



12th Annual
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Conference
2020

**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**

Ines Lawlor

Completed in part fulfilment for the MSc Children and Youth Studies (2018)

University College Dublin

Research supervisor Dr Susan Gibney

GUI Conference Oct 2020

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

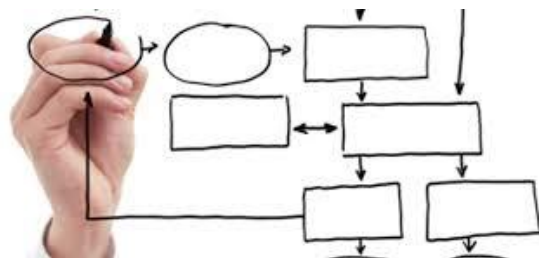
- The health benefits of play reported in the literature can be categorised as:
 - Cognitive /improved educational outcomes
 - Physical health
 - Social Skills
 - Mental Health and wellbeing
- Outdoor unstructured play (not led by an adult) appears to have the most health benefits for children.
- There 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.

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 ($\rho = .320$, $n = 61$, $p = 0.12$).

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 ($\rho = -.384, n=58, p=0.003$)

Outdoor Unstructured physical Play (OUPP)

- Positive correlation with **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.
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- Highlights the need to tailor play policies to different subgroups of society to enhance the benefits of play to different populations.



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Thanks

Particular thanks to Dr Susan Gibney my research supervisor for this study and all the staff in UCD School of Education MSc Children and Youth studies .

ineslawlor2014@gmail.com

Head of School of Education 2018 : Professor Dympna Devine



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