

CHANDLER, KRISTA

University of Windsor

C. Hall

RT 2006

Imagery Use in Children's Leisure Time Physical Activities

Project Summary

Given the rate of children's physical inactivity, it is important to identify strategies that assist individuals in self-regulating their physical activity behaviors. Imagery is one such strategy. Children's use of imagery has been investigated in sport, but not all children are involved in organized sport. Children may accumulate their daily physical activity and use imagery during active play. As such, the overall purpose of the current research project was to gain an understanding of children's use of imagery in their leisure time physical activity (active play). Children (7-14 years) indicated using imagery during their active play. Several age and gender differences did emerge, however. In contrast to results observed in sport where young athletes employ imagery for cognitive (e.g., rehearsing skills/strategies) and motivational (e.g., being confident, in control) purposes, children indicated using imagery pertaining to the fun they experience, the competence they have for doing the activity, and the social relationships they engage in while in active play settings. Results from our applied study found that children receiving an imagery intervention maintained their levels of active play compared to those children in the control group who saw a significant decline in their levels of active play.

Research methods

The project used multiple research methods including both qualitative and quantitative approaches. Study 1 included 23 focus groups with a total of 104 children (7-14 years). The aim of the interview guide questions was to gather information on how children's imagery use was linked to the three basic needs (autonomy, competency, relatedness) during their active play. Study 2 included the development of a paper pencil questionnaire measuring children's use of active play. Two large independent samples ($N = 302$; $N = 252$) of children (7-14 years) were recruited for the PCA and CFA. Finally, Study 3 included a 4-week imagery intervention aimed at increasing active play. Children ($M_{age} = 10$ years) were randomized into a control ($n = 26$) and imagery ($n = 33$) group. All children received an automated script 3x/week for the duration of the study. In addition to the questionnaires used to measure imagery use, motivation, intention, and physical activity, pedometers were used to objectively measure physical activity. Ethics approval was granted from the University of Windsor and parental consent as well as participant assent was obtained. Recruitment for all three studies took place in the Southwestern Ontario (schools, clubs, camps).

Research results

Because children's use of active play imagery had yet to be explored, the use of a qualitative approach in Study 1 was deemed advantageous. The findings indicated that indeed, children use imagery during their active play for the satisfaction of three basic needs (autonomy, relatedness, competence). Given the age span used in the study (7-14 years), it is possible that the developmental stage of the participants may have influenced their ability to articulate their images. The aim of Study 2 was the development of the Children's Active Play Imagery Questionnaire. By employing a three-phased approach, which involved expert assessment of developed items, preliminary evaluation of the inventory and CFA, the final questionnaire consisted of 11-items (four capability, four social and three fun), rated on a 5-point Likert scale. Study 3 analysis revealed that pedometer step count remained stable for the imagery group but decreased from pre to post intervention for

the control group. These findings provide valuable insight regarding imagery as a strategy to increase, or at the very least, maintain levels of active play. Moreover the results bridge the gap between theory and application of imagery use during active play.

Policy implications

Findings highlight the critical importance of children's sedentary behavior and the need for strategies, such as imagery, aimed at improving their daily physical activity. The current research project is highly relevant to Sport Canada's Research Initiative and has strong links to the core principles set by the Canadian Sport Policy 2012. The Sport Policy notes the positive impact that the core principles will have on the practice of all sport forms, including unorganized sport and in schools and parks, which are central to our research program. Physical literacy is a precondition for the lifelong participation in, and enjoyment of physical activity, including sport. It begins in early childhood and improves throughout one's life, and is learned through sport, physical education and active play. Imagery is a proven mental strategy for improving physical literacy. The potential outcomes of our research program can be linked to Canadian Sport Policy 2012 core principle of inclusion. Sport programs, in their broadest sense, include all forms of sport (ranging from introduction and recreational to high performance). Leisure time physical activity provides an opportunity for children to engage in unorganized sport. For example, children's active play often consists of road hockey, shooting baskets, kicking a soccer ball, or playing catch. An indirect outcome of our strategic imagery intervention is the introduction and development of skills fundamental to sport; this is especially true given the young age of our participants. When we increase the frequency and duration of children's active play, the development and execution of these fundamental skills are enhanced.

Next steps

By identifying the correlates of imagery with active play, future interventions aimed at improving activity levels among children and youth can be established, particularly among those who are highly sedentary. This is especially important given that Canadian children are unable to meet the guidelines which recommend 60 minutes a day of moderate to vigorous physical activity, and that at least half of their physical activity accumulation should be in active play (unstructured leisure-time physical activity; Active Healthy Kids Canada, 2010). Given the noted imagery differences among gender during active play, future interventions aimed at increasing motivation for physical activity should tailor imagery types to their desired outcomes and ensure moderating factors are taken into account. For example, when working with a population of young girls, more emphasis should be placed on developing capability images given this type was utilized more frequently than their male peers. By further examining and validating the Children's Active Play Imagery Questionnaire, more effective intervention programs can be developed which may increase current levels of physical inactivity among children. Lastly, these imagery interventions might be best implemented in school physical education settings as they could reach a large number of children and could easily be incorporated in the curriculum.

Key stakeholders and benefits

- Canadian Sport for Life (LTAD-FUNdamental)
- Active Healthy Kids Canada
- Provincial Ministry of Tourism, Culture and Sport
- Ontario After-School Program
- Canadian Fitness Lifestyle Research Institute
- Ontario Ministry of Education (School Boards, PE teachers)