# 106 - PSYCHOMOTOR PROFILE OF PRESCHOOL IN A PARTICULAR SCHOOL IN THE CITY OF LAGES/SC.

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## INTRODUCTION

In the human development there are modifications from the birth to the adult age, denoting constant biological and psychological evolution, resulting from diverse factors that involves genetic aspects nutritional, physical, environmental and psychosocial (ROSA NETO, 2002).

Researchers such as Wallon, Piaget, Vayer Le Boulch and Fonseca point out the thin link between the movement and the child's learning process. Fonseca (2004) states that the interaction between these two components defines the human behavior: motricity and psyche. Piaget also develops his theory based on learning (cognition) and development (sensorial and motor). For Wallon, movement has a leading role in affectivity and also in cognition, which together are substantially important (GALVÃO, 2003).

The motor development is a process by the child acquires standard of movement and ability. It is characterized by the based continuous modification in the interaction between the neuromuscular maturation processes; to the characteristic of growth of the child (for example, size and corporal composition); the residual effects of previous motor experiences and the new motor experiences. Thus, the motor behaviour depends on the interaction of a series of variable classified by the nature of the task, environmental conditions and cognitive, affective and psychomotor of the individual (GALLAHUE and OZMUN, 2005). Understands that the motor profile is an aspect that characterize the potentialities and the difficulties of the child in one determined moment of its development, being influenced and moulded in accordance with the organic conditions and the stimulus that are offered to it (TUDELLA and PEREIRA, 2008).

Concerning the cognitive development in the preschool period, the children of 2 to 3 years have capacity of understand that the other people see the things in a different way of the ones of them. For example, of this age they will adapt their speech and their way to play to the requirements of their company. They will play differently with older or younger companions (BEE, 1996). In the preschool years there is an explosion in the growth of the vocabulary, still more surprising in the speed. The children of this age learn from 5 to 10 words per day. They can perform this feat because in this point they seem to pay attention to the ace words in interior groups, as the words that nominate objects of an only class (as types of fruits), or words that have similar meanings (BEE, 1996). In this direction, there are important functions related to the temporal lobe to be commented, as the memory and the language (SCHLINDWEIN-ZANINI et al, 2008).

According to Cole and Cole (2003), during the first childhood (2-6 years old), there is an explosive growth in the comprehending and learning usage capacity. Children move much more confidently and independently than when they were 2 years old. Papalia and Olds (2000) affirm that the motor skills on children improve as these development stages go by. For Rosa Neto (2002), the infant development and learning are intrinsically linked to motricity and are essential for the child global development. A good motor control promotes a suitable exploration of environments, from concrete experiences which subsidize the infant intellectual development.

The affective development of the child from 2 to 3 years of age gradually gives place to the confident disembarrassment and frequently audacious of the children from 4 to 5 years. Lived imaginations return possible the little children to jump from great heights, to climb high mountains, to jump over rough rivers and running faster than multiple varieties of wild beasts (GALLAHUE and OZMUN, 2005). To the 4 years of age, the child has sophisticated capacity to understand other points of view, being able to predict the behaviour of other people on the basis of deductions regarding its belief or feelings (BEE, 1996).

This study had as objective to verify the psychomotor profile of preschool in a particular school in the city of Lages, SC.

## METHODOLOGY

This research is characterized as descriptive. In this type of research, the facts were observed, registered, analysed, classified and interpreted, without the researcher interferes with them. This means that the phenomena of the physical and human world are studied, but not manipulated by the researcher. One of the characteristics of the descriptive research is the standardized technique of the collection of data, accomplished mainly through questionnaires and the systematic observation (ANDRADE, 2010).

The used instrument was Scale of Motor-EDM Development (ROSA NETO, 2002), that evaluates the following areas of the development: fine motricity, global motricity, balance, corporal project, spatial organization, language/organization temporal, and laterality, with attainment of the motor ages (IM) and motor quotients (QM). In this research, the laterality was not collected; therefore the searched population (preschools) does not show an accurate definition of this variable.

Analysing the results of the QMG, becomes possible to classify the motor development of each child, in one of the seven levels: “very superior”, “superior”, “high normal”, “average normal”, “low”, “inferior” and “very inferior”, as on Table 1.

Table 1 – Motor Development Classification.

| QMG | Motor Development |
|---|---|
| 130 or more | Very high |
| - - | High |
| 110 – 119 | High normal |
| 90 – 109 | Normal average |
| 80 – 89 | Normal low |
| 70 – 79 | Low |
| 69 or less | Very low |

Source: ROSA NETO (2002, p.39)

The necessary materials were Kit EDM, sheet of complementary answer and material assistant. The storage of the data was made in a computer program EDM and analysed statistically in the computer program SPSS 13.0 (APACHE, 2004), using average, standard deviation, minimum value and maximum value. The time of application of the test was of approximately 30 minutes with each child.

The population was composed of preschools from 3 to 5 years of age, registered in a particular school in the city of Lages, SC. 20 pupils, being 12 masculine sex and 8 of feminine sex constituted the sample with ages from 3 to 5 years. The inclusion criterion was signature by the TCLE by the parents or responsible for the child.

**RESULTS AND DISCUSSION**

We evaluated 20 children from 3 to 5 years, being 12 masculine sex and 8 of the feminine sex were evaluated. The chronological age (IC) average was 4 years and 4 months. The general motor age (IMG) of the sample was 5 years and 2 months, demonstrating a positive age (IP) of 10 months. The analysis of the data of the sample can be visualized in Table 1.

Table 1 - Date of the sample.

| VARIABLE | AVERAGE | STANDARD DEVIATION | MINIMUM VALUE | MAXIMUM VALUE |
|---|---|---|---|---|
| Chronological Age (IC) | 52 | 4,5 | 45 | 60 |
| General Motor Age (IMG) | 62 | 6,1 | 54 | 80 |
| Fine Motor Age (IM1) | 61 | 13,6 | 48 | 96 |
| Global Motor Age (IM2) | 68 | 14,0 | 48 | 96 |
| Motor Age Balance (IM3) | 61 | 9,7 | 48 | 84 |
| Motor Age Corporal Project (IM4) | 60 | 3,8 | 48 | 72 |
| Motor Age Space Organization (IM5) | 67 | 15,2 | 36 | 96 |
| Motor Age Organization Weather (IM6) | 57 | 5,3 | 48 | 60 |
| Positive Age (IP) | 10 | 6,1 | 0 | 23 |
| General Motor Quotient (QMG) | 121,11 | 12,09 | 100,0 | 140,4 |
| Fine Motor Quotient (QM1) | 121,58 | 26,77 | 82,8 | 177,8 |
| Global Motor Quotient (QM2) | 131,24 | 24,33 | 100 | 140,4 |
| Motor Quotient Balance (QM3) | 119,39 | 21,37 | 80,0 | 160,0 |
| Motor Quotient Corporal Project (QM4) | 115,78 | 11,54 | 92,3 | 133,3 |
| Motor Quotient Org. Space (QM5) | 131,59 | 29,43 | 80,0 | 204,3 |
| Motor Quotient Org. Weather (QM6) | 109,72 | 10,78 | 82,8 | 130,4 |

Note: ages in “months”.

The general motor quotient (QMG) of the sample was classified as “superior” (QMG=121), what it can be justified by 2 aspects: accomplishment of regular physical activity (lessons of physical education in school 2 times per week) and socioeconomic status (by being a private school, includes families with a better buying power).

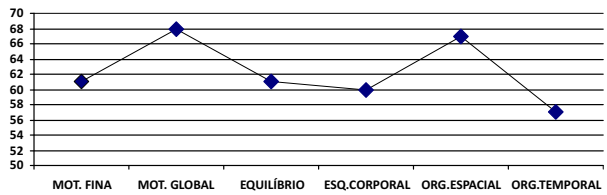
The accomplishment of recreation, physical activity, psychomotricity and/or lessons of childish physical education are fundamental in the global process of development of the child. It is through the chance of putting into motion itself, free e spontaneously, that the child communicates herself directly with the world (SILVA et al, 2010).

According to Chiarentin (2012), the individual aspects and the socioeconomics and environmental characteristics, as well as the tasks that are accomplished in the different contexts, are determinative in the process of motor development.

As much that the main causes of motor delay are: low socioeconomics conditions, substandard educational level, low birth weight, cardiovascular disorder, respiratory, neurological, neonatal infections, malnutrition and prematurity. In this direction, it is cited that the research of Schlindwein-Zanini, Almeida and Rosa Neto (2008) evaluated 20 children with mental deficiency, using Scale of Intelligence Wechsler for children (WISC III) and Scale of Motor Development (EDM), concluding that the motor development is intrinsically related to the cognitive development of children with mental deficiency.

Making an analysis of each evaluated motor area, it is possible to trace a motor profile of the sample, as it shows graph 1.

Graph 1 - Motor profile of the sample.




The motor areas that had shown better resulted were global mobility (IM2) and spatial organization (Im5). In relation to the global motricity, during the schools phases of the child, it occurs an important acquisition and improvement of the posture, of the motor ability, the way that the child moves and dominates its proper body. Among all proportionate motor experiences in school, are the lessons of physical education, where they have chance to jump, to play and to develop diverse aspects of the motricity. Another moment to develop these abilities is in the hour of the break, which is a moment of leisure and recreation. These tricks that demand the participation of great muscular groups are of simple execution and sufficiently motivation for child (CAETANO et al, 2005).

According to Rosa Neto et al (2010), the motor abilities improves in the childhood and the children is capable to skipping rope, to play with ball, to ride a bike, beyond executing tasks that demand coordination and dissociation of the segments, as “jumping jack” and “tumble”. They become faster e better co-ordinated. Concerning the spatial organization, it is realized that in the school age questions of environmental perception are worked (far/close, large/small), making possible to the child the determination and structuring space that lives (ROSA NETO, 2002).

To Falco (2008), the representation of the space for child is a construction internalized from the actions and manipulations about the spatial environment next to which it is part. It is not enough to the child to be in an organized space in order to challenge its abilities: it is necessary that it interact with this space to live it intentionally. This means that the experiences, in the reality, are expressed in roles that the children perform in context, which the furniture, the materials, the routines, the teacher and the life of the children out of school interferes with these lives.

The area with worse performance in the study was the temporal organization, that according to Rosa Neto (2002) it is the capacity to be placed in function of the succession of the events (before, during, after), of the length of the breaks (time, rhythm, and cadence), of the cyclical renewal of certain periods (days of the week, months, seasons), and of the irreversible character of the time (how many years had already gone). In the preschool age, the child does not yet define with clarity these questions.

**CONCLUSION**

Concludes that the psychomotor profile of preschool of a particular school of the city of Lages/SC meets inside of the normality standards, with better performance in the areas of global motricity and spatial organization; and worse performance in the temporal organization. Considering that the components of the motricity present different rhythms of development. Its suggests a longitudinal psychomotor accompaniment of the children.

**REFERENCES**

ANDRADE,M. M. Introdução metodologia do trabalho científico. 10ª ed. São Paulo: Atlas, 2010.

APACHE. Software Foundation. Statistical Package For Social Sciences - SPSS 13.0 for Windows. Copyright SPSS Inc. Release 13.0, 2004.

BEE, H. A criança em desenvolvimento 7ª ed. Porto Alegre: Artes Médicas, 1996.

CAETANO, M. J. D. et al. Desenvolvimento motor de pré-escolares no intervalo de 13 meses. Revista Brasileira de Cineantropometria e Desempenho Humano. 2005;7(2):05-13.

CHIARENTIN, C. K. et al. Nível socioeconômico e grau de escolaridade: relação com oportunidades para o desenvolvimento infantil. Revista Aires. 2012 abril; 17-167.

COLE, M.; COLE, S. O desenvolvimento da criança e do adolescente. 4a ed. Porto Alegre: Artmed, 2003.

FALCO, F. Importância do espaço na educação infantil. Revista Tempo, 2008 setembro1-1.

GALLAHUE, D., OZMUN, J., C. Compreendendo o desenvolvimento motor: bebês, criança, adolescentes e adultos. 3ª ed. São Paulo: Phorte, 2005.

GALVÃO, I. Henri Wallon: uma concepção dialética do desenvolvimento infantil. Petrópolis: Vozes, 2003.

ROSA NETO, F. et al. A importância da avaliação motora em escolares: análise da confiabilidade da escala de desenvolvimento motor. Revista Brasileira de Cineantropometria e Desempenho Humano. 2010 nov-dez, vol.12 no.6.

ROSA NETO, F. Manual de avaliação motora. Porto Alegre: Artmed, 2002.

SCHLINDWEIN-ZANINI R, IZQUIERDO I, CAMMAROTA M, PORTUGUEZ M. W. Aspectos neuropsicológicos da Epilepsia do Lobo Temporal na infância. Neurocienc. 17(1), 46-50. 2008.

SCHLINDWEIN-ZANINI, R., ALMEIDA, G. M. F.; ROSA NETO, F. Desenvolvimento motor e cognitivo em crianças com deficiência mental. Dementia e Neuropsychologia, 1, 17-17. 2008.

SILVA, M.E.G. et al. Educação (física) infantil: território de relações comunicativas. Revista Brasileira de Ciência e Esporte (Impr.) vol.32 no.2-4 Porto Alegre dez. 2010.

TUDELLA, E.; PEREIRA, K. Perfil psicomotor de escolares: quanto ao gênero, à idade gestacional e ao aspecto físico. Revista Fisioterapia e Movimento. 2008 jan/mar; 47-55.

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**PSYCHOMOTOR PROFILE OF PRESCHOOL IN A PARTICULAR SCHOOL IN THE CITY OF LAGES/SC.**

**ABSTRACT**

Introduction: The development and the childish learning are intrinsically connected to the mobility, showing fundamental for the global development of the child. A good motor control promotes appropriate exploration of environments, from concrete experiences. Aim: to verify the psychomotor profile of preschool in a particular school in the city of Lages/SC. Methodology: The population was composed of 20 preschools from 3 to 5 years of age, being 12 of masculine sex and 8 of the feminine sex, registered in a particular school in the city of Lages/SC. The inclusion criterion was signed by the TCLE by the parents/responsible for the child. The used instrument was Scale of Motor Development EDM (ROSA NETO, 2002). Results: The chronological age average was 4 years and 4 months. The general motor age of the sample was 5 years and 2 months, demonstrating a positive age of 10 months. The general motor quotient of the sample was classified as “superior”. The motor areas that had presented better resulted were global mobility and space organization; and the area with worse performance was the temporal organization. Conclusion: The components of the psychomotricity present different rhythms of development in each child, being that the preschool ones meet inside of the normality parameters. The necessity of accompaniment of these children stays evident in the long term, aiming at the maintenance of a good motor development.

**KEYWORDS:** Motor development, child, and preschool.

**PSYCHOMOTRICES PROFIL ENFANTS D'ÂGE PRÉSCOLAIRE DANS UNE ÉCOLE PRIVÉE DANS LA VILLE DE LAGES / SC.**

**RÉSUMÉ**

Introduction: Le développement et l'apprentissage des jeunes enfants sont inextricablement liés à la fonction motrice, révélant fondamentale pour le développement global de l'enfant. Une commande du moteur favorise une bonne exploitation correcte des environnements, des expériences concrètes. Objectif: vérifier le profil psychomoteur des enfants d'âge préscolaire dans une école privée dans la ville de Lages / SC. Méthodologie: L'étude a porté sur 20 enfants d'âge préscolaire 3-5 ans, 12

hommes et 8 femmes, inscrits dans une école privée dans la ville de Lages / SC. Le critère d'inclusion a été la signature du formulaire de consentement éclairé des parents / tuteurs de l'enfant. L'instrument utilisé a été le moteur du développement Scale-EDM (ROSA NETO, 2002). Résultats: l'âge chronologique en moyenne 4 ans et 4 mois. L'âge général du moteur de l'échantillon était de 5 ans et 2 mois, ce qui démontre un âge positif 10 mois. Le quotient de moteur générale de l'échantillon a été classé comme «supérieur». Les zones motrices qui ont montré de meilleurs résultats sont le contrôle de la motricité et de l'organisation spatiale, et la région a été le moins performant organisation temporelle. Conclusion: Les composants ont des taux différents de développement psychomoteur de chaque enfant, et l'enfant d'âge préscolaire étaient dans les limites normales. Il est évident que la nécessité d'une surveillance à long terme de ces enfants afin de maintenir le développement moteur bien.

**MOTS-CLÉS:** développement moteur, tout-petits, enfants d'âge préscolaire.

**PERFIL DE LA PSICOMOTRICIDAD EM NIÑOS DE EDAD PREESCOLAR EN UNA ESCUELA PRIVADA EN LA CIUDAD DE LAGES / SC.**

**RESUMEN**

Introducción: El desarrollo y el aprendizaje infantil están íntimamente ligados a la función motora, revelando fundamental para el desarrollo integral del niño. Un buen control motor promueve la explotación adecuada de los entornos, a partir de experiencias concretas. Objetivo: Comprobar el perfil psicomotor de los niños en edad preescolar en una escuela privada en la ciudad de Lages / SC. Metodología: La población de estudio estuvo constituida por 20 niños en edad preescolar de 3-5 años de edad, 12 hombres y 8 mujeres, matriculados en un colegio privado de la ciudad de Lages / SC. El criterio de inclusión fue la firma del formulario de consentimiento informado de los padres / tutores del niño. El instrumento utilizado fue la Escala de Desarrollo Motor-EDM (ROSA NETO, 2002). Resultados: La edad cronológica con un promedio de 4 años y 4 meses. La edad general del motor de la muestra fue de 5 años y 2 meses, lo que demuestra una edad positiva (IP) 10 meses. El cociente motor general de la muestra fue clasificada como "superior". Las áreas motoras que mostraron mejores resultados fueron el control motor grueso y organización espacial, y la zona era el peor desempeño organización temporal. Conclusión: Los componentes tienen diferentes índices de desarrollo psicomotor de cada niño, y los niños preescolares estaban dentro de límites normales. Es evidente la necesidad de un seguimiento a largo plazo de estos niños con el fin de mantener un desarrollo motor bueno.

**PALABRAS CLAVE:** desarrollo motor, niño, preescolar.

**PERFIL PSICOMOTOR DE PRÉ-ESCOLARES EM UMA ESCOLA PARTICULAR NA CIDADE DE LAGES/SC.**

**RESUMO**

Introdução: O desenvolvimento e a aprendizagem infantil estão intrinsecamente ligados à motricidade, revelando-se fundamentais para o desenvolvimento global da criança. Um bom controle motor promove adequada exploração dos ambientes, a partir de experiências concretas. Objetivo: verificar o perfil psicomotor de pré-escolares em uma escola particular na cidade de Lages/SC. Metodologia: A população foi composta por 20 pré-escolares de 3 a 5 anos de idade, sendo 12 do sexo masculino e 8 do sexo feminino, matriculadas em uma escola particular na cidade de Lages/SC. O critério de inclusão foi assinatura do TCLE pelos pais/responsáveis da criança. O instrumento utilizado foi a Escala de Desenvolvimento Motor-EDM (ROSA NETO, 2002). Resultados: A idade cronológica média foi de 4 anos e 4 meses. A idade motora geral da amostra foi de 5 anos e 2 meses, demonstrando uma idade positiva de 10 meses. O quociente motor geral da amostra foi classificado como “superior”. As áreas motoras que apresentaram melhores resultados foram motricidade global e organização espacial; e a área com pior desempenho foi organização temporal. Conclusão: Os componentes da psicomotricidade apresentam ritmos diferentes de desenvolvimento em cada criança, sendo que os pré-escolares encontram-se dentro dos parâmetros de normalidade. Fica evidente a necessidade de acompanhamento a longo prazo dessas crianças, visando a manutenção de um bom desenvolvimento motor.

**PALAVRAS-CHAVE:** Desenvolvimento motor, criança, pré-escolar.