Confirmatory factor analysis of the Child Abuse Potential Inventory: Results based on a sample of Chinese mothers in Hong Kong

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Abstract

Objectives: To evaluate whether or not the original six-factor structure of the Child Abuse Potential (CAP) Inventory suggested by [Milner, J.S. (1986). The Child Abuse Potential Inventory: Manual (2nd ed.). DeKalb, IL: Psytec. Inc.] can be confirmed with data from a group of Chinese mothers in Hong Kong.

Method: Eight hundred and ninety-seven mothers from 13 child care centers in Hong Kong successfully completed a set of structured questionnaires consisting, among others, of the 77-item Abuse Scale of the CAP Inventory. A confirmatory factor analysis (CFA) was performed to determine whether the data fits the factorial structure of the CAP Inventory identified by Milner (1986).

Results: The root mean square error of approximation (RMSEA) of the model (ε_a) is 0.031, indicating a *close* fit of the model in relation to the degrees of freedom. On testing the close fit against the null hypothesis that $H_o: \varepsilon_a \leq 0.05$, the associated *p*-value is almost one. This suggests that the probability that H_o is true is extremely high. The estimated expected value of the cross-validation index (ECVI) is 6.185, which is less than the $ECVI_{sat}$ (6.703), giving another indication on the fitness of the model. Other fit indices also provide support for the model fitness.

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Conclusion: The original six-factor structure of the CAP Inventory tested by CFA is acceptable. The theoretical constructs underlying the CAP Inventory are supported by data collected from Chinese mothers in Hong Kong.

Introduction

The number of registered child abuse cases in Hong Kong has been growing rapidly in recent years, rising from 224 in 1995 to 662 in 2004, an increase of 177% over an 8-year period (Social Welfare Department, 1996, 2004). The problem may be much more prevalent than official figures suggest (Lau, Liu, Cheung, Yu, & Wong, 1999; Lau, Liu, Yu, & Wong, 1999; Tang, 1998). Owing to the hidden nature of child maltreatment (Budd & Holdsworth, 1996; Milner, Murphy, Valle, & Tolliver, 1998; Wolfe, 1988), it is believed that early identification and intervention are necessary to prevent vulnerable children from abuse, to help potential abusers get timely assistance and treatment and to help people lead a happy family life (Johnson, Howell, & Molloy, 1993; Milner, 1991; Olds, Henderson, Chamberlin, & Tatelbaum, 1986; Wolfe, Edwards, Manion, & Koverla, 1988). Within this context, an instrument that enables accurate and rapid assessment of mothers' child abuse potential is much needed to facilitate early intervention.

The Child Abuse Potential (CAP) Inventory, developed by Joel S. Milner in North America (Milner, 1986, 1989), is a widely-used, self-administered instrument to assess the potential for physical child abuse. The CAP is a 160-item questionnaire, 77 of which constitute the clinical Abuse Scale. Examination of the CAP Abuse Scale reveals that it is constituted by six factors. They include *distress, rigidity, unhappiness, problems with child and self, problems with family, and problems with others*. The first three factors are related to psychological difficulties while the remaining three factors are suggestive of interactional problems experienced by the respondent. In addition to the Abuse Scale, there are three validity scales: the lie scale, the random response scale and the inconsistency Scale. These three validity scales are used to assist in the detection of respondents who attempt to misrepresent themselves on the Inventory. The total Abuse Scale score, not the individual factor scores, is used for the screening of physical child abusers.

The CAP has been extensively researched. Studies have shown that internal consistency (Alpha reliability) estimates for the Abuse Scale range from .91 to .96, whereas the split-halves coefficients with a Spearman-Brown correction for test length for the Abuse Scale vary between .93 and .99 (Milner, 1986). The discriminant validity of the CAP was supported with the correct classification rates for physical child abuse between 70 and 100% (Caliso, 1986; Milner, 1986, 1989, 1990). In addition, several concurrent validity studies reported that the CAP showed correlation with several factors which have been associated with physical child abuse, such as a childhood history of abuse (Milner, Robertson, & Rogers, 1990), high levels of personal stress (Haskett, Scott, & Fann, 1995; Milner, Charlesworth, Gold, Gold, & Friesen, 1988), physiological reactivity to child-related stimuli (Pruitt & Erickson, 1985) and low self-esteem (Anderson & Lauderdale, 1982). As far as predictive validity is concerned, a recent study supported the static predictive validity of the CAP and the use of it for screening purposes (Chaffin & Valle, 2003), although there is simultaneously the view that more confirmatory evidence is needed for the conclusion that high CAPI scores foreshadow future abuse or low scores mean absence of risk (McNary & Black, 2003).