

Original Paper

The Role of Culture Role in Motor Development

Ziqi Zhao

Hunan University of Technology and Business, China

Abstract

Motor development is the process through which children acquire new motor skills and physical abilities, influenced by both biological and environmental factors, with culture being a key environmental factor. In Western developmental psychology, milestone research is commonly used to study motor development; however, traditional milestones are based primarily on a Western cultural context, neglecting cultural differences. This paper primarily analyzes cultural differences in infant motor development, focusing on four key milestones: sitting, crawling, standing, and walking. Through multiple research cases, it explores differences in maternal caregiving practices, parental beliefs about infant motor development, and other cultural factors, as well as how these differences affect the process and pace of motor development. The findings indicate that culture plays a significant role in infant motor development, with developmental speeds varying across cultural contexts. However, infants who develop more slowly do not necessarily exhibit deficiencies. Traditional motor milestones lack a cross-cultural perspective, and future research and policy development should account for cultural differences to gain a more comprehensive understanding of and support for infant motor development.

Keywords

Infant Motor development, Cultural Differences, Milestones, Cross-Cultural Research

Introduction

Motor development is considered to be a process in which a child masters new motor skills and develops physical abilities (Malina, 2004). The sequence and timing of motor development are related to both biological and environmental factors, which include cultural factors (Malina, 2004). Using milestones to study motor development is a common method in western developmental psychology (Karasik & Robinson, 2022). Traditionally, milestones for motor development are only based on the Western cultural background and the standard of the development process is based on western research cases (Karasik & Robinson, 2022). However, many pieces of evidence show that there are great cultural differences in the motor development of infants. Thus, milestones, the traditional evaluation methods, have the defect of ignoring cultural differences. This article mainly focuses on four kinds of motor development in infants: sitting, crawling, standing and walking, which will analyze the cultural differences in different countries by using several research cases and discuss the role of culture in the

motor development of infants. Also, some policy suggestions on cultural differences in motor development will be put forward.

A very obvious case of cultural differences in motor development comes from the difference between Jamaican mothers and British mothers in the way they exercise their newborn infants (Hopkins & Westra, 1990). Jamaican mothers usually use a formal handling routine, that is, passive stretching exercises and massage. On the contrary, English mothers never treat their infants by using formal handling. According to the research findings, cultural variations result in the following two different outcomes between Jamaican and English. First of all, the different ways Jamaican mothers and English mothers treat their infants lead to different development processes and speeds of infants. Jamaican infants who receive all formal handling routine attain sitting alone by the age of 5.2 month, which is significantly earlier than English infants by 2 month. Also, Jamaican infants attain walking alone by the age of 10 month, while English infants attain walking by the age of 13.2 month. Jamaican infants acquire these motor skills significantly earlier than English infants. Secondly, these kinds of cultural differences also result in different accuracy between Jamaican mothers and English mothers in predicting their infants' process of motor development. About 72 per cent of Jamaican mothers have precise estimations for the month at which their infants learn how to sit alone, compared to 16.7 per cent of English mothers who have lower accuracy of prediction. And 80 per cent of Jamaican mothers have precise estimations for the month at which their infants learn how to walk alone, compared to 22 per cent of English mothers. These findings suggest that the formal handling routine can help ensure that mothers' expectations of their infant's motor development can be successfully translated into real outcomes (Hopkins & Westra, 1990). However, only 48 Jamaican mothers and their infants and 20 English mothers and their infants are used in this research. The number of samples is not large enough, and the comparison of samples is not completely equal to draw a fair conclusion. Also, these Jamaican mothers and infants all live in a British city, which means whether they are influenced by western culture because of their residence has not been considered well. Although Bornstein et al (2020) believe that caregivers will still keep traditional practices rather than be influenced by western culture even if they have emigrated, this evidence is not enough to prove that every circumstance is the same. Therefore, these questions should be considered in further studies.

Other researches further prove that cultural differences can lead to different processes of infants' motor development. The Kipsigis infants who live in a farming community called Kokwet are found to be able to independently sit, stand and walk earlier than American infants (Super, 1976). For those skills such as sitting alone for a short time or standing alone without outside help, the Kipsigis infants can master them about one month earlier than American infants. The difference in the motor development of infants between Kokwet and America mainly comes from the conscious and unconscious operations taken by Kipsigis mothers. Firstly, over 80 per cent of mothers in Kokwet train their infants to sit, stand and walk on purpose. The infant is placed in a specially designed hole, which was dug into the ground to support his back. These actions are taken very frequently until the infant can sit up pretty

well. Also, when training an infant to walk, the caretaker will hold the infant either under the arms or by the hands, put the infant's feet on the ground, and lead her to move forward slowly. Secondly, when the infant is awake, the mother will also carry out daily unconscious sitting training for he or she. The Kipsigis infant is reported to be sitting about 60 per cent of the time even in the first few months of life, including sitting in the mother's or caregiver's lap at the first time. These conscious and unconscious training are very useful because that, when American and European infants' reflexes to standing and walking disappear for about two months, Kipsigis infants will still maintain their reflexes to these skills. However, the age of this study is a little old. After nearly 60 years, the culture about infants' motor development in both Kokwet and American may change.

Cultural differences are not only reflected in the differences in the process of infants' motor development, but they also have an impact on the differences in parents' beliefs about infant's motor development in different cultures. van Schaik et al (2018) conduct a study on parents' beliefs about motor development in Israel and Dutch by using the Parental Beliefs about Motor Development (PB-MD) questionnaire. Although both are Western cultures, the cultures of Israel and the Netherlands are still very different. In the Netherlands, parents pay more attention to children's rest and regular life (Harkness & Super, 2006), which may explain that why Dutch parents prefer lower levels of stimulation on their infants. On the contrary, Israeli parents consider children's senses of autonomy and self-expression to be more crucial (Feldman & Masalha, 2007), which may cause the situation that Israeli parents place a greater emphasis on stimulating infants motor development when comparing to Dutch parents. Results show that, although both Israeli parents and Dutch parents believe infant motor development is one of the most crucial things throughout the first year of life, they still have some divergence on whether to actively participate in infant's motor development. The Israeli parents express a stronger belief in positively stimulating infants' motor development, while the Dutch parents were more negative because they are more confident that their children had their own motor development speed and process (van Schaik et al, 2018). However, although this study explored the cultural differences in parents' beliefs about motor development, it did not further discuss the specific impact of such differences on infants' motor development. Another study also discusses the differences of views on motor development in different parental belief systems between Cameroonian Nso mothers and German mothers (Keller et al, 2002). These two cultures are typical examples of the differences between non Western and Western cultures. The Nso's family structure is based on patrilocal residence. Because of their traditional way of life, they place more emphasis on preserving the hierarchy within family members. Thus, the focus of infants' motor development is mainly on obeying and cooperating with their parents' requirements. On the contrary, German families are usually nuclear families, which means they pay less attention to the strict hierarchical relationship between family members. In addition to focusing on cultivating infants' personality independence and cognitive function, parents also believe that it is important for infants to follow the natural sleep. The findings of the study demonstrate how this cultural difference affects Kso mothers and German mothers to treat their infants'

motor development differently. Different from German mothers who think that the coordinated development of infants and the harmony between mothers and infants are more important, Nso mothers clearly express the importance of parents centered stimulation mode. For example, in the eyes of Nso mothers, German mothers' practice of letting their infants lie down will hinder the motor development. Although it seems that the motor development process of infants under the influence of non-Western culture is faster than that of infants under the influence of Western culture, there is a counterexample in Tajikistan showing that even non-Western culture will hinder the motor development of infants. The 'gahvora' cradling way in Tajikistan means that infants are strapped to their backs in a tightly wrapped swaddle with their legs and arms straightened and tied together achieving 20 hours per day (Karasik et al., 2018). Not only is it different from Jamaican, Kokwet, Israeli and Cameroonian Nso mothers' positive stimulus behavior mentioned above, but also from the behavior of mothers in Britain, the United States, the Netherlands and Germany who do not intervene and conform to the natural development of the infant, the Tajik mothers use this method that seems to completely limit their infants' daily activities to get involved in their infants' motor development. The result of this study show that Tajik infants are indeed slower than those from other countries mentioned above in mastering some motor skills in milestones. However, this kind of delay does not obviously affect the subsequent development of Tajik infants (Karasik & Robinson, 2022). Instead, it is considered that the restriction of 'gahvora' cradling on infants' movement is actually conducive to the self-regulation of infants (Donmez & Temel, 2019). Although the 'gahvora' cradling limits the infant's both motion and vision, the mother or caretakers will still actively interact with their infants. Also, infants who stay in this 'gahvora' cradling can even have a better sleep quality (Karasik & Robinson, 2022). Compared with dividing by Western culture or non-Western culture, it may be more reasonable to divide the actions taken by mothers in different countries on the development of infant movement according to the degree of active involvement of mothers.

Conclusion

In all conclusion, culture role does take a significant part in motor development of infants. Culture not only affects parents' views and actions on how to raise a child, but also affects the speed of the motor development of infants. Infants who grow up in a culture that followed natural development experience slower motor development than those who grow up in a culture that their mothers support positive stimulation. And infants who are raised in a society in which their mothers prefer to bind their infants by using tools have a slower motor development than that of the above two kinds of infants. In spite of this kind of difference in development process, it does not mean that the development of those infants whose development process is slower than the traditional motor milestone standard is defective. The reason is that the traditional motor milestone is lack of cross-cultural vision (Karasik & Robinson, 2022). It does not collect data widely from a multicultural perspective on a global scale, only including children in Ghana, India, Norway, Oman and the USA (Onis, 2007). And these data have not been updated with the changes of the times. Thus, when discussing the process of infant motor development

in future research, the existing milestones should no longer be taken as the sole criterion. Further policy should include cultural differences when reestablish the standard of infant motor development milestone. In this way, milestone can better benefit infants and their parents for motor development (Karasik & Robinson, 2022).

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