To play, or not to play

Healthy play, better coping

Stimulating play through games may empower chronically ill children in their everyday lives.

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Chronic diseases negatively impact children’s physical, behavioural and cognitive development beyond the actual illness itself. Also in infants with (early) life-threatening events, such as remission after childhood cancer or admission to neonatal intensive care unit (NICU), physical development obviously can be affected, but negative consequences on their psychological well being and social participation could be significant as well. Physical disabilities, developmental disorders, and social exclusion are major factors that may lead to limited play options for these children. Play behaviour is essential for the development of an individual. Therefore, on top of their (physical) disease, impaired play may have long-lasting consequences for these children as they grow up. Studying and developing play and game interventions for this particular population is of utmost importance: to empower them and combat the consequences of their chronic or life-threatening condition, so that they can ultimately develop into healthy adults.

From a developmental perspective, play offers ample physical, emotional, cognitive, and social benefits. It allows children and adolescents to develop their motor skills, experiment with their (social) behavioural repertoire, helps them simulate alternative scenarios, and address the various positive and negative consequences of their behaviour in a safe and engaging context.

Innovative forms of play

Recently, we started a new multi-disciplinary research project regarding the developmental and therapeutic aspects of play and applied games in children and adolescents with chronic or life-threatening conditions. A promising collaborative network of professionals from various disciplines across...
«Will I participate at the level of an elderly person, or will I not participate at all?»
Young patient with Cystic Fibrosis
the Utrecht University campus will help to answer questions such as: What is the adaptive functionality of play in children with chronic or life-threatening diseases? How can innovative forms of play and gaming interventions stimulate coping with their situation? Will better coping improve their development, leading, for example, to better social participation later in life?

Bullying
Children and adolescents with chronic conditions constitute at least 15% of the Dutch population under the age of 18. This means that roughly 600,000 children in the Netherlands are chronically ill, ranging from mild impairments to severe limitations in daily functioning. Naturally, they suffer the somatic and psychological consequences of their illnesses. However, isolation, stigmatization, inequality, bullying, and doubts concerning their physical and intellectual capacities are everyday realities for this vulnerable group in our society.

Health redefined
In 1948, the World Health Organization defined health as 'a state of complete well-being and absence of disease'. Recently, it has been proposed to redefine health as 'the ability to adapt and self-manage in the face of social, physical and emotional challenges'. In line with such notions, patients, researchers, caretakers and policy makers emphasize the need to help people with chronic and/or life-threatening conditions to increase their ability to adapt, and their self-manage capacities. Optimal comprehensive strategies addressing childhood conditions might therefore use theories of play as a conceptual framework. They will also systematically monitor the child's capacity and ability to play and the well-being of the patients and their families. This will help to assess vulnerabilities and resilience among children with chronic and/or life-threatening conditions. This knowledge can be used as an innovative and interactive method for creating prevention and treatment strategies. Conceptualizing and studying play – precisely understood as stimulating the ability to adapt and self-manage as an integral part of child's health - is therefore timely and much needed.

Constructive influence
There is growing evidence that action games can have a constructive influence on young people's cogni-
tive processes such as focus, problem solving skills, spatial skills and mental rotation. Moreover, a positive relationship between playing video games and a child’s creativity has also been reported, and high usage seems to be positively correlated with good intellectual functioning and academic achievement. Just as with regular play, video games can be real enough to make the accomplishments of goals matter, but are also a safe way to practice such skills as controlling or modulating negative emotions in order to achieve those goals. It has also been suggested that the immersive social context of today’s games help gamers rapidly learn social skills and pro-social behaviour, which might generalize to their peer and family relations outside of gaming environments. In this context, it becomes increasingly interesting to study whether interactive technology might enable young patients to rise above the limitations of their conditions and to participate in play in augmented realities.

Animal models
Still, very little is known on the relation between play/gaming, child development and chronic and/or life-threatening illness. To address these complex multi-level topics, the consortium uses animal models to determine whether and how chronic or life-threatening illness affects social play behaviour and, as a result, alters social and neurocognitive development. From a developmental perspective, we will examine the role of impaired play behaviour resulting from childhood health issues on social development, societal participation and stress-regulation. This can result in novel preventive strategies to increase the resilience and social participation of young people with long-term illnesses. In a collaboration between preclinical neuroscientists, paediatricians, psychologists and other caregivers/scientists, we will attempt to influence treatment outcomes and assess whether stimulation of play will help children with chronic or life-threatening diseases, as well as their families, to more effectively deal with their condition. Using innovative applied gaming approaches and interaction technology in childhood illness, we aim to facilitate the healthy development of bodily self-awareness, physical and motor skills, emotional sensitivity and flexibility, cognitive abilities, social competence, creativity and problem-solving capabilities.

«I’m often tired at school and not very social. It’s difficult to have many friends as they prefer talking to more social people. It’s hard to see them going into town during school breaks: I can’t go with them, I have to save my energy for the rest of the day. Those are choices I have to make and my classmates don’t»

Adolescent patient with Inflammatory Bowel Disease

HEALTHY PLAY, BETTER COPING

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Approximately twenty team members are involved in this project.

These are the participating institutes:
Wilhelmina Children’s Hospital (WKZ)/University Medical Center Utrecht (UMCU)
Department of Information and Computing Sciences, Faculty of Science Utrecht University
Department of Animals in Science and Society, Faculty of Veterinary Medicine Utrecht University
Faculty of Social and Behavioural Sciences, Utrecht University
Princess Maxima Center for Paediatric Oncology Utrecht
Trimbos Institute Utrecht

Project Info.