An investigation of the correlations between unstructured play and the cognitive, physical and social and mental health of children.
A cross sectional analysis of 5 year olds in Ireland

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Why Play?

• Play is the primary occupation of childhood.

• Particular interest in sensory processing and early play experience and the impact on development.

• Increase anecdotally in the incidence and severity of mental health difficulties in children presenting to services.
Defining play

• There are 6 general factors defined by Rubin et al (1983) generally agreed upon in the literature:
  – 1) **Intrinsically motivated** (done for it’s own sake)
  – 2) **Focus on means rather than ends** (self imposed rules that change)
  – 3) **Organism centred** (what can I do with this object rather than what does this object do?)
  – 4) **Non- instrumental** (make believe)
  – 5) **Freedom from externally imposed rules**
  – 6) **Active engagement**

• Universal to all of these factors...**play is fun!** (Elkind 2008, Glascott & Tsao 2002)
Relevance to policy

• Play is recognised by the **UNCRC** as one of the fundamental rights of the child.

• **National Children’s Strategy (Nov 2000)**, includes a commitment to develop National Play and Recreation Policies due to the importance of play being raised by children themselves.

• **Better Outcomes, Brighter futures** (DCYA 2014-2020) under ‘Active and Healthy physical and mental wellbeing’ section 1.4 *Enjoying play, recreation, sport, arts, culture and nature*

• **Ready steady play! A National Play Policy** (Department of Children and Youth affairs launched 2004 revised April 2019)

• **Aistear & Siolta**—Early Childhood Curriculum & national quality framework for Early education (NCCA 2009) Play based curriculum based on play enhancing; wellbeing, identity and belonging, communicating, exploring and thinking.
PURPOSE OF THE RESEARCH

• Build on existing research on the benefits of play to children.

• No previous studies were found examining correlations between health outcomes and play for an Irish population.
LITERATURE REVIEW
The following key themes emerged from the literature review

- The health benefits of play reported in the literature can be categorised as:
  - Cognitive /improved educational outcomes
  - Physical health
  - Social Skills
  - Mental Health and wellbeing
- Outdoor unstructured play (not led by an adult) appears to have the most health benefits for children.
- There were differences between the reported health outcomes associated with play in males and females and within different socioeconomic class groups.
Research questions

• Is there an association between the frequency of unstructured play children in Ireland engage in and their cognitive abilities?

• Is there an association between the frequency of unstructured play children in Ireland engage in and their physical health?

• Is there an association between the frequency of unstructured play children in Ireland engage in and their social skills?

• Is there an association between the frequency of unstructured play children in Ireland engage in and their mental health?

• Do any of the associations between play and cognitive, physical health and emotional and behavioural outcomes differ between boys and girls and between different socioeconomic groups?
METHOD
Study design

• **GUI infant cohort at 5 years main caregiver questionnaire** was used for this study.

• Data stratified by socioeconomic class and gender for each of correlations.

• Health outcomes;
  – **Cognitive abilities**- Picture similarities and Naming Vocabulary subscales of the *British Abilities Scales*.
  – **Physical Health** – *Body Mass Index*
  – **Social Skills**- *Short Temperament Scale for Children (STSC) & Social Skill Improvement Rating Scale (SSIS)*.
  – **Mental Health**- *Strengths and Difficulties questionnaire (SDQ)*
Two categories of unstructured play were created;

‘Outdoor Unstructured Physical Play’ (OUPP)

• Climbs on trees, climbing frame & wall bars etc, plays with a ball, plays chasing, rides a bike or scooter and skates
• Score allocated between 5-25 based on the frequency
  1=never, 2=less than once per week, 3= 1-2 times per week, 4=3-6 times per week, 5= every day

‘Other Unstructured Play’ (OUP)

• Plays make believe or pretend games, paints/draws or makes models, enjoys dance/music/movement.
• Score between 3-15 based on frequency
  1= Never, 2=Hardly ever, 3=Occasionally, 4= 1-2 times per week, 5= everyday.
A cross sectional analysis was completed of the data from the 5 year olds infant cohort caregiver questionnaire.

Tests for correlation were conducted between each of the play variables (OUPP & OUP) and each of the health outcomes.

As the data violated the assumption of normality- non parametric tests were performed (Spearman correlations.)
RESULTS
Descriptive data

- **Males** (Md=18) were found to engage in significantly higher levels of *outdoor unstructured play* (OUPP) than females (Md=17) (p=.000) and vice versa **females** (Md=14) were found to engage in significantly higher ‘*other unstructured play*’ (OUP) than males (Md=13) (p=.000).

- **Males** in the class group ‘*others gainfully employed and unknown*’ (Md=11) engaged in significantly less OUP than males all other socioeconomic class groups (p=.007).

- **Males** the top 3 social economic class groups ‘*professional workers, managerial and technical, non-manual*’ engaged in significantly lower OUPP (Md=18, p=.000) that males in the other class groups.

- **Females** in the lowest 2 socioeconomic class groups ‘*others gainfully employed, validly no social class*’ engaged in significantly more OUPP (md=18, p=.000) than those in the other class groups.
**Significant Correlation(s) with Health Outcomes (summary - weak or very weak correlations excluded from the summary)**

**Males**

**Other Unstructured Play (OUP)**

- Negative correlation between the ‘reactivity’ subscale of the STSC in the ‘unskilled’ class category (rho=-.445, n=61, p=.000)
- Positive correlation with ‘self control’ subscale of the SSIS in the ‘unskilled’ class group (rho=.530, n=61, p=.000).
- Negative correlation with ‘conduct’ subscale of the SDQ in the ‘unskilled’ class group (rho=-.447, n=61, p=.000)
- Positive correlation with the ‘prosocial’ subscale of the SDQ in the ‘unskilled’ class group (rho=.422, n=61, p=.001).

**Outdoor Unstructured Physical Play (OUPP)**

- Positive correlation between the ‘sociability’ subscale of the STSC in the ‘unskilled’ social class category (rho=.320, n=61, p=0.12).
Significant Correlation(s) with Health Outcomes (summary- weak or very weak correlations excluded from the summary )

**Females**

**Other Unstructured Play (OUP)**

- Negative correlation with **BMI** in the class group ‘others gainfully employed’ (rho=-.462, n=46, p=.001)
- Positive correlation with the **assertion subscale of the SSIS** in the class group ‘others gainfully employed’ (rho=.487, n=46, p=.001)
- Positive correlation with the **empathy subscale of the SSIS** in the class group ‘unskilled’ (rho=.485, n=58, p=.000).
- Negative correlation with the ‘**hyperactivity**’ subscale of the **SDQ** in the ‘unskilled’ class group (rho=-.384, n=58, p=0.3)

**Outdoor Unstructured physical Play (OUPP)**

- Positive correlation with the **Pictures Similarities test** in the class group ‘unskilled’ (rho=-.310, n=58, p=0.18)
- Positive correlation with the **empathy subscale of the SSIS** in the class group ‘unskilled’ (rho=.563, n=58, p=.000)
- Positive correlation with the ‘**prosocial**’ subtest of the **SDQ** in the group ‘skilled manual’ (rho=.424, n=. P=0.001)
DISCUSSION
Key points

• The correlations found in this study were generally very weak. However when considering the population as a whole and all health outcomes used in this study, positive trends could be identified.

• Differences were identified between class groups. Highest strength correlations tended to be found in the lower socioeconomic class groups ‘unskilled’ and ‘others gainfully employed’ for both males and females.

• There were more correlations between play and health outcomes found for females than males.

• There were more correlations found on the measures of Social Skills and Mental Health than BMI or cognitive measures across all class groups.
Limitations

• Cross sectional study.
• Outcome measures used do not capture all aspects of children’s cognitive, physical, social and mental health.
• Age of children (age 5)- levels of physical and creative/pretend play may not impact health outcomes.
• Caregivers completing the questionnaires are giving an average estimation over time.
• Context of the play nor time spent playing (only frequency) is not captured, therefore it is impossible account for other potential mediating factors (e.g. how long, who the child is playing with, how and where) to account for differences between findings for class groups and unexpected findings.
• This study did not look at other factors such as screen time and the impact of this on the time spent playing OUP and OUPP and outcomes.
• Was the child having fun! ?
Recommendations

• Further studies examining relationship with play and outcomes over time with the next wave of data (age 9).

• Further qualitative studies to compliment the GUI data and capture the ‘real time/ details’ about children’s play.

• Focus on the socioeconomic class group ‘unskilled’ to determine why more relationship exist in this class group with play and health outcomes.

• Covid-19- impact of increased time for free play but less time with friends?
Implications for Policy

• The findings from this study support previous research that there is a relationship between play and children’s development particularly social skills and mental health.

• Highlights the need to tailor play policies to different subgroups of society to enhance the benefits of play to different populations.
Thanks

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References


References


References


References


References


• Daly.E (2014) The Power of Play: Why we should and how we can promote and facilitate play The OMEP Ireland Journal of Early Childhood Studies. 8, 85-103.


• French.G(2007) Children’s early learning and development, Section 2 Early Childhood- How Aistear was developed: Research papers. Retrieved on 1.03.18 from NCCA https://www.ncca.ie/media/1112/how-aistear-was-developed-research-papers.pdf


References


• Growing up in Ireland study http://www.esri.ie/growing-up-in-ireland/

• Growing up in Ireland study Questionnaires http://www.esri.ie/growing-up-in-ireland/questionnaires/


References


• Irish Social Science Data Archive [http://www.ucd.ie/issda/data/growingupinirelandgui/](http://www.ucd.ie/issda/data/growingupinirelandgui/)


References


- Kernan. M (2007) *Play as a context for Early Learning and Development*, Section 3 Early Childhood- How Aistear was developed: Research papers. NCCA Retrieved on 29.11.18 from [https://www.ncca.ie/media/1112/how-aistear-was-developed-research-papers.pdf](https://www.ncca.ie/media/1112/how-aistear-was-developed-research-papers.pdf).


References


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