SUMMARY.

INTRODUCTION.

This book addresses one of the major problems in empirical cross-cultural research: the comparability of data from cognitive development research. Theoretical in nature, the study develops theoretical ideas in connection with problems related to empirical research on the basis of an examination of the solutions offered by theory and empirical research.

THE PROBLEM.

One of the fundamental problems in psychology is the question whether culture affects cognitive development. Even more fundamental is the question whether culture affects cognitive development research itself. In other words, do we, when we are studying other cultures, obtain a fair picture of cognitive development in these other cultures? If culture, that is, the researcher's own cultural background, affects the picture of cognitive development in other cultures, data from cognitive development research are not comparable across cultures.

What types of problem is the investigator bound to encounter? Firstly, there is the question of the comparability of methods that are used to assess specific cognitive skills. A method which is commonly used to demonstrate a competence in one culture may not be suitable for the same purpose in another; it may simply fail to show that competence. Generally speaking, there can be two causes for this. One is that a method may contain demands that are not essential for the studied skill (external demands). An example is the demanded verbalizing in a classical Piagetian task, where the studied skill is conservation. Another cause may lie in cultural differences in the use of a skill. For example, in some cultures it is considered improper to count people. The worst possible method for assessing counting skills in such a situation would be to ask how many people live in each hut in the village.

Secondly, there is the question of the comparability of indicators of levels of cognitive development. Here the researcher faces a problem similar to that of a child confronted with a Piagetian conservation task. How is one to compare the amounts of water in two jars with a different shape? Although the level of water in the two jars may be the same, one may contain a lot more water than the other. To arrive at the correct solution, the child has to be aware that it needs to take account of two dimensions at the same time, as height can compensate for width and vice versa. Similarly, an isolated cognitive skill is no valid indicator of the overall level of cognitive development. If in a Western society each (normally endowed) child has mastered a fully developed concept of time at the age of eleven, it does not follow that in some non-Western cultures the development of adults is below the level of a Western child because they have not developed the same concept of time. The question is whether - with respect to the overall picture of development - other skills compensate for the missing concept of time.

To recapitulate, there are various ways in which culture may affect data from cognitive development research. We must ask ourselves whether it is possible for us to obtain a fair
picture of cognitive development in another culture. Are we able to demonstrate specific cognitive skills that develop in other cultures and are we able to understand the course of cognitive development in these other cultures?

A REMEDY?

How then are we to attain comparability of data in cognitive development research? This is a complex matter.

On the one hand, it would seem to be necessary to adapt the research to the culture studied. The level of development of an individual has to be assessed against the background of a model describing the course of cognitive development in her culture. Moreover, it might be necessary to adapt the method whereby specific cognitive skills are assessed in order to remove external demands, or to bring it into agreement with the rules for using the studied skill in the culture under investigation.

On the other hand, data from adapted research are not automatically comparable. A model of cognitive development or an assessment method that has been adapted for use in another culture differs from the original model or method. Obviously, data from cognitive development research are not comparable if each culture has its own model and its own method of assessing skills.

Does this mean that we have to choose between incomparability of data due to not adapting the research to the culture studied and incomparability as the very result of adapting the research? Or is there a way out?

QUESTIONS ASKED AND ANSWERS FOUND.

A real solution to the above mentioned problems has to meet two criteria: it must enable the researcher to obtain a fair picture of cognitive development in other cultures and it must enable comparisons to be made of data across cultures.

To arrive at a solution that would meet these criteria, a number of inter-related questions were studied which were connected to the main issue: how can culture-fair models and culture-fair methods be developed, and is it possible to compare data of such adapted research across cultures? A question that necessarily precedes these questions is: does culture affect cognitive development and, if so, how can this influence be specified? Such a specification, it was assumed, might serve as a theoretical basis upon which culture-fair models and culture-fair methods might be constructed.

To answer these questions, a study was made of different cross-cultural research approaches and relevant theoretical discussions. Three major approaches in cross-cultural psychology were studied: J.W. Berry's approach, the Piagetian cross-cultural tradition and the approach of M. Cole c.s., which has been labelled "ethnographic psychology". In addition, two discussions in cross-cultural psychology were studied which were connected to the main issue: the question of equivalence of material was used to define the influence of culture on cognitive development.

The influence of culture on cognitive development

To determine first whether culture affects cognitive development, a study was made of theory and empirical research of "ethnographic psychology" in order to specify the influence of culture on cognitive development. The three major approaches in cross-cultural psychology differ from each other in their views on the influence of culture on cognitive development. The former case on the theory of cognitive development and the latter on the study of empirical research of Berry's approach.

In line with expectations, the influence of culture on cognitive development is more recent work, the theoretical and empirical research of Berry's approach.

Piaget considers cognitive development to be universal. However, the influence of culture on cognitive development is still to be determined. In order to judge whether the influence of culture on cognitive development is universal or not, it is necessary to compare data of such adapted research across cultures. Some research has been carried out to these aspects of cognitive development. Some research has been carried out to these aspects of cognitive development.

A specification of the influence of culture on the rate of cognitive development

A specification of the influence of culture on the rate of cognitive development on the influence of culture on the rate of cognitive development. In addition, the influence of culture on the rate of cognitive development.

A specification of the influence of culture on the rate of cognitive development

A specification of the influence of culture on the rate of cognitive development. In order to specify how the influence of culture on the rate of cognitive development and, if so, how can this influence be specified? Such a specification, it was assumed, might serve as a theoretical basis upon which culture-fair models and culture-fair methods might be constructed.

To answer these questions, a study was made of different cross-cultural research approaches and relevant theoretical discussions. Three major approaches in cross-cultural psychology were studied: J.W. Berry's approach, the Piagetian cross-cultural tradition and the approach of M. Cole c.s., which has been labelled "ethnographic psychology". In addi-
dation, two discussions in cross-cultural research were examined: the emic-etic debate and the question of equivalence of research data from different cultures. General theoretical material was used to define the concepts of "model" and "competence-performance".

The influence of culture on cognitive development.

To determine first whether or not culture exerts a fundamental influence on cognitive development, a study was made of two approaches in cross-cultural psychology: the theory and empirical research of Berry and the Piagetian tradition. These two were selected because of their divergent views of this issue: Berry's ecological approach assumes that there is indeed an influence of culture, whilst Piaget postulates a universal course of cognitive development. The theory of each of these approaches is sketched, focusing in the former case on the theory underlying the assumed influence of culture on development and in the latter on the supposed universality of cognitive development. Moreover, the empirical research of Berry and the Piagetian tradition is described and analysed to find an empirical answer to the question of the influence of culture on cognitive development.

In line with expectations, Berry's theory and empirical research point to an influence of culture on cognitive development. However, as Berry himself has acknowledged in his more recent work, the theory is not sufficiently specified to understand the mechanisms of this cultural influence.

Piaget considers cognitive development as a universal process, but allows for a certain influence of culture: culture, he claims, affects the rate, not the course, of cognitive development. In order to judge empirical Piagetian research, work of P. Dasen was selected for study. Empirical cross-cultural Piagetian research that Dasen has reviewed gives rise to some doubt about the assumption that the influence of culture on cognitive development would be restricted to the rate of development. Some aspects of development designated as universal by Piaget - the universal sequence of conservation concepts and the "structure d'ensemble" - are not considered by Dasen as part of the universal course of cognitive development. Some research data suggest that there exist cultural differences with respect to these aspects of cognitive development.

A specification of the influence of culture seems as desirable for the Piagetian tradition as for Berry's approach. This conclusion is endorsed by Dasen himself where the influence of culture on the rate of cognitive development is concerned.

A specification of the influence of culture.

A specification of the influence of culture on cognitive development was found in the approach of "ethnographic psychology". Four questions that needed answering to specify the influence of culture on cognitive development were used to analyse the theory and empirical research of "ethnographic psychology": (1) How can the concept of culture be specified? (2) How are we to conceive of "cognition"? (3) How does a specific aspect of culture influence a specific aspect of cognition? (4) How does culture play a part in deter-
mining the effect of an aspect of culture on the development of an individual? The latter
question refers to the problem that a specific aspect of culture, e.g., programming com-
puters, may be related to a situation which never occurs in some cultures or which occurs
in a culture only among some individuals or age-groups.

To specify the influence of culture, all four questions had to be answered. This is evident
for the first three questions, which bear on the mechanisms of cultural influence, but per-
haps less so for the fourth question. Why should we have to know what opportunities the
individual has in our own or in another culture? The reason is that in this way the bound-
daries of the mechanisms of cognitive development can be identified. An answer to the
question as to how culture affects - more or less indirectly - cognitive development, is a
prerequisite to the development of culture-fair models, as it specifies the course(s) of cog-
nitive development in a culture.

By following the approach of “ethnographic psychology” and - where this failed to pro-
duce a satisfactory answer - drawing on ideas from the Soviet cultural-historical approach
(from which “ethnographic psychology” has also drawn inspiration) it proved possible to
answer all four of the above mentioned questions.

Culture is defined as an activity: a goal-oriented sequence of actions, like playing a ball
game or writing a book. Cognition is defined as consisting of schemata and cognitive skills.
In order to perform activities the individual has to develop the necessary cognitive skills.

An influence of activity, i.e. culture, on cognitive skills takes presumably one of three pos-
sible forms. One of these - by way of example - is the cultural selection of cognitive skills.
If a certain activity is not performed in a culture, it is possible that the cognitive skills that
are needed for this activity do not develop in that culture. For example, in a culture that
lacks the activity “discussion”, the skill to discern at the same time arguments for and
against a position may be absent.

To specify the influence of culture on the activity of the individual, “activity” is defined
(drawing on ideas from Soviet psychology) in relation to goals of development and peri-
ods in the life-cycle of the individual.

To summarize, a study of theories and empirical cross-cultural research on culture and
cognitive development has led to the conclusion that the possibility of culture-specific
cognitive development cannot be ruled out. To specify the influence of culture, the con-
cept of “activity” was chosen, which originates in Soviet psychology and found its way
into cross-cultural psychology. “Activity” was related to cognition (necessary schemata
and cognitive skills) and to the course of cognitive development in different cultural con-
texts. This specification of the influence of culture on cognitive development has subse-
quently been used in searching for ways to develop culture-fair models and methods.

Culture-fair models.

A model of cognitive development, such as a global impression of the de-
velopment in a certain culture, may be interpreted: the goals of culture-fair for a certain
culture development in that culture.

With respect to the construction of culture-specific goals and the cur-
rent course of cognitive development, it is essential to identify the culture-specific
goals and the current course of cognitive development. This way, the goals of cognitive
development in a culture can be compared to those of a culture-specific
model of cognitive development. Research examples are:
- Cultural psycholinguistic models
- Cross-cultural research into development of language skills
- Research into development of cognitive skills
- Research into development of cognitive skills in different cultures

Starting from the goals and constraints of different models for culture-fair models, the re-
cognitions of cultural psycholinguistic models and problems of the current debate led to
the development of culture-fair models, which can be translated into each other and can
be transformed and combined to form new culture-specific goals.

However, there may also be limited overlap, for the shared concepts have

Culture-fair methods.

“Method” is used in a general sense. The rationale in developing culture-fair models
and methods has been mastered by a p...
Culture-fair models.

A model of cognitive development describes the course of cognitive development. Of course, such a description does not cover every detail of development. In order to obtain a global impression of the course of cognitive development, two abstract features have to be interpreted: the goals of development and the stages of development. A model is culture-fair for a certain culture, if the assumed goals and stages correspond to the course of development in that culture.

With respect to the construction of culture-fair models, suggestions are offered to identify culture-specific goals and stages of cognitive development. If another culture has a different course of cognitive development, the most fruitful way to start the research may be to identify the culture-specific goals of development. These goals offer a vantage point for obtaining a picture of the course of development, the skills acquired en route. For example, the goals of cognitive development of a monk in a medieval monastery are different from those of a rap artist in modern New York, and so are the specific skills they need.

Research examples are provided to illustrate different ways to uncover the goals of development. One of these is elaborated in the book and addresses the question of how to conduct research into everyday knowledge of cognitive goals. What are the goals that people are striving for? It is shown that proverbs can be used to talk about the goals of cognitive development that people have in mind. In addition, research examples are given that can be used to trace differences in handling knowledge during different periods of life. This type of research is a first step in the direction of uncovering stages in cognitive development.

Starting from the goals and stages of other cultures, the researcher is finally able to construct different models for different cultures. The question is whether these different models are comparable. As comparability of research data was the object of the construction of culture-fair models, this is obviously a central question. The emic-etic debate in cross-cultural psychology was studied in search for an answer to this question. A thorough evaluation of the debate led to the conclusion that models can indeed be comparable: they can be translated into each other’s concepts or into more general concepts, or different models can be transformed and combined into one extended model, i.e. a model that integrates features of two or more culture-specific ones. For the above mentioned monk and rap artist an extended model may be the best solution, because at first glance there seems to be only limited overlap, for example in the area of rapid verbalizing or analysing music.

However, there may be a limit to the comparability of models; for example, some models may appear to be so different, that in order to translate them into each other’s concepts, the shared concepts have to be so general that they become virtually meaningless.

Culture-fair methods.

"Method" is used in a general sense, covering various aspects of the assessment context. The rationale in developing culture-fair methods resides in a distinction between competence and performance. This distinction draws attention to the possibility that a skill that has been mastered by a person (competence) may not be shown in the performance in the
assessment context. However, if the researcher develops a culture-fair method, he may be able to show the sought competence nonetheless.

Two approaches to the development of culture-fair methods are outlined. One is to model the assessment context on the features of an activity (which demands the sought skill) in the daily life of the culture. This approach is particularly recommendable in a situation where the studied competence has repeatedly been reported absent in previous studies. However, a drawback is that it offers no sound basis for intercultural comparison.

Another way to develop a culture-fair method is to change an existing method. Starting from the concept of "activity", three aspects of the assessment context can be modified in order to develop a culture-fair version of the existing method: (1) the subject’s definition of the situation, (2) the task, and (3) the motivation.

Research examples are given to illustrate both approaches. With regard to modifying an existing method, suggestions are offered for varying the above mentioned aspects of the assessment context. For example, if it is more difficult for members of another culture to verbalize an opinion than for us, alternatives can be found. Tasks can be developed in which the answers can be given in different ways, for instance by manipulating objects. One research example is extensively discussed: a study of children's understanding of relations with the help of kinship concepts.

Finally, the intercultural comparability of data from adapted research had to be assessed. Again, cross-cultural psychology was consulted; this time with respect to approaches to reach equivalence of data from research adapted to different cultures. Two objectives are distinguished which cross-cultural researchers have in mind when adapting the research to the culture studied: one is to aim at familiarity of method to each culture; the other is to make the method unfamiliar to each culture. Exploration of both views leads to the conclusion that neither familiarity nor unfamiliarity should be the objective when adapting the method to the studied culture. Familiarity proves to be a drawback in a situation where familiar material prevents the application of the studied skill. On the other hand, there does not seem to be a way to make methods equally unfamiliar to all cultures.

The objective to be strived for seems to be ecological validity. A method of assessment is ecologically valid, if skills used outside the assessment context are also found within the assessment context. In other words, if the subject can exert a certain skill in the daily life of her culture, a method is ecologically valid if it is able to show that skill in a standard situation. If a method for assessing a certain skill is adapted to other cultures and therefore (slightly) different for each culture, data obtained in different cultures are comparable only when the following condition is fulfilled: it must be shown that changes to the original method were necessary to demonstrate the studied skill in the culture concerned. In other words, it must be proved that these changes were necessary to meet the requirement of ecological validity. It is not left to the intuition of the researcher to decide whether an adapted method is ecologically valid or not; ecological validity itself can become the subject of empirical research. Data from different cultures can be comparable when research in each culture meets the demand of ecological validity.

THREE WAYS TO U

The problem of comparability of data from cognitive development research is a number of questions. Of these, an overview of the difference in variance for empirical cross-cultural research. The problem of comparability for research on cognitive development research, T

A theoretical study, the book chooses her position in the problem of comparability of data from research adapted to different cultures. For research on cognitive development research, T

Apart from this, the book offers an overview of the different aspects of the problem of comparability of data were a(}

Another possible use of the book as a background while preserving an overview of the different aspects of the problem of comparability of data were a(}

170