

# A methodological critique of parenting research in Hong Kong

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## Abstract

This paper attempts to examine methodological issues pertinent to parenting research in Hong Kong. Using 90 studies indexed in the PsycINFO database, eight methodological limitations of parenting research in Hong Kong are highlighted. The limitations include over-reliance on non-locally validated translated measurements, lack of longitudinal studies, infrequent utilization of perspectives based on multiple informants, lack of usage of multiple indicators of different parenting processes, infrequent use of advanced statistical data analysis methods, underuse of linear mixed method analyses, predominance of convenience sampling, and lack of qualitative studies. Future research directions with reference to these methodological limitations are discussed.

**Keywords:** Hong Kong; methodological review; parenting.

## Introduction

Parenting is the process of promoting and supporting the physical, emotional, social, and intellectual development of a child from infancy to adulthood (1). Stewart et al. (2) suggested that the parenting process might vary across cultures. For example, parental warmth is a salient characteristic of functional parenting which correlated well with positive outcomes in Western cultures but poorly with outcomes outside Western cultures. Therefore, it is important to investigate the relationship between parenting and other

variables of interest in a particular culture. The parenting process in Hong Kong has been investigated since the 1970s. Nevertheless, although there has been much research into parenting in Hong Kong over the past 30 years, no systematic review has examined methodological issues in this field. Methodology can be defined as analysis of the principles of methods, rules, and postulates employed by a discipline (3). It usually includes elements of data collection and analysis methods such as research design, participants, instruments, samples, and data analysis. A systematic review of these elements would be an important reminder to researchers about the potential methodological limitations of existing studies on parenting in Hong Kong, so that future studies can be improved.

To fill in this gap, the present study aims to review the methodology of parenting research in Hong Kong through March 2010. In that month, a PsycINFO search used “parenting” and “Hong Kong” as keywords and identified 90 studies. These included both studies examining parenting phenomena in Hong Kong and studies that used at least one Hong Kong sample. It is noteworthy that the focus of the study was on parenting rather than on general family functioning. The methodology of the review can be found in the review paper on conceptual limitations of the study (4).

From the 90 studies selected, eight methodological limitations of parenting research in Hong Kong were identified. They are systematically presented in the following sections.

## Over-reliance on translated measures

The first limitation of parenting research in Hong Kong is over-reliance on translated measures, i.e., those developed in non-Hong Kong contexts. In fact, most parenting research in Hong Kong has adopted translated measures of parenting without prior validation in the Hong Kong context. Among the 90 studies under review, 63 were quantitative studies. Of these 63, 45 adopted translated measures of parenting, 24 of which had not been validated in Hong Kong.

Validation of a measure in a local context is important when a measure will be used with a sample that differs significantly from the sample from which the measure was developed (5). As suggested by cross-cultural psychologists’ “when an instrument has been applied in different cultural groups, it cannot be assumed that the meaning of the score obtained is identical” (6) (p. 144). Therefore, measures developed in Western cultures might not be applicable to Hong Kong because their functional and construct equivalence cannot be assumed to be the same (6). In other words, the parenting concept variables measured in these studies might not be what they were intended to be, and the validity of findings in these studies might be questionable.

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There are at least two methods to tackle this limitation, one of which is developing new indigenous parenting measures in Hong Kong. For example, Stewart et al. (2) developed a measure of "Guan" – a Chinese parenting concept which means the willingness of parents to be directive – and examined the reliability, the validity, and the predictive power of the measurement of "Guan" to various psychological outcomes including perceived health and life satisfaction. Also, Shek (7) developed a measure of Chinese parental psychological control by providing evidence of its internal consistency in multi-samples as well as its validity. The second method is to adopt translated measures with prior validation in Hong Kong. For example, Cheng and McBride-Chang (8) adopted the Maternal Treatment Scale, which had been validated by Shek (9) in Hong Kong.

However, new measures for indigenous parenting concepts could be problematic. First, developing a measurement of indigenous parenting concepts requires significant amount of resources and time. Second, measurements of indigenous parenting concepts are not widely used outside the places they were developed. For example, the measurement of "Guan" has only been used in two places (the United States and Pakistan) other than Hong Kong (2). Because these measurements are not widely used, the chances of comparing indigenous parenting concepts and other parenting concepts used in Western literature are limited. This inhibits the development of academic inquiry into indigenous parenting concepts.

In general, locally developed measurements and translated measurements with prior validation in Hong Kong suit different research questions. The former is more suitable for research questions involving culture-specific parenting concept variables, whereas the latter is more suitable for research questions on the generalizability of theories developed in Western cultures.

In summary, researchers should use locally validated measurements, whether they are new measures locally developed or translated measures with prior validation in Hong Kong. If these two options are not feasible, psychometric properties of measurements of the non-validated translated measures in the Hong Kong context should at least be provided.

### Lack of longitudinal studies

The second limitation is the underuse of longitudinal designs. As noted by Shek (10), most existing parenting studies are based on cross-sectional designs, with relatively few longitudinal studies in the field (10–14). Whereas 63 out of 90 studies in the current review were quantitative studies, only 10 were longitudinal studies. The advantages of longitudinal design over cross-sectional design are well-documented (15). The first advantage is that longitudinal studies can show causality. Although cross-sectional studies can show possible links between parenting concept variables and other variables at a point in time (16–18), they cannot yield data on the causal link between parenting concept variables and other variables over time, thus limiting the conceptual development of research (19). Conceptually speaking, there are several

possibilities regarding the relationship between parenting concept variables and other variables of interest to the researcher: (a) parenting concept variables influence other variables; (b) other variables influence parenting concept variables; (c) parenting concept variables and other variables do not influence each other; (d) parenting concept variables and other variables influence each other; (e) the relationship between parenting concept variables and other variables is spurious (i.e., it is influenced by a third variable). Cross-sectional design can only show correlations among parenting concept variables and other variables of interest but cannot rule out other possibilities.

The second advantage of longitudinal studies is that they can show the stability and continuity of variables involved. Longitudinal data involve repeated measures of the same targets over time, whereas cross-sectional data involve measures at one time only. Thus, cross-sectional research can measure the phenomena of parenting concept variables and other variables of interest only at a certain point in time, whereas longitudinal research measures phenomena on parenting at multiple points of time, providing information on prognosis, stability, and change of parenting concept variables and other variables (15). Compared with a cross-sectional design, a longitudinal design enables parenting concept variables and other variables of interest to be examined for stability and continuity, and identifies developments of both parenting concept variables and other variables over time (15).

The third advantage is that longitudinal studies allow two levels of analysis. Longitudinal studies allow researchers to differentiate between changes in parenting concept variables and other variables of interest over time in aggregated (grouped) data and/or in individuals (15). Repeated measures allow for the detection of change(s) in individuals or their environments from one data point to the next (20).

Obviously, parenting is a long-term, complicated process (i.e., parenting takes over 10 years in reality). It can hardly be investigated by experimental design, making longitudinal designs salient for examining causal links between parenting concept variables and other variables. Longitudinal designs also examine stability and change over time, which is particularly important in the context of parenting as the effects of certain techniques or trends might take a long time to be reflected. Therefore, researchers should use longitudinal designs for Hong Kong parenting research in the future, even though the time and resources required for longitudinal designs are far more than those for cross-sectional designs. For example, Shek (10) used a longitudinal design and found that the relationships between perceived parental psychological control and adolescent psychological well-being over time were bidirectional in nature. The findings reported provided at least some empirical support in Hong Kong for the family stress and role strain theory, in which theorists argue that poor adolescent mental health is stressful, limiting an adolescent's sensitivity and response to parents' demands and expectations, therefore contributing to psychological control. In other words, Shek (10) used a longitudinal design to examine the direction of the influ-

ence of parenting concept variables and other variables of interest which have seldom been examined in existing cross-sectional studies in Hong Kong.

### Neglect of multiple perspectives

The third limitation is that multiple perspectives on the same parenting concept variables are not commonly included in existing studies. Regarding the 84 studies under review, only 11 included both parents and children. For example, Shek (21, 22) asked only adolescents to indicate their perceived parental psychological control or perceived family functioning but did not include the parents' perspective.

There are three reasons for including both parents and children's perspectives in the same parenting concept variables. First, parents and children can view parenting in different ways (23) because they have different perceptions and experiences of the parenting process. In particular, parents and children might not be aware of certain aspects of their own behavior, such as emotional tensions. Therefore, it is important to examine whether parents and children's perceptions of parenting are the same and whether they are governed by different dyadic factors.

Second, collection of data from multiple perspectives enables researchers to determine whether the observed relationships between parenting concept variables and other variables of interest are due to response bias. For example, an observed positive correlation between perceived parental psychological control and adolescent psychological well-being reported by adolescents might reflect "true" association between the variables or it might be due to the common method variance.

Third, the research included only one perspective failing to reflect parenting processes in a dyadic sense (24). There are three reasons why parents report satisfactory relationships with their children: (a) parental warmth; (b) children's obedience; (c) a unique relational component, such that the parent feels especially satisfied about the relationship with the children as compared to the relationships between the parent and other family members and/or the relationships between the children and other family members.

Recently, more and more Western researchers have started to include multiple perspectives on the same variables for investigating family functioning, including the parenting process (24-27).

Generally, there are three approaches to analyze data from multiple perspectives on the same variables. The first approach is to aggregate ratings from different raters on the same variables (28). The rationale for aggregating over multiple raters is that systematic variance due to the raters' shared perceptions will accumulate (and thus even out) when their reports are combined, whereas the random effects of errors in measurement will not accumulate. It is assumed that, compared with a single rater's report, the ratio of true score variance to error variance (i.e., reliability) will improve with aggregation across multiple raters. In support of this approach, Schwarz et al. (28) found that aggregating over multiple family members'

reports on the Child's Report of Parental Behavior had generalizability coefficients of 0.65 or higher, indicating much more precise measurements (28).

However, there are three major limitations of the aggregation approach. One is the inability of distinguishing the variance due to the rater's unique perspective and due to the perspective common to all raters. A second problem with aggregating over multiple reports is that it introduces the possibility of spurious findings due to correlational bias (29). That is why most recent parenting research has not adopted this approach. The third limitation is that this approach assumes that data from different perspectives can be integrated. Sometimes, data from different perspectives reflects different perceptions of different family members for the same parenting issue. These perceptions theoretically represent different aspects of the parenting issue and are theoretically inappropriate to be combined.

Second is the latent variable approach, in which ratings of different raters on the same variables are put into a confirmatory factor analysis to estimate latent variables of parenting concepts. This approach is based on the notion that each family member's rating of a family dynamic consists of several sources of variance: (a) a true score component, (b) a rater component, and (c) measurement error. In contrast to the aggregation method, confirmatory factor analysis enables the separation of true score variance from the potentially distorting effects of rater variance and error variance (25). For example, Cook and Goldstein (25) used this approach to investigate family relationships.

Third is the multilevel approach, in which both "individuals" and "family" are regarded as units of multilevel analysis (24, 26, 27). For example, Snijders and Kenny (24) investigated both parents' and children's perceptions of parental warmth and found that parents' recalled warmth is mainly a tale of the rater (i.e., told by the actor), and about the father. The actor-partner correlation for fathers is also large. Thus, if fathers think that they are warm, their children tend to think so. There is not much in common between what the father and mother report about a child. It can be concluded that the parents do not differentiate their two children in the same way. Although the multilevel approach can differentiate actor effect and partner effect, this requires both a relatively large sample, as there should be enough clusters for the analysis, and the advanced statistical knowledge, thus limiting its application in parenting research.

In Hong Kong parenting research, no researcher has used multiple perspectives on the same parenting concept variables. But some researchers did ask both parents and children to give different measurements of parenting concept variables. For example, Tam (18) asked children to report their perceptions of their parents' expression of affection to them and of their parents' use of psychological pressure techniques. Tam (18) also asked parents to report the degree in which they were involved in their children's education and their attitudes towards motivating their children for academic achievement. Tam (18) used the data from children and parents to investigate the effect of parental attributes on children's academic achievement.

Similar to the previous section, this suggestion has at least two limitations. The first is that collecting data for multiple perspectives on the same parenting concept variables assumes the same (or similar) measurements can be applied to both parents and children. Second, including multiple perspectives requires more resources, but researchers should still do so if possible. If funding and other practical issues are a barrier, researchers could ask parents and children to report different measurements of parenting concept variables, as Tam did (18).

### **Lack of use of multiple indicators**

The fourth limitation is the lack of use of multiple indicators for the parenting process. Parenting is a complex process that involves many parenting concept variables. Even a single parenting concept variable can be reflected in various ways and can be measured with different measures. For example, parenting behavior can be assessed by global parenting style (i.e., parenting characteristics that transcend context and that constitute an emotional climate as perceived by the child) (19, 30) or by specific parenting practices (i.e., specific behaviors, such as concrete parenting demands) (19, 30). In addition to using multiple measures of a single parenting concept variable (e.g., parenting behavior), including multiple parenting concept variables, such as parent-child communication, parent-child conflict, and parent-child relationship qualities (19, 30), can give the researcher a more vivid picture of the contribution of the parenting process to family functioning (19).

Methodologically, the use of multiple indicators of the parenting process in a single study (whether using multiple measures of a single parenting concept variable or using multiple parenting concept variables, or both), enables researchers to strengthen the assessment of parenting concepts (19). As a type of within-method triangulation (31), the use of multiple indicators can enhance the credibility and persuasiveness of parenting research because researchers can cross-check data from different measurements for the validity of their findings.

However, only a limited number of studies in Hong Kong have used multiple indicators of the parenting process. For example, Shek (13) used the Parental Knowledge Scale, Parental Expectation Scale, Parental Monitoring Scale, and Parental Discipline Scale as measures of parental behavioral control. In addition to using multiple measurements for a single parenting concept (i.e., parental control), Shek (13) also included Parent-Child Relational Qualities, which was measured by the Satisfaction with Parental Control Scale, Readiness to Communicate with the Parent Scale, Parental Trust of Children Scale, and Children's Trust of Parent Scale. With multiple assessments for parental control, Shek (13) found that paternal control was stronger for sons than for daughters in all measurements, except paternal demanding. This gave a clearer picture of the relationship between children's gender and parental control. Researchers should thus use multiple measurements for a parenting concept and include multiple parenting concepts in a study.

There are two methods to analyze data with multiple indicators. The first is to analyze each indicator separately, conducting the same analysis for each indicator. This maximizes the data collected with different indicators; however, it increases the number of tests, causing higher chances for type I error. The second method is to do a factor analysis, to first identify the common dimensions among different indicators and later use the dimensions for further analysis. The advantage is simplifying the process of data analysis. However, this data analysis method does not maximize the data collected, as data that are not included in the common dimensions might not be further analyzed.

It is noteworthy that the use of multiple indicators does not necessarily mean a better research design. In some cases, a single indicator might already completely represent a construct, hence multiple indicators are not needed and use of multiple indicators is not cost-effective. Also, the use of multiple indicators lengthens the process of data collection, as more scales are needed. Moreover, a larger sample size is usually needed for data analysis with multiple indicators. Despite these practical drawbacks, researchers should include multiple indicators to enhance the credibility and persuasiveness of their studies.

### **Infrequent use of advanced statistical analysis**

The fifth limitation is the underuse of more advanced statistical methods for data analysis, such as structural equation modeling (SEM) or hierarchical linear modeling (HLM). Among the 63 studies under review, almost all used regression, analysis of variance (ANOVA), analysis of covariance (ANCOVA), multiple analysis of variance (MANOVA), and/or multiple analysis of covariance (MANCOVA), whereas just a few used more advanced statistical methods such as SEM or HLM. For example, instead of using regression, Chan et al. (32) used SEM, which can take measurement error and correlations among predictors into consideration, to test if parental goals mediate the influence of parenting styles on parenting practices, enabling a more accurate estimate of the strength of the effect of parenting styles and parental goals on parenting practices. Obviously, advanced statistical methods have two major advantages. The first one is that they can estimate parameters more accurately. The second advantage is that they can test hypotheses that simple statistical analyses such as regressions and ANOVA cannot, such as those in latent variable analysis.

There are three major disadvantages of advanced statistical methods. First, advanced statistical methods often demand large sample sizes. Second, studies using advanced statistical methods often involve complicated research designs. For example, studies using HLM often require longitudinal designs or clustered data sampling methods to produce multi level data structures. Third, advanced statistical methods such as SEM are often used for model testing, in which researchers need to specify a set of theoretically plausible models. In other words, researchers first need stronger theoretical reasoning, making advanced statistical methods practically difficult in exploratory studies.

### Underuse of multilevel analysis

The sixth limitation is a general lack of multilevel analysis in the same study. In parenting research in Hong Kong, researchers have often focused on analysis at the individual level; almost no research in Hong Kong has explored parenting at a higher level. In the domain of parenting research, individual level data is naturally nested into higher levels. For example, adolescents' perception of parental warmth can be nested with their parents' socioeconomic status. Analysis at two or more levels is important as the meaning of the construct under study might be different across levels. Therefore, the results from one level might not be applicable to another level (6).

There are two merits of multilevel analysis. The first is comparing relationships among variables in different levels. The second is exploring how variables are related across levels. In other words, multilevel analysis can indicate how higher-level variables affect lower-level variables.

There are two methods to explore analysis at different levels. The first is to conduct a similar, or even the same, analysis across different levels by using aggregated scores. In other words, researchers analyze data at the individual level and then aggregate it to a higher level for another similar analysis (33). This aggregation method is heavily criticized by methodologists, as most data variation is averaged out before starting higher-level analysis (33).

The second method is HLM or linear mixed methods (LMMs) which allow variance in outcome variables to be analyzed at multiple hierarchical levels, whereas in simple linear and multiple linear regressions all effects are modeled at the same single level (33). With HLM, analysis at different levels can be conducted simultaneously. For example, Williford et al. (34) used HLM to examine stability of parenting stress across early childhood and to examine (a) child and maternal factors predicting parenting stress at age two and (b) changes in parenting stress across time. They found that single parenthood, maternal psychopathology, child anger proneness, and child emotion deregulation predicted two-year parenting stress. Child externalizing behaviors predicted initial status and changes across time in parenting stress. Stability of parenting stress was dependent upon child externalizing problems, as well as interactions between child externalizing problems and gender, and child externalizing problems and emotion regulation.

### Predominance of non-probability sampling

The seventh limitation is the predominance of non-probability sampling methods in existing parenting research. Sampling methods are commonly classified as either probability or non-probability in nature. In probability samples, each member of the population has a known non-zero probability of being selected. Probability methods include random sampling, systematic sampling, stratified sampling, and cluster sampling. In non-probability sampling, members are selected from the population in some non-random manner, e.g., convenience sampling, judgment sampling, quota sampling, and/or snowball sampling. The advantage of probability sampling is that sampling

error can be calculated. Sampling error is the degree to which a sample might differ from the population. When inferring to the population, results are reported plus or minus the sampling error. In non-probability sampling, the degree to which the sample differs from the population remains unknown. Because sampling by inappropriate methods might harm the representativeness of the sample or introduce bias to the result, it should be stated clearly how the sample has been obtained to provide sound grounds for evaluating the quality of the sample.

Similar to most studies in psychology and other social sciences, studies on parenting research in Hong Kong are often based on non-probability sampling methods such as convenience sampling because the probability sampling method requires a lot of resources. In addition, in some of the studies, detailed information on the sampling procedures is not included. Obviously, it is impossible to know how representative the sample is, with reference to the general population of Hong Kong, if a clear description of the sampling method is not given.

### Lack of qualitative studies

The qualitative approach refers to "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (35) (p. 17). It is often used in exploratory studies where the sample involves a minority population such as families with disabled children (36). For example, Shek et al. (37) used the qualitative method to understand family support and adjustment in Chinese adolescents experiencing economic disadvantage. Few studies using the qualitative approach have studied parenting in the general population in Hong Kong.

There are two reasons for using the qualitative approach in the general population. The first reason is to understand parenting from the participants' perspective. Instead of testing specific hypotheses, the qualitative approach lets "the researcher [listen] to what the interviewees say on their own terms, according to their own frames of mind and with reference to their own experiences and cultural contexts" (38) (p. 356). This approach provides room for examining the reports of research participants and understanding their subjective explanations of connected events. As parents' and children's subjective experiences have often been neglected in past Hong Kong parenting research, researchers can fill this research gap with a qualitative approach.

The second reason is richness of data. Qualitative research can explore the richness, depth, and complexity of phenomena. Parenting is a complicated process with huge variety. These detailed descriptions, and the preserved data context provided by the qualitative approach, can address the complexity of parenting (39).

There are many different research methods under the qualitative approach – case study, in-depth interview, participation observation, ethnography, phenomenology, and interactive interviews. However, each is based on different philosophies. This might create problems for researchers who plan to use a qualitative approach to study parenting in the Hong Kong gen-

eral population. This is because researchers have to be familiar with different qualitative research methods and their philosophies in order to choose one for a particular research question.

Given the benefits of the qualitative approach, researchers should overcome the difficulties encountered and use it for Hong Kong parenting research in the general population. Researchers can also consider adopting a mixed-method approach by using both qualitative and quantitative methods to study parenting in the general population.

## Conclusions

In the present study, eight methodological limitations of parenting research in Hong Kong were identified, and suggestions for future research have been considered. Nevertheless, as the 90 studies reviewed were taken only from the PsycINFO database, parenting studies not indexed in PsycINFO are not covered in the present study. Despite this limitation, the present review on the methodological weaknesses of parenting research in Hong Kong provides useful pointers for future parenting research in Hong Kong.

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