7y:7mo, SD=1.74) participated in the current study and constituted the two experimental groups. The first group included 20 roma children (8 boys and 12 girls, mean age 8y:5mo, SD=1.82), whereas the second group included 20 non-roma children (10 boys and 10 girls, mean age 7y:2mo, SD=1.52). All children (roma and non-roma) were healthy, without any motor coordination difficulties, orthopedic deficits or learning problems. The roma children and their families were non nomadic and lived permanently in the city of Florina.

Procedure

The children participated in the experiment voluntarily and every child was examined individually in two separate sessions. The two following tests have been used: The Test of Gross Motor Development-2 (Ulrich, 2000), and the Developmental Test of Visual Motor Integration (Beery, 1997). The Test of Gross Motor Development-2 (TGMD) is a criterion and norm-referenced test designed for assessment of children from 3-10 years of age in 12 gross motor patterns. The Developmental Test of Visual Motor Integration (VMI) and its two supplemental

standardized tests, Visual Perception and Motor Coordination, provide the most valid and economical visual-motor screening battery available for preschool to adult age. The VMI helps assess the extent to which individuals can integrate their visual and motor abilities.

Results

The data derived from the TGMD was analyzed by using non-parametric test chi-square. Independent samples t-test were also used to investigate differences in the VMI scores between the two experimental groups.

In the TGMD there were no statistically significant differences between roma and non-roma children. On the other hand, there were differences in the VMI and its subtests in favor of non-roma children: VMI (df=38, t=2.953, p<.01), Visual Perception (df=38, t=3.803, p<.005) and Motor Coordination (df=38, t=5.431, p<.001) (see Figure 1).

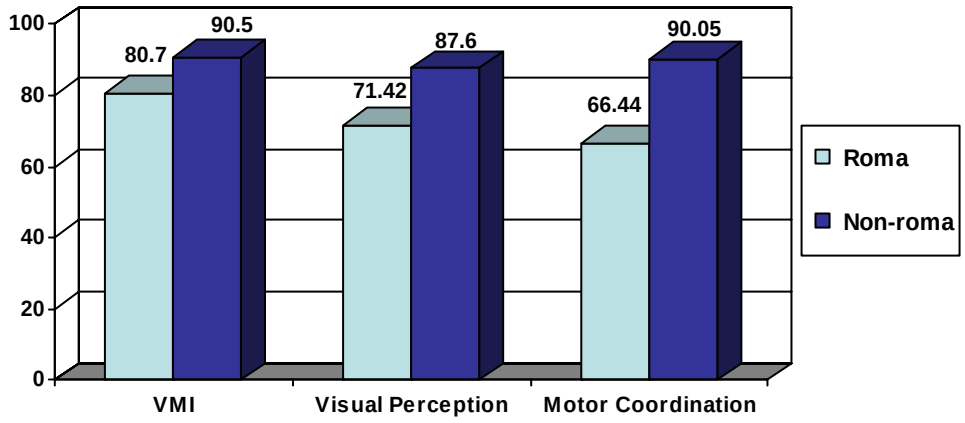

Figure 1: *Mean standard scores in V.M.I. and its supplementary tests in roma and non-roma children*

According to the VMI raw score age equivalents (Beery, 1997) roma's mental age was below their chronological age a) on the VMI 2 years and 3 months, b) on VP 2 years and 11 months and c) on MC 3 years and 11 month (see Figure 2).

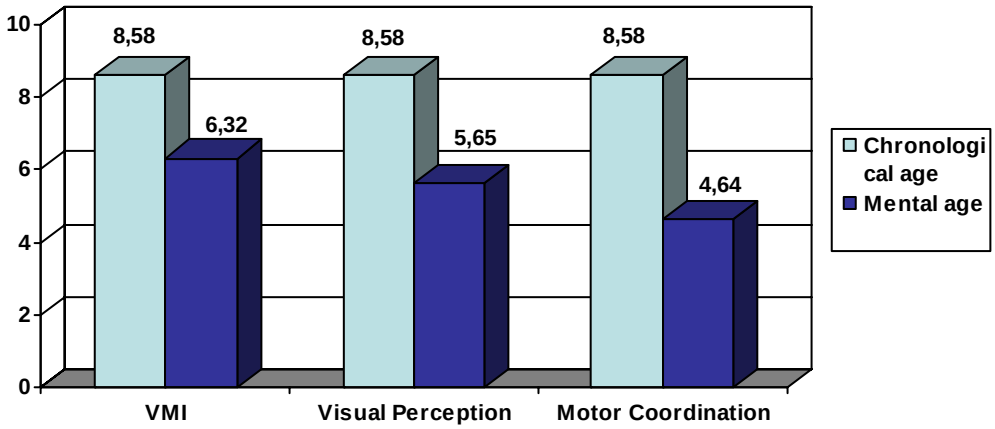

Figure 2: *Mean chronological and mental ages of roma children (according VMI raw score age equivalents)*

Discussion

The purpose of this study was to identify differences in motor performance between roma and non-roma children. The results showed that there were differences only in fine motor skills. Although some researchers (e.g., Daroczi, 1996) support that roma children have excellent gross motor skills, this was not verified from our results. The scores in the TGMD showed that roma children, like non-roma children, showed an average performance. This finding may be explained by two facts: firstly, roma participants do not belong to nomadic families and secondly, non-roma children of our sample live in a rural area where they have many opportunities to run, climb and play in the open yard.

On the other hand, roma children seemed to underachieve in the performance of fine motor skills, like holding a pen, drawing or tracing. This

underdevelopment of fine motor skills may be impeded by the different daily routine of their families and the infrequent attendance of kindergarten.

As Daroczi (1996) mentions the roma students enter the school environment with a diverse cultural background; thus, they show no particular interest in academic learning. Roma parents send their children to school because it is obligatory as well as for financial reasons: they may receive economic aid, besides school provides free baby-sitting.

Nurturing the development of fine motor skills is considerably more complicated than developing gross motor skills. Helping a child to perform successfully fine motor tasks requires planning, time, and a variety of play materials and this is not included in roma families' values. Fine motor development can be encouraged by activities that youngsters enjoy, including crafts, puzzles, and playing with building blocks. Even a computer keyboard and mouse can provide practice in finger, hand, and hand-eye coordination (Rule & Stewart, 2002). Early childhood education emphasizes the significance of fine motor tasks and the use of learning aids. The roma parents do not often devote adequate time or knowledge to foster their children's fine motor skills, which are the key component to school success.

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