

以多向度試題反應理論檢驗《年齡與進程問卷-第三版》之內部結構

背景

嬰幼兒時期的發展品質為兒童接下來人生福祉奠定了基礎。對於有效的介入來說，即時鑑定出有需要特殊服務的兒童是十分重要的第一步。效度是評估一個測量工具品質的重要指標之一，它指的是一種證據的程度，此證據為測驗的結果解釋是否支持這測驗的使用目的。

目的

本研究的目的是檢驗與比較《年齡與進程問卷-第三版》(The Ages & Stages Questionnaires, Third Edition; ASQ-3) (Squires & Bricker, 2009)不同理論所衍生的數種內部結構。若 ASQ-3 的理論內部結構受到證據支持，則可以提供此工具計分的相關支持解釋。

方法

共有 1,691 位美國兒童由他們的家長使用 ASQ-3 之 16 個月份問卷來進行評估。ASQ-3 評估的結果利用試題反應理論(item response theory; IRT)之 Rasch 模式來分析其內部結構與向度組成。使用的 IRT 模式包括單向度與多向度的 Rasch 部分計分模式(Rasch Partial Credit Model)以分析四種不同理論基礎的內部結構。

結果

結果支持 ASQ-3 測量一個單一建構的假設—兒童整體的發展，但以五個互相關聯的領域所組成的多向度建構得到更有力的證據支持。然而，精細動作與問題解決領域極高的相關則有需要更進一步的關切。

建議

本研究之發現為嬰幼兒相關測驗發展者提供了題項改進的實際應用範例，可用以改善潛在建構的測量方式。

關鍵字：內部結構、試題反應理論、年齡與進程問卷、篩檢

theory

Background: The quality of development in infancy and early childhood lays the foundation for children's well-being during remainder of their lives). A critical first step to effective intervention is timely identification of children who need these services. One of the fundamental indicators for evaluating the quality of an assessment tool is validity, which refers the degree of evidence that supports the interpretation of test results for their intended use.

Purpose: The aim of this study is to examine and compare different theoretical internal structures of the Ages & Stages Questionnaires, Third Edition (Squires & Bricker, 2009; ASQ-3). Evidence supporting the internal structure of ASQ-3 can provide explanation for its scoring mechanisms.

Method: A total of 1,691 young children in the United States were assessed by their parents using the 16-month questionnaire of the ASQ-3 and results were used to study the internal structure and dimensionality of the ASQ-3 using item response theory (IRT)/Rasch models. Data were analyzed using IRT including unidimensional and multidimensional Rasch Partial Credit Models to examine four theory-based internal structures.

Result: Results supported the hypothesis that the ASQ-3 measures a unidimensional construct--the overall development of children--while preference was given to a more precise multidimensional construct of five inter-related domains. However, concerns emerged regarding the extremely high correlations between items in the fine motor and problem solving domains.

Suggestion: Findings provide implications for the test developers in terms of item refinement in order to improve measurement of underlying constructs.

Keywords: internal structure, item response theory, ASQ-3, screening