Exploring the effects and specificity of playground activities on motor skills in 5 years old children

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Space organization in playground PRIMO SPORT 0246 of Treviso Italy

Space is divided in 4 main areas

MANUALITY

SYMBOLIC PLAY

MOBILITY

BALANCE
INTRODUCTION

In western countries children spend several hours a day in kindergarten (Brown et al., 2009).

In preschool children, a common finding is that physical activity levels are lower than recommended.
Teaching/providing motor activities in playgrounds in northern Italy: from theory to practice (6 kindergartens)
Both the indoor and the outdoor environments (e.g., equipment, organization, urban/rural areas) impacts upon the physical activity levels of preschool children

The presence of opportunities for physical activity is an important predictor of variables related to levels of physical activity
Physical activity facilitates the development of (and dependent upon) **motor competence** (Sigmundsson & Hopkins, 2009; Adolph et al., 2012)

Physical activities might involve:
- **Locomotor skills** (e.g., running, hopping, sliding),
- **Object control skills** (e.g., throwing, catching, kicking),
- **Stability skills** (e.g., balancing, turning and twisting)

Motor competence influences the amount, intensity and level of physical activity
Children with low motor competence are less motivated to engage in physical activities, has higher risk for sedentary behavior later in life, and as a consequence, has higher risk for becoming obese

Motor competence and physical activity are therefore considered as interconnected concepts in child development.
THE RESEARCH

We investigate the effects of outdoor activities on measures of motor skills in 110 five years old children.
Participants

4 out of 23 kindergartens in Treviso (110 children) Veneto, northern Italy, randomly selected for participation in the study.

2 as comparison groups (assessment but no activities at the playground) $\rightarrow$ n = 39, 22 boys/17 girls,

2 as experimental groups (structured and free playground activity and assessments), n = 71, 41 boys/30 girls,
All sessions took place between 9 AM and 12 AM

30 minutes free play
30 minutes structured activities
once a week
For 10 weeks in the playground.
Assessments of motor skills were performed individually in a quiet room in the kindergarten or at the playground pre and post the period of activity.

**Test of Motor Competence**: Building Bricks, heel-to-toe walking and walking/running in slopes (Sigmundsson et al., 2014; Leversen et al. 2012),

**Movement ABC** (one-leg balance) (Henderson & Sugden, 1992)

**Test of Physical Fitness** (putting a medicine ball) (Fjørtoft et al. 2012).
RESULTS

Significant differences in the experimental group in four tasks (one-leg balance-left foot, balance on beam, balance of platform, and putting a medicine ball). They perform better after the training period.

There was no significant improvement in the control group, however, this group did score significantly worse at post-test in Heel-to-toe walking.
The experimental group improved significantly in four of the seven tasks: Balance on Beam, Balance on Platform, Putting medicine ball and One leg balance (left foot).

Although the results in One leg Balance (right foot) were not significant the experimental group improved 6 sec, compared to 2 sec of the control group.
BALANCE ON BEAM – BALANCE ON PLATFORM
Improvement in these two tasks, may be due to increased experience on these specific tasks, during the activity of the experimental group.

PUTTING A MEDICINE BALL
The significant improvement found may be regarded as consequence of increased general physical activity of the program in the park. This task may be regarded as gross motor task and also Physical fitness task (Fjørtoft et al. 2012)
The training in the Manuality area may have given this ‘**transfer’ effects**

The children of the experimental group practiced activity in monkey bars, hanging bar, climbing a net, climbing a rope, a rope ladder and gymnastic ring. **The study of Fjørtoft et al. (2012) indicates a high correlation between different physical fitness tasks (higher transfer).**
The improvement on the one leg balance task for the experimental group may be due to the transfer of gross motor activity, for example increase in muscle strength in legs.

The same transfer in learning was not found in the tasks Heel to toe Walking. This may indicate that increasing performance in this kind of task may need more balance training because this task what is not commonly performed
Participating in playground activities for the experimental group did not result in significant improvements in performance for the task Building Bricks (fine motor skills).

As the program in the playground was mainly focusing on training gross motor skills and the results demonstrate that increasing performance within fine motor skills may be regarded as specific (Haga et al. 2008).
The group who practiced gross motor activity in the playground 1 hour a week for 10 weeks improved significantly in four of the six gross motor tasks, compared to the control group.

These results could be important for the practical activity of the kindergartens and for parents. 30 minutes of free play and 30 minutes of structured activity once a week, for 10 weeks are sufficient time to produce improvement in gross motor competence.
The organization of structured activity, the methodology of execution and the repetition of the experience gave significant results, showing the effects of specificity of gross motor activity on gross motor competence, on specific tasks and not on fine motor competence.

It is important to consider these results in kindergarten teacher’s education.
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WHAT CAN WE DO?

Apart from the days destined for the research, Every day kindergartens of Treviso are coming to spend “AN ACTIVE DAY IN THE PLAYGROUND”.

The municipality of Treviso offers a free bus service to take the children to the playground PRIMO SPORT 0246

CONI of Treviso, a national organization that promote sport activities provide the motor educator for the activity in the playground

The research Center for children motor development of the University of Verona, provide to instruct educators on the concept of the playground.
The Playground Primo Sport 0246
Treviso, Italy
NEW PLAYGROUNDS
ROMA, ITALY VIALE TIZIANO!
Playground PRIMO SPORT 0246
“BAMBI & BIMBI” Pescantina (VR) Italy
Playground PRIMO SPORT 0246 Kindergarten
“ANGELI CUSTODI” Gargagnago (VR) Italy
Surroundings and activities just right for growing up well
WHAT CAN WE DO?
IMPLEMENT PHYSICAL ACTIVITY
TEACHER’S EDUCATION AND RESEARCH-ACTION

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OBIETTIVI
Crescere una figura di esperto specializzato, a livello internazionale, nell'attività motoria per l'infanzia con a) conoscenza attualmente specialistiche nello sviluppo motorio del bambino da 0-6 anni con b) elevate competenze professionali in ambito organizzativo, gestionale e nella conduzione di attività motorie innovative in ambito scolastico ed extra-scolastico; c) competenze relazionali e comunicative con bambini e adulti; d) competenze nell'utilizzo di dati della ricerca scientifica e di strumenti di indagine qualitativa e quantitativa nei diversi ambiti didattico-technico/metodologico dell'attività motoria per l'infanzia.

A CHI SI RIVOLGE

CALENDARIO INCONTRI
20 incontri in presenza dalle ore 9.30 alle 18.00: 26 gennaio 2013, 2, 16, 23 febbraio, 2, 16, 23 marzo, 6 e 13 aprile, 4, 11, 25 maggio, 1, 8 giugno, 28 settembre, 5, 19, 26 ottobre, 23 e 30 novembre 2013. Sono previste attività di formazione online per un apprendimento autodirigibile sulla disponibilità individuale. Il corso si conclude nel gennaio 2014 con una prova finale che concorda nella produzione e discussione di un progetto operativo. Le lezioni in presenza prevedono la partecipazione di esperti provenienti da tutto il mondo. La frequenza delle lezioni in presenza e online è obbligatoria al 70%.

TITOLO RILASCIATO
Dopo l'esame finale viene rilasciato un Diploma di Master Universitario. Vengono riconosciuti 60 CFU (Crediti formativi universitari) e di 3 punti nelle graduatorie ad assunzioni (CM 27 del 15 marzo 2007), utili per la carriera professionale docente.

SCADENZA ISCRIZIONI
06/12/2012 – Numero massimo di studenti ammessi: 100. Può iscriversi anche chi si laurea entro la sessione di marzo 2013.

COSTO
Euro 1900 (+30 euro per contributi). Chi ha già frequentato il corso “Corpo e movimento: attività motoria per l’infanzia 0-6 anni” ha una riduzione di 500 euro, chi ha frequentato il corso “Organizzazione dell’attività motoria per l’infanzia” ha una riduzione di 350 euro. Le due riduzioni sono cumulabili. Sono ridotte anche le giornate di frequenza.

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THANK YOU FOR YOUR ATTENTION

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