The Effects of Quality, Stability, and Multiplicity
In Nonmaternal Care Arrangements During the First Year of Life

Henry Tran and Marsha Weinraub

Temple University

Participants

Nearly 8,800 women giving birth were contacted to have their infant enrolled in a sampling period from 6 mos across the U.S. Approximately 540 with the eligibility criteria agreed and were contacted after their return from the hospital. A subset of these eligible infants was randomly selected to represent the infant’s primary caregiver. The infant’s primary caregiver was interviewed about the infant and the at-home care environment of the infant. The data for the analyses presented here are based on 475 children who participated in the study through at least 15 mos. and whose primary caregiving arrangement was rated for quality. The first months of the were analyzed as the major developmental period that may particularly be affected by quality and multiplicity (Harms & Harms, 1993).

Method & Measures

Cheapest Rate

Quality of care was assessed using the scales of infant development. (Bayley, 1969). The instrument assesses a number of cognitive abilities, including sensory perceptual acuity and discrimination, memory, learning, problem solving, the ability to form generalizations and classification, and verbal communication.

Language comprehension and production. Language comprehension and production outcomes were measured at 15 mos. using the vocabulary comprehension and vocabulary production portions of the MacArthur Communicative Development Inventory (CDI; see above). The measure is a vocabulary checklist.

Results

\[ \text{Quality at } 6 \text{ mos.} \times \text{Mult.} \times \text{Stab.} \]

Quality at 6 mos. was measured at 15 mos. using the Strange Situation procedure (Ainsworth et al., 1978). Attachment was assessed using a two-intrarater separation associations. A two-category classification system was adapted (secure/ anxious) for all analyses.

Correlates

Selection variables. Selection variables, or factors that are highly related to certain care child arrangements, associated with the family and the child were considered. The variables selected as covariates include: income, maternal education, child race, and child gender. The variables selected as covariates included: income, maternal education, child race, and child gender.

Hypotheses

All measures of quality predicted attachment outcomes with the exception of attachment security. Stability and multiplicity may have no effect on attachment security in nonmaternal care arrangements among children during the first 15 mos.

Research Questions

What percentage of infants experience at least one arrangement change over the first 15 mos.?

In line with the covariates, the effects of stability and multiplicity were predicted to be negligible when quality of care was high or increasing over time.

In line with the covariates, the effects of stability and multiplicity were predicted to be negligible when quality of care was high or increasing over time.

What are the effects of quality of care on children's outcomes? Stability and multiplicity may have no effect on attachment security in nonmaternal care arrangements among children during the first 15 mos.

Introduction

High quality child care has been found to consistently associate with better child outcomes, including cognitive and language development, behavioral problem and skills, problem behaviors, and academic achievement (Barnett, 1998; Finger, Feit, & Fisher, 1988; NICHD Early Child Care Research Network, 2000; Burchinal et al., 1996). The effects of quality of care on child outcomes have been studied for the last two decades. Stability may refer to (1) changes in arrangements or caregivers over time or (2) the use of multiple arrangements or caregivers concurrently. The former may be referred to as stability while the latter as multiplicity. Determining whether relationships exist between stability/multiplicity and child outcomes is of theoretical and practical importance.

Stability and Multiplicity in Context

While previous research has identified some potential main effects of stability and multiplicity, little is known about the interactions of these effects. The effects of stability and multiplicity may operate differently depending on how other features of child care are operating. Of particular interest is how stability and multiplicity may interact with quality. Quality may act to moderate the relationship between stability/multiplicity and child outcomes. What possible moderating relationship may exist between stability/multiplicity and quality? One possibility is that the potential adverse effects associated with the use of multiple arrangements or unstable care may be minimized or eliminated in situations in which quality is high or increases over time. On the other hand, and consistent with Barnett's (1988) dual-risk conceptualization, quality change is a risk factor if stability/multiplicity is a protective factor; the presence of some level of stability/multiplicity may function to increase the risk of poor child outcomes. In this study, we test the effects of stability, multiplicity, and quality and how they interact with each other on attachment, attachment security, cognitive, development, language comprehension, and language production during the first 15 mos. of life.

The data reported here were collected as part of the NICHD Study of Early Child Care, a publically funded data set.

Background

Many infants experience variable care; recent estimates have indicated that about 40% of infants experience at least one change in their primary caregiver arrangement (Burchinal et al., 1996). While previous research has focused on the effects of arrangement change and stability on child outcomes, limited research has focused on the main or interaction effects of unstable care or multiple arrangements, with low quality or a combination of unstable care and low quality or multiple arrangements.

The income-to-needs ratio is a measure of economic resources available to a family with higher scores indicating greater economic resources.

Quality was assessed using the Infant/Toddler version of the Home Observation for Measurement of the Environment (Hart & Risley, 1995). The instrument assesses a number of cognitive abilities, including sensory perceptual acuity and discrimination, memory, learning, problem solving, the ability to form generalizations and classification, and verbal communication.

The effects of stability of care on child outcomes have been studied far less extensively. Stability may refer to (1) changes in caregivers over time or (2) the use of multiple caregivers concurrently.

Discussion

The study examined the role of NICHD quality and multiplicity predictors in nonmaternal care arrangements. "Caretaker" care during the past year of the Approximately one-quarter of the infants who participated in the study experienced an arrangement change from the birth month to the interview. Of all infants had been cared by any caregivers combination of the predictor variables was entered into the same regression equation in predicting each of the dependent variables. In another series of analyses, each of the dependent variables was predicted from (1) one of the four quality variables, (2) one of the two stability variables, and (3) the interaction between the two selected variables in an exhaustive fashion in which all combinations between the quality and stability and multiplicity were used. When these interactions proved significant, the following three:

Hypotheses

All measures of quality predicted attachment outcomes with the exception of attachment security. Stability and multiplicity may have no effect on attachment security in nonmaternal care arrangements among children during the first 15 mos. The effects of stability/multiplicity and child outcomes is of theoretical and practical importance.