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## Body awareness in preschool children with psychiatric disorder

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## ABSTRACT

The purpose of this study was to investigate the body awareness of preschool children with a psychiatric disorder as measured by the test imitation of gestures (Bergès & Lézine, 1978), using the subsections for pointing to body parts (passive vocabulary) and naming body parts (active vocabulary). Seventy-seven children from 37 to 72 months of age with psychiatric disorders and 67 children without psychiatric disorders were matched for age and sex. A MANOVA indicated no significant interaction effects on the results between the sexes in the psychiatric group and the control group for passive vocabulary ( $F(1,150) = .59, p \geq 0.05$ ) or for active vocabulary ( $F(1,150) = .61, p \geq 0.05$ ). An ANOVA was conducted to determine the differences between the boys and girls for passive and active vocabulary, and the differences between the psychiatric group and the control group for passive and active vocabulary. No significant differences between the boys and girls for passive vocabulary ( $F(1,150) = 1.968, p \geq 0.05$ ) and active vocabulary ( $F(1,150) = 1.57, p \geq 0.05$ ) were found. There was a significant difference between the psychiatric and the control group for passive vocabulary ( $F(1,150) = 9.511, p = 0.002$ ) and active vocabulary ( $F(1,150) = 16.18, p = 0.00009$ ). The study provides support for the presence of language disorders associated with active and passive body awareness in children with psychiatric disorders compared to typically developing children.

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## 1. Introduction

Body scheme is the set whole of representations a human being has with regard to the structure and the workings of the body (Slaughter & Heron, 2004). This concept is also known as body perception or corporal awareness (Simons, 2009). Dumont (1994) defines body scheme as “the entirety of all motor-tactile-kinesthetic self-experiences of the body” (p. 45). Slaughter and Heron (2004) refer to different levels of body scheme: the sensory-motor, visual-spatial and lexical-semantic representation. The sensory-motor level governs conscious knowledge of the body, the visual-spatial level is the ability that the human being has in pointing to specific body parts and recognizing them; and the lexical-semantic level is engaged when an individual's talk about the function of the body parts and where they are located on the body.

Kugel (1997) has described three different levels of body scheme: body plan, body awareness and body esteem. The *body plan* is the total of the structures of the sensory, motor; and the action plans which enable a human being to move unconsciously. The work of others has also reported this unconscious action (Cauberghe et al., 1998; Kugel, 1997). Kugel (1997) explains that the body plan is comprised of separate sensory and motor structures, as well as, a combined sensory-

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motor structure. The body plan facilitates the development of *body awareness* which is a conscious knowledge of one's own body (Kugel, 1997). Body awareness is the information obtained first by sensory impressions, such as, looking around. These impressions are a key part of forming representations. Secondly, there is the development of the representations concerning figure, body position, movement and the way we observe (Kugel, 1997, p. 69). Njikiktjen (2004a) has also described body awareness and postulates that this awareness is developed through interactive psychomotor expression or body language. This is brought about by watching others and identifying their perspective.

According to Cauberghe et al. (1998), body awareness appears to be acquired by gaining consciousness of the following aspects: one's own body and body parts, body posture, positions and movements; and by understanding of laterality, directionality, as well as, the tension and relaxation of the breath. Finally, the body esteem as seen by Kugel is "the subjective opinion that the child (the human being) forms through the positive or negative assessment by the other, regarding the own motor capabilities and the limits of the own capacities, but also the qualities and peculiarities of the own body, posture and external features" (Kugel, 1997, p. 115).

Preschool children 30–72 months of age learn to move their bodies in physical education classes. This is psychomotor development focusing on voluntary movement skill (Cauberghe et al., 1998). In these classes, children use psychological and motor capabilities to learn about space, time and body perception—including in Kugel's *body plan, body awareness and body esteem* (1997). The body consciousness focus is identified in the preschool education curriculum in some countries in Europe (Ministerie van de Vlaamse Gemeenschap, 1998). Each movement class is structured around developmental goals for body consciousness experiences and movement's in time and space. Body awareness plays an important part in the process of learning how to move. A child whose body awareness is underdeveloped for their age, will not be aware of what movement should look like, and is unable to give extra attention to certain body parts while in the process of moving (Kugel, 1997). The importance of this has acquired a more prominent place in present-day preschool education.

Sensory impressions are important for the development of body consciousness. The key impressions are: touch, motion, sight, hearing; and the pressure sensations, posture awareness and environmental interaction (Vallaey & Vandroemme, 1999). If one of these experiences is hampered, it may have a negative influence on the body consciousness (Vallaey & Vandroemme, 1999). For many children, physical exercise is the best starting point to ensure all-round development (Bertrands & Van der Perren, 2000).

In the pre-operational stage of the development of intelligence, the body scheme comes into being and the child is able to name his/her body. This comes about between the ages of two to six years of age (Njikiktjen, 2004a). The body scheme is learned by raising the child's awareness of his/her own body enabling the child to form an opinion of self and others (Dumont, 1985). During the interaction between the human being and their environment, body consciousness increases. The development of body consciousness is linked to the gaining of consciousness of the outside world, and the growing I-awareness (Woertman, 1994). Developmentally, from the age of 24 months onward, the child becomes even more aware of his/her body and the body capabilities, and this translates into more targeted movements (Vallaey & Vandroemme, 1999). Body awareness then progresses at a higher pace and is more intense as the child matures. Their body awareness plays a key part in their behavior when learning new movements and thus acquiring new knowledge (Vallaey & Vandroemme, 1999).

The acquisition of language is fundamental to the development of body awareness (Woertman, 1994). For example, the child needs to understand and use several words to refer to the body, body parts and motor activities. Aitchinson (1997) has claimed that during the early stages of language development, most human beings already have names for themselves, their body parts and their close environment. Aitchinson (1997) also emphasizes that knowledge of a child's own body and his/her environment is a basis for his/her extension of the meaning of life. According to Clark (2003), Njikiktjen (2004b) and Goorhuis and Schaerlaekens (2005) the passive knowledge of body parts is more developed than the active one.

According to Kugel (1997) movement is fundamental to the development of language. Language becomes richer with every action as the content of the words are understood. And this language richness increases with the growing awareness of space and forms. Thus, language is a vehicle for further development of body consciousness (Kugel, 1997). An ill-structured body scheme can contribute to clumsy movements, coordination disorders, and obviously to problems with language acquisition (Dumont, 1994; Le Boulch, 1968; Simons, 2009).

It is important that disorders in body awareness are discovered at an early age to avoid a compounding of potential psychomotor development problems and language delay that together could constrict a child's understanding of self and of others. Language development is part of a child's overall development, and some would argue that it is the basis for development in other domains (Goorhuis & Schaerlaekens, 2005). Therefore, linguistic incompetence related to difficulties with body awareness will most likely also negatively affect the establishment of a child's social relationships. A disorder or delay in body awareness can thus carry significant negative consequences for a person as a whole (Vallaey & Vandroemme, 1999).

In the screening for 'vroegtijdige onderkenning van ontwikkelingsstoornissen' (VTO, early diagnosis of language development disorders) of children 36–60 months of age a correlation was found between the overall language score and the age in months (Gerritsen, 1988). Language development grew as the children matured, but not all aspects of language were age-related. The use of language is not age-related but the comprehension of language has a strong association with age (Gerritsen, 1988). Consequently, body-related vocabulary grows as the child develops (Florquin & Bertrands, 2003).

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