

Abstract

Prior studies demonstrated infants' precocious mentalistic reasoning of attributing others' behaviours to intentions, desires and beliefs. However, fewer studies looked at infants' interpretation of behaviours in terms of agents' emotional expressions. The present study examined the relationship between infants' perception of emotions in music and their understanding of behaviours as motivated by emotional states. In Task 1, we adapted Phillips et al.'s (2002) looking-time paradigm to assess infants' use of emotional information to predict agent's action. Infants were shown an actress with positive emotional-visual regard directed towards one object and subsequently grasping the same object (consistent event) or the other one (inconsistent event). If infants appreciated the connection between actress' affect and her action, they should show greater novelty response to inconsistent events in which the actress' expressed emotion contradicted the expected action. In Task 2, an intermodal matching paradigm was used to test whether infants are sensitive to emotions conveyed in music. We exposed infants to happy or sad music and later showed them an actress portraying either happy or sad dynamic facial expressions on a monitor. If they could discern the emotions embedded in the musical excerpts, they should look longer when the actress' posed emotion is inconsistent with the emotion represented in the music. Parental report of language skills as measured by the Mac-Arthur Bates Communicative Development Inventories was also obtained to partial out the effect of language ability on psychological reasoning. Results from 35 18-month-olds ($M = 18$ months 4 days) revealed that as a group (a) they recognized that the actress tended to grasp the object with which she had positively regarded previously, and (b) they appreciated that the actress tended to show happy face upon hearing positive music excerpts whereas sad facial expression was displayed when listening to sad music. Contrary to our hypothesis, we failed to find a positive correlation

between these two conceptual understanding. We speculate that the result was obscured by order effects, and suggestions have been proposed to ameliorate the measurement of infants' looking preferences as reflecting their conceptual understanding. Despite the null result, the current study is potentially significant in corroborating the role of first-person experience in social cognition by extending from motor and visual experience to auditory experience on the one hand, as well as from intention and belief attribution to emotion attribution on the other.

Keywords: infant cognition, music perception, emotion perception, social cognition, theory of mind

概述

已有文獻指出幼兒能夠根據他人的意圖、慾望和信念以解釋對方的行為。本研究的主要目的為探究幼兒能否理解音樂所傳達的情緒以及能否運用情緒來推測對方的行為，並了解這兩種能力之間的關係。在第一項測試中，我們用了 Phillip et al. (2002) 的注視時間飾演方範式 (looking-time paradigm) 來測試幼兒能否透過觀察他人的情緒(包括面部表情及說話)來推斷他的行為。在此項測試中，幼兒會觀看兩種情景: (一) 實驗人員首先會笑著面向物件甲說話，跟著手抱該物件 (一致的情況) ; (二) 實驗人員首先會笑著面向物件甲說話，但接著手抱另一物件 (不一致的情況) 。因為在不一致的情況下實驗人員的面部表情與她的行為不協調，假若幼兒能夠理解實驗人員的情緒與行為之間的關係，幼兒將會對這種情況比較感到驚訝，因而注視時間會較長。在另一項測試中，我們運用了跨感官比對飾演方範式 (intermodal matching paradigm) 來探究幼兒能否理解音樂所表達的情緒。我們在播放開心的音樂之後，幼兒同樣地會觀看兩種情景：(一) 螢幕中的實驗人員面露笑容地講話 (一致的情況) ; (二) 螢幕中的實驗人員面帶哀傷地說話 (不一致的情況) 。由於在不一致的情況下音樂傳達的情緒與實驗人員的面部表情不相符，如果幼兒能夠理解音樂中的情緒，他們對這種情況的注視時間將會較長。此外，鑑於幼兒的語言能力

與理解他人的行為及想法有著密切的關連，我們亦要求家長填寫《漢語溝通發展量表》來評估幼兒的語言溝通能力。是次研究對象為三十五名十八個月大幼兒（平均年齡為十八月及四天）。研究結果顯示，（一）當實驗人員對一件物件面露笑容時，她會手握該物件；（二）當實驗人員聽到開心的音樂時，她會面露笑容；相反，當她聽到悲傷的音樂時她會愁眉苦臉。結果亦顯示幼兒在以上兩項測試中的表現並沒有正向的關聯，即與我們的假設不相符。由於我們認為次序效應（order effect）影響了本研究的結果，因此我們建議在量度幼兒對音樂中的情緒之理解，以及對情緒與行為之間的關係的理解應作出適當的修改。總括而言，是次研究把動作及視覺經驗延伸至聽覺經驗，以及由理解意向和信念延伸至理解情緒，因此本研究對了解自身經驗和理解他人行為及想法之間的關係潛在莫大的貢獻。