

## “A Physically Active Experience” Setting the Stage for a New Approach to Engage Children in Physical Activity using Themed Entertainment Experiences.

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### **KEY POINTS**

This research presents a novel way to engage children in physical activity using a themed entertainment and experience-driven approach.

By focusing on the experience provided and enjoyable and engaging physical activity session can be provided for children, this is done through providing a sense of escapism, creating an aesthetically pleasing environment, incorporating education and making it entertaining.

### **ABSTRACT**

Despite the multiple health benefits that come from engaging in physical activity, data suggests that children are moving less. Novel approaches to engaging children in physical activity are needed to address this public health concern. Recently a new definition of physical activity was proposed which emphasises, amongst other things, the fact that physical activity is deeply affective, emotional and situated in spaces which shape the experience. With the need to increase engagement in physical activity, and this new proposed definition, this paper presents a more novel approach to addressing this problem through staging a *physically active experience*. The idea draws upon the well-established area of experience economy, which aims to engage those partaking in an educational, (e)aesthetic, escapist, and entertaining way. When staging something as an experience the focus is on engagement. By staging physical activity as an experience, it is proposed that children can actively partake in physical activity in a way which is focused on the experience offered. This review explains the notion of experience economy and provides examples of how it could be applied to children’s physical activity. By creating an aesthetically pleasing, escapist and entertaining environment where children can learn and engage in physical activity, a more engaging a positive experience of physical activity can be offered. Future

research should examine the staging of physically active experiences for children and evaluate the practical implementation and effectiveness of this new approach to increasing children's engagement in physical activity.

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## **AUTHOR CONTRIBUTIONS**

EBS conceived the review and created a first draft. MJ and JS revised the original manuscript and all authors read and approved the final manuscript.

## **RUNNING HEAD**

A Physically Active Experience

## 1.0 Introduction

The health benefits of physical activity are well documented and include both physiological and psychological outcomes [1-2]. Globally it is recommended that children (aged 5-12 years old) should engage in an average of 60 minutes of moderate to vigorous physical activity per day across the week [3]. However, data suggests that children are moving less and are adopting more sedentary lifestyles, and these behaviours have health consequences now and later in life [4]. As such many public health organizations consider promoting physical activity in children a high priority [5-6].

The current definition of physical activity by the World Health Organization is: “*any bodily movement produced by skeletal muscles that requires energy expenditure*” [3]. However, in a recent paper Piggin [7] highlighted issues with the current definition and presented an alternative. It was hoped this would trigger a move towards a more inclusive and holistic definition, which encompasses the complex nature of physical activity. Piggin proposes the following definition: “*physical activity involves people moving, acting, and performing within culturally specific spaces and contexts, and influenced by a unique array of interests, emotions, ideas, instructions and relationships*”. This new definition still relates to the most used and accepted definition noted about including the importance of movement, but it is expanded and in doing so illustrates how more novel and expanded approaches to physical activity are needed. This definition moves beyond merely the bodily movements to incorporate and appreciate the *experiences* that produce physical activity, it acknowledges that physical activity is deeply affective and emotional, and that it is situated in spaces which shape the experience [7]. In addition, it reflects the exploratory nature of this current article, searching for a more novel and new approach to children’s physical activity.

The fact that physical activity is inherently affective means that the affective response to physical activity has an influence over the engagement in the behaviour. Emotion typically precedes rationality and the philosopher de Sousa described how when dealing with decision making one can benefit significantly by accepting the hypothesis that emotions are active participants in the process [8]. This implies therefore that any future decisions to engage in physical activity can depend on the assessment of the hedonic qualities of the initial experience [9]. It has long been noted, especially in children, that feelings of enjoyment are stronger motivators for continued participation when compared to others (e.g., knowledge of health benefits) [10]. A positive affective response is associated with increased engagement in physical activity, and it can help to build and sustain motivation for physical activity over time [11]. Indeed, it has been hypothesised that children’s failure to maintain physical activity behaviours is due to a lack of enjoyment and recent studies have called for health promotion interventions that encourage enjoyable physical activities [12-13].

Furthermore, noted above was also the importance of the spaces where the activity is situated, and that these spaces shape the experience. The environment in which the physical activity resides may be particularly influential in pro-

moting engagement in the activity as a number of environmental factors have previously been associated with physical activity engagement [14]. This is supported by Frahsa and Thiel [15] who suggest that to promote physical activity public health should aim to create stimulating movement environments in which children can act freely. The fact that there have been modest yet significant associations between physical activity and environmental factors means that identifying and modifying environmental factors to promote physical activity is a worthwhile area of research [16].

It was hoped that expanding the definition may bring to light new and novel ways of thinking about physical activity, incorporating the importance of the highly emotive elements of physical activity as well as emphasizing the complexity of the environment and human experience. In this paper we present such an idea and will describe how this new expanded definition of physical activity can be addressed by the staging of a *physically active experience*. The aim of this article is to propose a method of staging a physical activity session for children aged 5-12 years old as an *experience*, adopting a themed entertainment approach. The first stage of developing this idea involved reviewing the literature around experience economy, the section below provides a short narrative summary of what was reviewed and the key points relating to the concept.

## 2.0 Experience Economy

The idea of experience economy was first introduced by Pine and Gilmore [17] and it relates to how the environment can be manipulated to stage an experience; in staging an experience you are not focused on entertaining but *engaging* those participating. Those hoping to stage the experience immerse those present in their environment and there is an emphasis on not only providing a service, but on the totality of the experience offered [18]. According to McLellan [19] the goal of experience design is to orchestrate experiences that are functional, purposeful, engaging, compelling and memorable. Experiences are often designed and implemented within themed entertainment approaches, this refers to the creation of an artificial environment where various elements are brought to life in a thematically driven story for immersing visitors in a strongly identified or branded setting [20]. Examples of themed entertainment settings that stage these experiences are theme parks, water parks, hotels, casinos, retail dining and entertainment, cruise lines, museums and animal parks [20].

Experience economy employs the 4 E approach: entertainment, education, (e)aesthetic, and escapist. When all of these components are incorporated it is thought that a 'sweet spot' is reached where the person is fully immersed in their environment and can be engaged on an emotional, physical, intellectual, or even spiritual level [17]. For the entertainment experience an individual is being aroused with feelings of fun, pleasure, and relaxation; for the educational experience individuals engage their mind to enhance their knowledge and skills to learn new things; the (e)aesthetic experience allows individuals to stimulate their senses by enjoying the environment; and finally the escapist experience refers to the desire for an individual to escape from everyday life [21]. It is explained that those

who partake in an educational experience may *want to learn*; of an escapist experience *want to go and do*; of an entertainment experience *want to enjoy*; and those partaking of an (e)aesthetic experience just *want to be* [22]. Clearly it would be beneficial to get children to want to learn, want to go and do, want to enjoy and just want to be physically active.

Interestingly Pine and Gilmore [23] state that there is no doubt that the phenomenon of an experience economy was started by Walt Disney who stands out as an innovator and entrepreneur in the area of constructing new environments by combining modern technology and the medium of filmmaking. These environments promote emotional responses ranging from optimism, contentment, excitement, and happiness, orientated towards emotional experiences [18]. Pine and Gilmore [23] note that Disney was the first to create a living, immersive world; he taught through the exemplar of Disneyland that if entertainment, education, happiness, escapism and explicitly aesthetic rewards were brought together holistically, then any plain space could be turned into a space appropriate for staging an experience [18].

The example presented by Pine and Gilmore [23] to illustrate the phenomenon of staging an experience is that of a coffee bean. The bean itself is a *commodity*. When manufactures package these and sell them in a store they become a *good*. But, served in a shop it is a *service*. They explain that, to make this an *experience*, the coffee could be served in a five-star restaurant or café with heightened ambience where the experience of the coffee envelops the purchase of the coffee. Piggini notes that it is the experience that produces the physical activity [7]; therefore, here we suggest that these same principles can be applied to physical activity to stage it as an *experience* for children (aged 5-12 years old). As a *commodity* it is simply engaging in physical activity without any guidance, support or structure, for example going outside for a walk or a cycle. As a *good*, physical activity can be considered with the addition of a low level of structure or facilitation, for example a public swim at a swimming pool, or an outdoor structured park for children to play at. Physical activity becomes a *service* when an instructor leads a session, for example this can be a coach leading a football session, or a PE teacher taking a class. However, for physical activity to become an *experience*, the environment needs to supersede the activity and this is done through immersing the partaker in their environment. For a child, when engaging in a physically active experience they should feel swept up in the activity and immersed in their environment at the same time. Similar to the coffee drinker enjoying their drink in the five-star restaurant, the child is actively partaking in physical activity in an immersive environment, enjoying their experience. Successful experiences are those that the partaker finds unique, memorable and sustainable over time as they want to repeat and build upon the experience [17]. Previous novel based physical activity interventions have been found to have the limitation of a novelty effect, meaning that after a while the benefits of the intervention are not sustained [24]. However, if a successful experience can be designed, then by definition it should lead to continued engagement and thus have a potentially positive influence over longer term physical activity behaviours in children.

But how do you make this experience? In the following sections research will be reviewed and aligned to children's physical activity to present a way in which a *physically active experience* can be staged for children. For each section a review of the literature relating to children's physical activity was completed using relevant search terms. For example, for the first E, the (e)aesthetics, the literature search focused on the environmental influences of children's physical activity. Whereas for the final E, entertainment, the literature search focused on the enjoyable aspects of children's physical activity. As this was not a systematic review or meta-analysis, due to the novel nature and exploration of a new area of research, a more formal search strategy was not adopted. However, there were some guiding points followed during the literature search to help identify relevant articles. Firstly, the target age range for this approach is between 5-12 years old thus research was sought in the first instance for children of this age. Articles were also included however if the age range was slightly older or younger. This is noted as a potential limitation but was chosen due to the exploratory nature of this research, more confirmatory research should follow investigating smaller target audiences. Google scholar was the database used for identifying articles, there were no limits placed on the date of articles, and all article types were included (e.g., reviews, original research and commentaries). The section below on staging a physically active experience provides a narrative review of what was found and how it aligns to experience economy.

### *3.0 Staging a Physically Active Experience*

#### *3.1 Step 1 – The want “to be”*

\*\*\* Figure 1 here\*\*\*

The first step for staging the experience is to ensure that there is a *want to be*, ensuring that the children will want to come into the space as it is an inviting environment, which relates to the (e)aesthetics E of experience economy. This links back to the importance of the space where the physical activity is engaged in, and how this space can shape the experience [7]. Indeed, research has shown that the aesthetics of the environment is a key influencer for children's physical activity. The aesthetics of a playground space improved playground physical activity in 9–12-year-olds [25] and neighbourhood aesthetics has been found to influence both physical activity and active travel in 11–14-year-olds [26] and outdoor physical activity in 6–11-year-olds [27]. At this stage there are three potential elements that can be incorporated, theming, branding and music, these are illustrated in figure 1.

There have been numerous studies of altering the environment to increase physical activity across a number of different physical activity settings. Indeed, Pawlowski and colleagues provided practical implications for future interventions that want to promote physical activity during school play time [28]. One of their suggestions was to attempt to move virtual play into the real world by providing spaces and play facilities such as castles, moats, and foam

swords at play time. The addition of the equipment is intended to help make the children feel swept up in their environment and would potentially make it more inviting. This could add to the children's want to be in the space, adding to the environments (e)aesthetics.

This is also the case in research on indoor active play. Soft play centres are often themed to aid to the (e)aesthetics of the environment, for example themed as a pirate ship or a jungle. The architecture of these environments is such that children are often producing a plethora of locomotor patterns to pass through the inter-connected array of play areas [29]. The research into these soft play environments, although limited, suggests that they are an effective way of getting children physically active, and research has reported children partaking often engage in moderate-vigorous intensities of activity [29-30]. Furthermore, in an outdoor playground in a school setting for children between the ages of 7 and fourteen, it has been reported that the equipment provided has an influence over children's physical activity levels [31]. When there is fitted equipment in the environment, children are more likely to be active. By theming the environment, or adding themed equipment, it is hoped that the space becomes more inviting for the children.

A different approach to engaging children in a health-related behaviour, and often used to make the offering seem more inviting, is through incorporating elements of social marketing. In social marketing, marketing principles such as branding are incorporated to influence the target audience's behaviour [32]. As stated earlier, often themed entertainment environments are designed to immerse visitors in a strongly identified or branded setting [20]. Brands are often used for identification and understanding of the product/behaviour/item being promoted [33-34]. One example of a brand to incorporate could be, as has previously been incorporated in a physical activity setting, the Disney brand [35-36]. Disney is highly popular with children and Disney movies have been identified as important storytellers and are often one of the first story's children hear and use to learn about the world [37-38]. A brand can be used as the theme for the experience. Pine and Gilmore state that discovering a suitable theme is central to experience design [23]. They suggest creating multiple places within a place to strengthen the theme and use the example of a soft play centre with nets that separate one section from another yet are all still encompassed under an overall theme. If a brand such as Disney was incorporated, different areas of the space where the experience is being staged could be themed with different Disney characters but all under the same overall theme – Disney. There could be multiple experiences offered, as staging a series of experiences allows a more longer lasting effect on those attending [39] and this could also facilitate the development of positive behavioural patterns. Linking back to the idea of indoor soft play environments, a brand has previously been applied in a similar setting. "Ninja Warrior" was a television show with an obstacle course designed to challenge competitors physical and mental limits [40]. It has been adapted to be used in a children's physical education lesson but also to indoor obstacle course locations where children can complete the activities in the themed and branded environment to "find their inner Ninja" [40]. This is an example of how a brand has been used to help with immersion in an environment and to make it more inviting.

Although using a pre-existing brand is particularly effective as it utilizes any pre-existing emotions a child has towards that brand, studies have also shown that creating a new brand is an effective strategy [41]. The VERB™ campaign was launched in 2002 and used social marketing principles, including creating a brand, in an effort to increase the physical activity levels of children aged 9-13 [42]. The brand was an integral component of the campaign with its intention being to become the brand for children's physical activity and was found to positively influence children's physical activity [43-44]. Interestingly, as well as creating their own brand, they also incorporated other existing brands, including the Marvel brand and associated characters. This was most likely done in an attempt to increase the visibility and effectiveness of their campaign due to the perceived added benefits of incorporating a well-known brand.

A final element that can be used to allow for the (e)aesthetics of the environment to be addressed is the inclusion of music and this focus on the audio-(e)aesthetics can be influential. Music can be used as a background sound, to direct attention towards something particular, as a warning sign, as an indication of positive or negative emotions, and as an acknowledgment of success [45]. Music can express emotion and is commonly used in a physical activity setting to aid in the control of psychomotor arousal and in the regulation of affective states as it can help induce certain emotions, including happiness [48]. When used in a physical activity setting music can elicit positive affective responses, increase the engagement in the session, facilitate a decrease in perception of effort and act as a distractor against the physical demands of the activity by aiding disassociation [47-49]. This link between music and emotions can help to add to the *want to be* which is key at this stage, and it also links back to the importance of emotions in the new proposed definition of physical activity.

### 3.2 Step 2 – The want “to do”

\*\*\* Figure 2 here \*\*\*

This second step builds on the first; there is a need at this stage to address the escapist E of experience economy and ensure a *want to do*. The children need to be immersed in their activities, causing them to go from one reality to another. The approaches taken to address the (e)aesthetics explained in the previous section can also help here and are built upon for this second stage. It was noted in the previous section that soft play centres are often themed, for example like a pirate ship or jungle to add to the (e)aesthetics. In these scenarios the aim is to immerse the children in their environment, allowing for escapism. This adds to the escapist elements of the experience, by theming the space like a jungle, children can escape into the jungle. Music can also be added here to add to the audio-(e)aesthetics, for example in the jungle example this could be through the incorporation of jungle sounds and animal noises. Alternatively, if the Disney brand was incorporated here, music from the Disney film *The Jungle Book* could be added to accompany specific scenes from the film depicted in the environment. This is an example of how a brand can be incorporated. The escapist E therefore builds on the elements already considered for the (e)aesthetics stage.



As well as incorporating the theming, branding and music elements, there are other methods that can be employed to increase this escapist atmosphere, this is shown in figure 2. One popular method of immersing children and providing escapism is through the use of a narrative. When narratives are used the partaker wants to follow the events unfolding, and this has been labelled escapism, absorption, transportation, engagement, immersion, and engrossment [50]. Researchers aiming to promote healthy behaviours are increasingly turning to narratives as key persuasion tools, their immersive quality can help increase engagement [51-52]. In gamification research, narratives are said to influence attitudes through a *journey-like* experience [52]. Narratives have previously been used in a physical activity setting with children to increase their physical activity time. For example, the FIT game was a school-based intervention which incorporated a science fiction narrative whereby children (aged 10-11 years old) were tasked with finding and capturing villains before they can cause planetary destruction [53]. The intervention was found to positively and significantly increase children's physical activity time and is a demonstration of how a narrative can be effectively incorporated into a physical activity session.

Interestingly, as stated above Walt Disney is said to be the creator of the phenomenon of experience economy, and there are examples of the use of narratives in a physical activity setting at Disneyland. In 1956 Walt Disney applied a narrative to a children's play zone at Disneyland when Tom Sawyer Island was created; it is one of the earliest examples of a highly themed playscape [54]. It was designed to spark children's imagination, provided opportunities for learning, decision making, motor skill development, dramatic play, and social development [54]. Children were physically immersed in the stories by Mark Twain of Tom Sawyer and the rest of the characters. The play zone, located on an island included three acres of themed areas, including forts, smugglers coves, tunnels and suspension bridges [54]. This allowed children to explore, be entertained and immersed in a narrative in a very highly themed and unique way.

The above example of Tom Sawyer Island incorporated characters into its narrative, this is another popular method of engaging children in health-related behaviours. This is a common approach in entertainment education, which is a strategy for incorporating health and educational messages into popular entertainment media to positively influence awareness, knowledge, attitudes and/or behaviours [50]. Appealing stories where the one partaking can identify with the characters involved, can increase engagement and acceptance of the message being delivered [55]. Incorporating a character may result in children identifying with them. Identification extends beyond a desire to simply be like, or behave similar to the character, but is a cognitive and emotional process whereby they can take on the role of the character [56]. This links back to Piggini's newly proposed physical activity definition where both acting and performing are included; the children can act like or perform as these characters.

An example of where a narrative and characters have both been incorporated previously is in Public Health England's Change4Life Disney branded 10-minute shake ups [57]. These are games for children to play that are 10 minutes long and include a range of characters that may appeal to both boys and girls. One game is called Elsa's

freeze tag based on the Frozen films. In this game one child takes on the role of Elsa and runs after the other children, who are the other characters in the film, trying to freeze them. A recent study explored the affective responses to the Disney branded activities compared with an unbranded version with children aged 4-11 years old, in addition to collecting qualitative feedback from the parents of those children playing these 10-minute shake ups [35]. Although affective responses were similarly positive between conditions, parents qualitatively commented how the specific roles helped the game, and that they didn't think that their child realized they were exercising at all [35]. Indeed, other recent research exploring the Marvel characters and narrative through Les Mills' "Move Like the Avengers" activity videos suggests that branded characters and a narrative influences the level of immersion during the activity which mediates the affective response to that activity [36]. This supports the notion that characters and narratives can help increase the immersion and meet the escapist component of staging an experience.

Characters can also be influential in delivering messages, such as coaching tips in the form of helpful hints or in explaining the overall activity. In addition to identifying with a character, children can also develop para-social relationships with characters that they are often exposed to in the media. These cross situational relationships have cognitive, affective and behavioural components [58]. They have been described as imaginary friendships and those who have a para-social relationship with a character often seek guidance from them and see them as a friend who is part of their social world [59, 50]. This is supported by behavioural economics research which posits that people are highly influenced by who delivers the message [41]. Indeed, a previous review has shown that branding elements such as characters may aid in messaging around positive health behaviours in children [60]. This suggests that by incorporating characters to aid in the narrative, not only will they add to the escapist quality of the session, but they are effective communicators of any messages that need to be delivered to those partaking. This illustrates how using the three elements from the (e)aesthetics section, and then additionally characters and narratives, can be used to create an escapist experience.

### *3.3 Step 3 – The want “to learn”*

\*\*\* Figure 3 here \*\*\*

As with the previous section, this third step builds on the preceding ones, and aims to identify what the children will learn from the experience. As the aim here is to explain how physical activity can be staged as an experience for children, the aim for this educational stage is to promote the development of physical activity skills, specifically fundamental movement skills. One key underlying skill for physical activity engagement is learning to move [61]. So called fundamental movement skills are considered a steppingstone to motor development, and additionally it has been suggested they contribute to lifelong physical activity [61]. Middle childhood, between the ages of 5 and 12, is seen as a crucial point in determining future physical activity engagement due to the hypothetical proficiency barrier [61-62]. This suggests that there is a “threshold” above which a child is more likely to engage in physical activity as they possess the necessary skills to do so successfully; however, below this threshold a child is less likely to engage

in physical activity as they do not have the prerequisite skill level to be successful [63]. This has an additional negative effect on their confidence and motivation to engage in physical activity.

As Pine and Gilmore state just because education is serious business, it doesn't mean that an educational experience can't be fun [23]. This is where, by linking back to the previous sections, incorporating the previous elements discussed, a fun educational experience can be achieved to help children develop these fundamental movement skills. The previously mentioned jungle example can be used to illustrate this. Starting with the (e)aesthetics, the space where the physical activity is engaged in can be themed to represent a jungle or Jungle Book specific scene. The children can take on the role of one of the characters from the film, perhaps the main protagonist from the film Mowgli or his friend Baloo. Taking on the role of these characters the narrative of the session could revolve around the need to cross a river in the jungle by jumping across steppingstones. The children will then be able to practice their jumping skills. As stated previously, music from the film can be incorporated to add to both the audio-(e)aesthetics and escapist atmosphere. At this point there could be some tense jungle music playing to represent the adventurous actions of the characters, but when the river is successfully crossed some rewarding music is played in celebration.

It is important to consider more deeply how these skills can be learned and developed through using a physically active experience. The example given above demonstrates how the specific action can be incorporated into the experience, but the more specific aspects of learning the skills can also be incorporated into a physically active experience. One example is through observational learning, which is a powerful tool for children. When they see demonstrations that draw attention to the salient aspects of a skill, accompanied by feedback, this can lead to positive changes in their learning and performing skills [64]. Bandura (1986) highlights the four stages that are central to observational learning: attention, retention, production and motivation [65]. The challenge when adopting an observational learning approach to engage children is to devise strategies to enhance the attention and retention abilities, remembering that these need to be meaningful for children [64]. This is where using characters can come into play, popular branded characters can be used to either give the demonstration or as part of the demonstration process to help increase the attention given to it by the children. In the jungle example, one of the characters can demonstrate how to jump across the steppingstones, giving verbal advice to accompany the demonstration. To help with the retention it has been suggested, that along with rehearsal, phrases that are fun to say and easy to recall can provide a reminder of correct techniques for children [64]. A short line can be created here to help emphasise the key points, e.g., bend your knees and pounce up like a tiger. The next step is where the children can take the demonstration and the short line and try to replicate the behaviour, taking on the role of the character in the story they attempt the skill, in this example the jumping. This inclusion of the characters and the narrative aspect can also help with the final stage of observational learning, motivation, as both of these elements are known to be motivational [55, 50]. This idea of motivation is key in breaking through the proficiency barrier as it helps contribute to the mastery and competency phases. Children are inherently mastery goal orientated [66] and self-determination theory highlights how

mastery and competency-based experiences are important for intrinsic motivation and the satisfaction of basic psychological needs [67]. It has been reported that novelty, choices, and challenges can satisfy needs and enhance intrinsic motivation [68], this suggests that the approach described here could help increase the intrinsic motivation and thus support the development of children's mastery and competency of physical activity skills. Through the incorporation of all the elements included in the previous steps of staging the experience, children can develop their fundamental movement skills in a fun and entertaining way.

#### 3.4 Step 4 – The want “to enjoy”

\*\*\* Figure 4 here \*\*\*

This final step, as illustrated in figure 4, incorporates all of the previous stages, with the addition of two further elements, to ensure the *want to enjoy*. This relates to the last E of experience economy to be addressed, entertainment. This element, along with the (e)aesthetics, is a passive part of the experience, as those partaking are merely responding to the experience by enjoying it. Entertainment itself is defined as the action of occupying a person's attention agreeably, therefore, to be entertained as such the participant needs to be engaged and have an overall positive experience. When an experience is being staged the aim is to engage the participants in a positive and entertaining way and this is where the methods described above come into play. All of the previously employed elements have had a consideration of entertainment, which all add to this important E of staging an experience. In the previous section it was explained that just because education is serious it doesn't mean it can't be fun, it was then described how the elements of incorporating characters, narratives, music, theming and branding can all help to make this process of developing fundamental movement skills more entertaining.

In addition to the previous elements all aiding in the entertaining experience, two further elements can be incorporated to enhance this further, the inclusion of imagination and game tactics. It should be noted that just because these two elements are included at this stage, this does not mean they are not considered until this point, indeed when using characters and narratives in the escapist stage imagination is needed. However, at this point its inclusion is considered in terms of a “check point”, questioning whether it has been included to add to the entertaining aspects, and can it be added further? By framing the experience as an adventure or challenge (e.g., the jungle river crossing), with the incorporation of characters and narratives, you are asking the children to use their imagination to aid in the experience. Children have little difficulty creating imaginary worlds to make the experience more enjoyable and imagination plays a significant role in their lives [69]. The elements of adventure or fantasy are key. Fantasy, being the activity of imaginary things, has been found to be one of the main reasons why children find particular games so fun as it evokes curiosity and creates challenges [70]. Fantasy is particularly important as when imagination is needed this has been found to actively engage children as it is a source of intrinsic motivation [71].

Additionally, both imagination and creativity are two key aspects of children's play and games, and they both can have a positive impact on a child. This links back to the use of imaginative play on Tom Sawyer Island, where children use their imagination to engage in physical activity in a themed and immersive environment. Here, as well as physical activity skills they can also develop their social and decision-making skills. It has been argued that creative play, games, and imagination are interrelated and complete each other, and when engaged in together they support learning [72]. This highlights the links between games and imagination, both elements included at this stage, and how they also link back to the learning which was included in the education stage. Games are the final element included at this stage. Games are defined as a physical and/or mental contest that are played according to specific rules, with the sole purpose being to amuse or to entertain [73]. Games can be used to promote physical activity, and when this is the case their focus is on entertainment, fun, enjoyment, and skill development. In this scenario they are classed as serious games [74], although as explained above in relation to education this does not mean they can't be fun! Games have key motivational aspects that can influence children's motivation to stay engaged over long periods [45]. Examples of game mechanics that can increase engagement are scoring systems, points, achievement, levels, leader boards and badges [75]. Plass and colleagues presented a model of game-based learning entitled the "magic circle" [45]. In this model there are three key elements presented: challenge, response and feedback. Most interestingly however are the inclusion of the game design features as this links back to the earlier elements included. These features include an (e)aesthetic design, a narrative design, and musical score which are all noted as important for game-based learning. This again demonstrates how the previous stages explained are incorporated and built upon in this final stage.

#### *4.0 A Physically Active Experience Model*

What has progressed into the image shown in figure 4 was the various stages and elements that need to be considered when staging a physically active experience. The purpose of these building blocks was to illustrate the idea of a physically active experience stage by stage, providing guidance for future researchers wishing to design and stage an experience. However, for more robust analysis into this new proposed idea of a physically active experience a more succinct model is required. Figure 5 below is a formal generative model which takes the research and ideas presented above and illustrates the potential relationships and assumptions discussed in the form of a model. This should provide future researchers aiming to examine the idea of a physically active experience more deeply with a tool to do so.

\*\*\* Figure 5 here \*\*\*

Indeed, though we have speculated on the relationships between certain elements and the 4 Es of the experience economy, these hypothetical constructs may not be exhaustive. That is to say there may be elements not considered here which contribute to enhancing aspects of an experience. Further, though the constructs described have plausibility as empirical phenomena, formal psychometric evaluation is required. Indeed, many of the constructs noted are

implied as perceived by those partaking of the experience and so work to develop tools, explore possible items through exploratory factor analyses, and test such tools through confirmatory study should be a logical step. This could also include formal evaluation of the 4 Es and whether the ‘physically active experience’ is indeed explained by a four factor model. Such development would then permit robust evaluation of the posited relationships in this model, how the perceived elements lead to the perceived Es of the experience economy, and further how enhancing the experience might then lead to greater affective responses, enjoyment, knowledge and skill acquisition, and indeed facilitate continued future engagement in physical activity behaviours.

### *5.0 Potential Limitations of a Physically Active Experience*

This review has presented a method of applying the research around experience economy to a child’s physical activity environment through providing a justification for staging a physically active experience. However, there are some limitations to note that need to be considered. Firstly, a limitation of a physically active experience, and indeed any experience economy formed experiences is ensuring an enduring effect. Experiences set the stage for a transformation, but if this does not endure then the experience is not truly transformative; this is the most difficult part of staging an experience and often many experiences fall short of this end goal [23]. This links into the research around the novelty effect in physical activity interventions. Often the benefits of an intervention are not sustained due to the novelty of the experience wearing off. This can be seen in research around using playground markings, these have been shown to lead to a short-term increase in physical activity levels, however in the longer term their influence is less positive [76]. It has been suggested that re-painting the lines could be a way to re-ignite enthusiasm, this could potentially hold the interest of those engaged and lead to the desired transformative experience [76]. Pine and Gilmore provide an example of the little gym, which is a gymnastics group for children [23]. To ensure an enduring experience, rather than typical lessons, there are themes for each program (e.g., funny bugs) and each class is also themed to hold the interest of those children attending (e.g., upside down week) [23]. This would mean that the sustainability and progression of a physically active experience would need to be considered early on in the design stage to help to lead to a more transformative experience and avoid the novelty effect effecting the long-term influence of the experiences. As noted previously motivation is important to consider here, incorporating elements such as novelty, choices and challenges can enhance intrinsic motivation and satisfy needs, and this is associated with positive affect and increased participation [68]. There are therefore ways in which the enduring effect of an experience-based intervention may be effectively addressed.

The final limitation of the ideas presented here around the staging of a physically active experience is that although there is evidence for the use of the elements individually, for example using music in a physical activity session, there is currently a lack of research around the combined use of these elements, for example using music and characters in a physical activity session. Some recent work from our group has shown mixed results regarding the incorporation of aspects such as branding, characters, narrative, and music where in one study their inclusion had little effect on affective response though qualitative feedback for them was positive [35] yet in another there was evidence

of their impact on immersion which mediated a positive affective response [36]. It is unclear the extent to which different elements might be weighted in their influence on the overall perception of the physical activity experience or indeed on the individual Es that form it. Further, it is unclear whether there will be diminishing returns for each additional element, or whether each element enhances the overall experience additively. This is something that future research would need to investigate, especially due to the number of elements that could go into the staging of a physically active experience.

## 6.0 Conclusion and Future Direction

Just as Piggin hoped a new definition of physical activity would trigger a move to more inclusive and holistic approaches to increasing engagement, it is hoped that the idea of staging a *physically active experience* will lead to a greater consideration of both the affective and ecological influences over children's physical activity engagement. By creating a stimulating environment through staging physical activity as an *experience*, taking into consideration the 4 Es of experience economy, it is hoped that a positive affective response to physical activity is achieved. As described by Csikszentmihalyi and Robinson [22] in relation to experiences, it is hoped that a physically active experience will result in children *wanting to learn* fundamental movement skills, *wanting to go and do* the activities provided, *wanting to enjoy* the experiences and will just *want to be* physically active. This idea of a physically active experience has contributed to the sparse literature around focusing on more fun and immersive physical activity sessions for children and offers a more novel approach for future investigators to explore. The ideas presented in this review require practical implementation and formative evaluation to discover whether the principles of experience economy, which have been applied to so many fields, can be applied effectively to children's physical activity. Future research should look to stage an experience and explore whether children feel immersed in the environment, if they find it aesthetically pleasing, if they enjoy the experience and of course whether they are able to practice, develop and learn physical activity skills. It would also be interesting to examine the influence of age on each of the 4 E's, for example at a younger age is the importance of the aesthetics greater than at an older age, or as children get older are the entertaining elements more influential.

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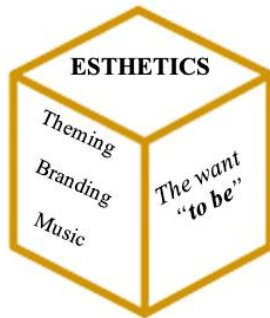
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*Figures*

Figure 1:

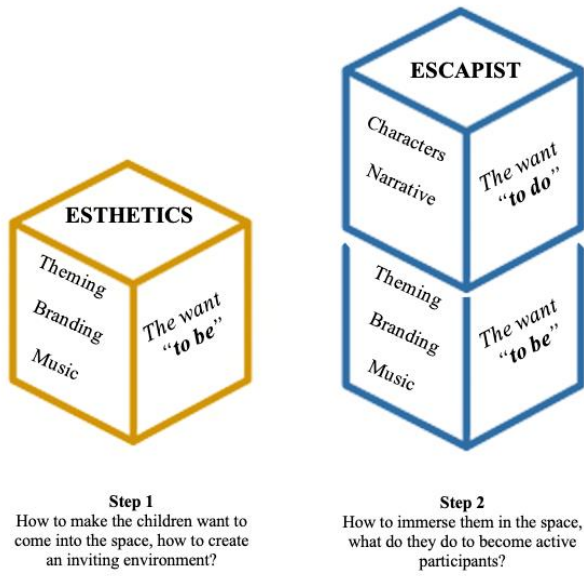


**Step 1**

How to make the children want to come into the space, how to create an inviting environment?

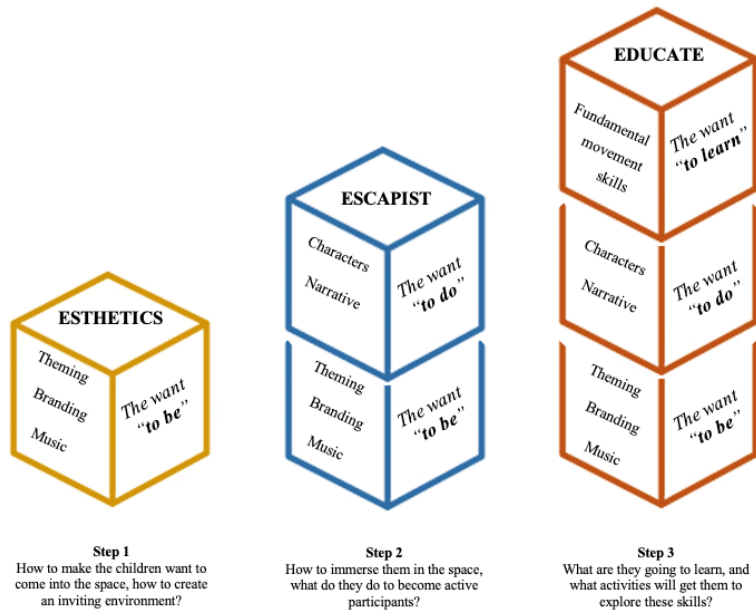
**Figure 1:** (E)Aesthetics E of Staging a Physically Active Experience

Figure 2:



**Figure 2:** Escapist E of Staging a Physically Active Experience

Figure 3:



**Figure 3:** Educate E of Staging a Physically Active Experience

Figure 4:

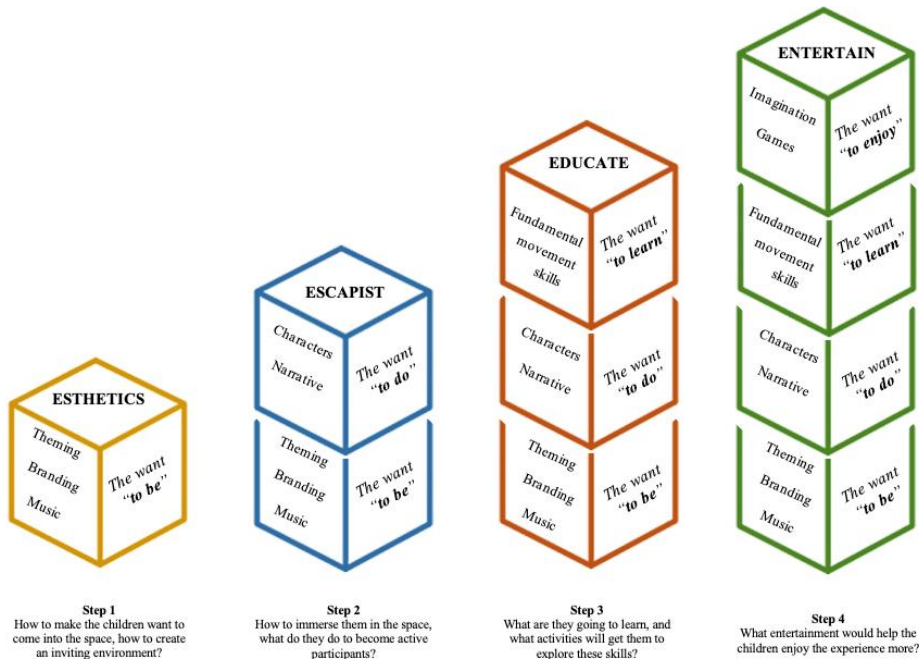


Figure 4: Entertainment E of Staging a Physically Active Experience



Figure 5:

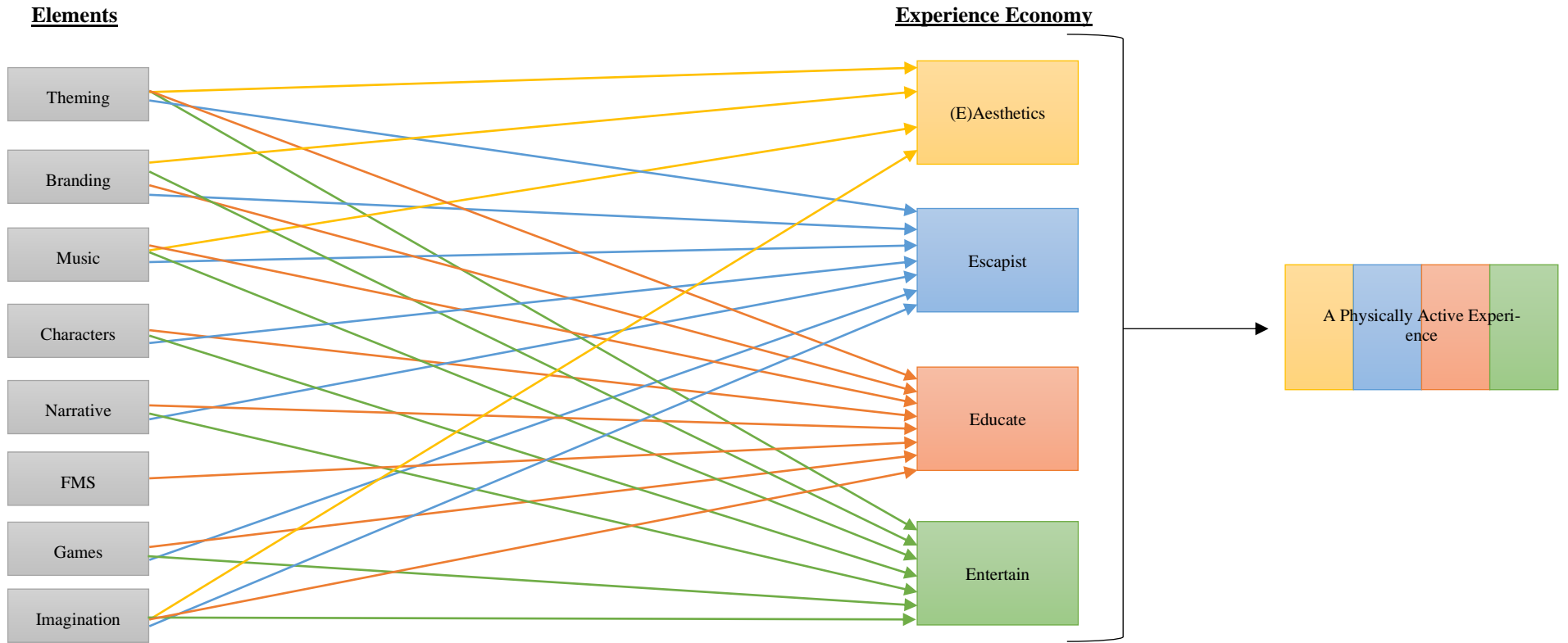


Figure 5: A Physically Active Experience Model