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A Study of Night Waking and
Infant Crying

"What do I do to stop
baby crying?"

A thesis presented in partial fulfilment of the
requirements for the degree of Masterate in
Education at Massey University

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1977

ABSTRACT

This study investigates maternal responses to night waking and infant crying. It illustrates differences in the degree and the type of mothering that is practised with relation to

- (i) previous mothering experience
- (ii) prior and immediate circumstances surrounding the baby's cry, and
- (iii) educational level of the mother.

Two groups of mothers were interviewed: a primiparous group and a multiparous group. All mothers had babies between three and twelve weeks of age at the time of the interview. Mothers were from the Palmerston North area and surrounding environs, and were classified according to family socio-economic level, mother's education and number of other children. All mothers were given a similar interview to obtain information on

- (i) feeding style, i.e. breast or bottle
- (ii) amount of attention baby needs at night
- (iii) degree of grizzliness found in baby
- (iv) amount of help father gives
- (v) general health and temperament of baby
- (vi) ethnic group of mother and father
- (vii) what mother would do when baby wakes up and cries at night
- (viii) mother's attitude to spoiling the baby.

In order to assess what mother does when baby wakes at night, four Vignettes were prepared to hypothesis four feeding states. Each Vignette was

followed by questions on what mother would do when baby cried, and how soon she would do it. A chi-square test was applied to assess the significance of the difference between the scores of multiparous and primiparous mothers.

Observations from this survey show differences in waiting times with relation to the experience of the mother, and differences in response styles to cope with baby crying at night with relation to

- (i) mothering experience
- (ii) amount of time given to attending to basic physical or social needs
- (iii) amount of time repeatedly spent attending to basic physical needs,

and differences in feeding style with relation to the educational level of the mother.

Results of some earlier surveys are reinforced, and recommendations are made for future work on this topic.

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INTRODUCTION

The purpose of this study is primarily to investigate the methods used by mothers to stop their baby crying. The interest in this study comes from the changing attitude toward dealing with a crying baby with regard to 'spoiling' the child (Bell and Ainsworth 1967), the increased awareness of why the baby cries (Illingworth 1955, Wolff 1966, Korner 1969, Bernal 1972), the reinforcement of other social and nonsocial responses that are incompatible with crying (Parsely and Rabinowitz, 1975), and the differences in the mothering procedures of primiparous and multiparous mothers.

In 1969 Ainsworth and Bell investigated the proposition that attending to the child whenever it cried was to spoil it. The raw data used in their study consisted of narrative reports of observations and interview findings obtained on visits to the subjects' homes surveying patterns of interaction between the mother and infant in the feeding situation. The classification system used employed methods to emphasise the sensitivity of the mother to the baby's rhythms, signals, pacing and preferences. Mothers who could see things from the baby's point of view tended to adopt infant care practices which led to harmonious interaction, not only in feeding, but generally. Those babies whose behaviour both in social and feeding situations gave rise to consistently rewarding or interesting feedback tended

to cry less, to learn modes of communication other than hard expressive crying, and to gain more tolerance and more regular, predictive rhythms than babies whose behaviour made little or no difference in determining what happened to them. Ainsworth and Bell state, however, that it is reasonable to believe that it is easier for a mother to interact harmoniously with a predictable and understanding baby that reacts with pleasure rather than one that reacts with frustration and distress.

The feeding patterns which Bell and Ainsworth found most successful were those which explicitly or implicitly gratified the baby and regulated his rhythms while allowing him to take an active rather than a passive part in the feeding situation: regardless of whether demand on schedule, bottle or breast feeding was practised. The active participation was seen to facilitate the establishment of smooth and mutually gratifying mother-infant interaction. If the baby obtains favourable feedback to his signals, actions and communications, he builds up confidence in his ability to influence what happens to him. White (1963) refers to this reciprocity as the baby's experience in influencing his mother's behaviour through his own actions which it seems most likely will influence the nature of his attachment to her.

Previously, psychoanalytic writers have perceived the infant as passive in relation to his environment rather than in an active relation to it. Escalona and Sander (1962) viewed early learning as

passive and associative. Piaget sees development as an active process of assimilation and accomodation. Ainsworth (1963) cited in Child Development 40. 1969, was convinced by direct observation, that infants were very much more active and much less passively recipient than theoretical accounts portrayed them to be.

The case for crying as a communicative activity is not resolved, yet crying appears to be the primary means of early communication. It is the key note in early mother-child interaction. If baby cries, he needs his mother, and in reverse, if he does not cry, mother does not need to attend. When baby cries before mother feeds, he is participating actively in the feeding dyad. He is not a passive recipient. As a result of his crying the baby comes to see his mother's face and presence as a signal of gratification and in this way acquires a drive to be close to her and seek her attention. As his signals become longer and more expressive they are intended to evoke a response from the mother, or other attachment figure and in this light attending to the baby's cry is not spoiling the child but primarily communicating with him.

Bell and Ainsworth's (1969) studies reinforced this view. They found that infants tended to cry less frequently, to have shorter bursts of crying and to exhibit a greater variety of alternative modes of communication more frequently, with mothers who responded to their crying over the first year of life promptly. Means of communication, such as smiling,

which are incompatible with crying, were increased as crying decreased. This was confirmed by Brackbill (1958) and Etzel and Gewirtz (1967). Bell and Ainsworth found a strong relationship between infant crying and ignoring of the cries by the mothers. The more unresponsive the mother in one quarter year, the greater the increase in crying in the next quarter year. The unresponsive mother is likely to acquire a crying baby who is likely to be undeveloped in means of communication other than crying. Bell and Ainsworth established that crying could not be extinguished by ignoring since the baby must be fed, clothed etc., which would tend to reinforce the crying. What is important therefore in the crying/soothing relationship is not extinguishing the cry, but the schedule and type of intermittent reinforcement that is used.

While some mothers may ignore much crying, no mother can ignore all crying. Brackbill (1958) found that picking up, smiling and playing with the infant reinforced smiling, as a means of communication. A low proportion of reinforcement led to the maintenance of a response at a high rate that was difficult to extinguish. It is highly probable, therefore, that infants who have a high level of crying have received a low rate of intermittent reinforcement of their cries.

Although smiling and bodily gestures alongside facial expression may be an effective means of communication, close proximity is essential for their

effectiveness. Crying is not a proximal but a distal communication cue (Murray, 1975). What is becoming recognised today through the work of researchers such as those mentioned above, is that prompt response to crying makes a wide and beneficial mark on the child's early cognitive and social development, and does not constitute a cry reinforcement. Murray (1975) states that maternal responsiveness to the cry was associated with secure rather than ambivalent attachment patterns, and with greater compliance to maternal demands. Bell and Ainsworth showed that babies whose expressive crying signals had been heeded learnt that their actions did have consequences and were less likely to become 'spoiled' children, than those whose mothers ignored their cries. The mother who is responsive to distress signals is responsive to other signals as well, and is likely to spend more time socially with the baby. Whereas crying was thought to be a dependent behaviour necessary only for basic needs and not for socialisation, now it is seen to be an individualistic behaviour for social or physical need gratification. Murray (1975) refers to crying as an 'ethological' behaviour, a behaviour building character.

Wolff (1965) says that multiparous mothers and primiparous mothers respond differently to the baby's cries. Primiparous mothers will respond immediately to a cry, whereas multiparous mothers may or may not come when they hear a cry. What multiparous mothers will do on hearing a cry depends, according to Wolff, on their general style. Most experienced mothers are

guided by what has happened in the preceeding three or four hours, whereas most primiparous mothers will feed before attempting other soothing measures. Bernal (1972) produces contradictory evidence on this issue. Her findings indicate that primiparous mothers respond slower than multiparous mothers in the first ten days, and that multiparous mothers respond more by feeding than primiparous mothers. Once again, however, the fact that response is related to general strategy of the mother is emphasised, and the sequence of events in the previous three or four hours is seen as being vitally important. The only reference Wolff makes to the 'spoiling syndrome' is in relation to what he calls a 'faking cry'. The characteristic of this cry is that the baby is not distressed, but wants attention. This cry is often ignored by mothers until its intensity increases whereby a comforting gesture is employed. Illingworth (1955) refers to a cry of this type as a social or boredom cry in that moving the position of the baby, or putting the baby in a position where the mother may be observed arrests the crying. Undressing, bathing, losing a toy, being put down too soon all cause crying but seldom distress such as colic, other physical pain or hunger might cause. Bernal draws attention to the type of cry emitted also in that both the cry type and the previous relevant events are used by the mother in determining what type of response to make. Previous events are seen as being more important than cry type. Only a small

group of mothers in Bernal's sample considered the type of cry to be a determinant of their response, whereas all considered time since last feed as being an important determinant both of how to respond and how quickly to respond.

Burns, Sander, Stechler and Julia (1972) speak of the general style of the mother also, but in a slightly different way. They found that the mother needed to feel she 'knew' the baby before she knew what he needed or how to satisfy him. Burns and Sander see synchronization between intrinsic infant rhythms and the caretaking schedule as of primary importance to the establishment of a satisfactory mother-infant interaction. Crying at night is seen to be disruptive and stressful to the satisfactory development of synchronization. If the mother adapts to the baby, disorganisation both to the mother and to the household may result. This lends to the assumption that there will be a differentiation of response type and immediacy of response to crying at night from during the day. Once again differences are seen between multiparous and primiparous mothers. Multiparous mothers report less distress occurring during feeding than primiparous mothers.

Burns and Sander's (1972) synchronization concept parallels Ainsworth and Bell's (1969) mother-infant interaction syndrome and Thoman's (1974) mutuality of influence. Thoman sees the mother-infant adaptation as a dyadic feedback relationship, and lends further support to the concept of the infant having an

active rather than a passive participation in his environment. Korner and Thoman (1970) illustrate the functional notion of feedback by the example of the mother picking the baby up when he cries and the baby stopping crying and engaging in scanning of the environment. Thoman also recognises differences in maternal response with regard to primiparous and multiparous mothers. Her studies found that primiparous mothers fed more often than multiparous mothers. Research on crying relevant to this study also focuses on why babies cry, and what soothes them as distinct from how and why the mother responds. Wolff (1965), Bench (1969), Birns, Blank, Wagner and Escalona (1965) Ashton (1971) and Zelago (1975) have been important contributors here.

Wolff (1965), Eisenson (1963) and others assign the primary cause of crying to hunger, and the general acceptance by mothers of feeding as a primary pacifier bears out this assumption. Wolff states that food was the only successful pacifier for a hungry baby. Sham feeds and pacifiers to suck on did not arrest crying or induce sleep. Food introduced after sham feeds induced sleep and stopped crying within five to ten minutes after the feeding was commenced. This 'bluffing' technique had a different outcome in relation to changing nappies however, in that babies who were given a sham change, i.e. wet nappies put back on, stopped crying as did the babies who had dry nappies put back on. The babies with dry, warm nappies slept more peacefully,

and longer than those babies who were cold and damp. Coldness may therefore raise arousal level and cause irritability which in a warmer temperature would not be disturbing.

Physical pain also causes crying and Wolff puts colic under the heading of physical pain. Gastrointestinal discomfort has been found to differ from other cry types in that the pitch is higher, it is non-rhythmical and it is interspersed with shrill shrieks that have no constant configuration. Illingworth (1955) found the colic cry to be particularly distressing to mothers. He describes it as pain caused by localised collections of wind in the intestine. In 1975, Illingworth prescribed dicychomine hydrochloride as a specific treatment for the condition in that if relief did not occur then the diagnosis of colic had been incorrect. Paradise (1965), Begg (1975) and Liley (1966) all support the findings of colic being generally confined to one to three month old babies and generally occurring in the evening. Periods on the tummy, baby aspirin and holding prone over the shoulder are suggested by Paradise, Begg and Liley, as possible ways of alleviating distress.

Birns, Blank, Wagner and Escalona (1965) support the popular belief that lullabies soothe babies by the investigations they have conducted on various sounds and the effect of these sounds on the baby's arousal state. Birns, Blank Wagner and Escalona, found that a low frequency sound was a more effective inhibitor of behaviour than a high frequency sound. Music, the

hum of motors and the human voice were all found to soothe irritable babies. Wolff found that harsh sounds, such as those produced by a rattle, temporarily arrest a cry more often than pleasing sounds such as a bell, but that the effect is usually only transitory in that crying may stop for a minute and then continue. Wolff lists four major ways of intervening to stop crying - contact/comfort, such as the soothing mentioned above, feeding and pacifier sucking, and passing gas are the others. Of pacifier sucking he believes that this quiets the baby not so much because it directly answers the baby's instinctual or instinctive needs, but because it inhibits diffuse motility and interrupts the self-arousing cycle of crying and thrashing and promotes the necessary preconditions for sleep.

Murray (1975) quotes Clarke-Stewart (1973) who state that the mother who is responsive to distress signals is responsive also to other signals, and is likely to spend a great deal of time playfully stimulating her baby. This statement can be interpreted in the opposite light also in that sub-optimal mothering could occur when a mother is unresponsive to the baby's cry. Personality characteristics, attitudes toward child rearing and behaviour patterns that have been found to be associated with sub-optimal mothering have also been used to describe the child batterer who typically attacks the infant during a bout of excessive crying. This type of attitude toward crying could well be indicative of a mother who believes that attending to the baby's cry is spoiling

the baby. In this situation a total disregard would be shown for the infant's own needs and abilities, and the infant would be thought to exist primarily to satisfy parental needs. Murray states that today, the cry of a baby is a legitimate action signalling a need for contact with the mother. It is no longer seen as necessary for basic needs and not for socialisation. Ostwald (1972) emphasises the fact that crying may have unprecedented results. The cry of an infant stimulates intense emotions and evokes powerful reactions from almost everyone within earshot - not the least of whom may be the mother who cannot interpret or will not differentiate between this cry and any other.

The following survey will examine the responses of multiparous and primiparous mothers to night waking and infant crying, with reference to the research cited in the introduction. An attempt will be made to confirm or refute the observations of overseas researchers, in the light of findings from the New Zealand environment.

AIMS OF STUDY

The major purpose of the study was an investigation into the styles employed by primiparous and multiparous mothers to cope with night waking and infant crying. The hypothesis was that there are no significant differences between the styles of multiparous and primiparous mothers in the following dimensions;

- I that there is no difference in the preference of multiparous and primiparous mothers to breast or bottle feed
- II that there is no difference in the preference of multiparous and primiparous mothers to feed by routine or demand
- III that there is no difference between the grizzliness of the babies of multiparous and primiparous mothers
- IV that there is no difference between the multiparous and primiparous mothers' attitude toward spoiling
- V that there is no difference between the amount of times the babies of multiparous and primiparous mothers wake at night
- VI that there is no difference in the preference of multiparous and primiparous mothers to wait
 - (i) 5 or 10 minutes before attending to baby's cry in Vignettes I, II, III and IV
 - (ii) to wait 15 minutes before attending to baby's cry in Vignettes I, II, III or IV
 - (iii) to attend to baby's cry straight away in Vignettes I, II, III or IV

VII that there is no difference between the preference of multiparous and primiparous mothers

(i) for category A, B, C or D as the first choice to stop baby crying in Vignette I, II, III or IV

(ii) for general preference of category A, B, C or D in Vignettes I, II, III or IV

VIII that there is no difference between the preference of multiparous and primiparous mothers who choose category A for a first choice, to choose it again for a second or third choice in Vignette I, II, III or IV

IX that there is no difference between the numbers of primiparous and multiparous mothers choosing category A once, twice or three times or not at all in Vignettes I, II, III or IV

X that there is no difference between the educational level of the mother and the preference for a breast or bottle feeding method.

A chi-square test for homogeneity was applied to all of these results.

SUBJECTS AND INSTRUMENTATION

Subjects. The subjects used for this investigation were mothers from Palmerston North, Feilding and Ashhurst with babies between three weeks and three months of age. Selected babies were those classified as generally healthy by the mother and with no sickness at the time of the interview.

Approximately one hundred mothers were selected from hospital rolls, and grouped into either an experienced or an inexperienced group. The experienced group consisted of those mothers with an infant under three months, and with other children. These were called the "multiparous" mothers. The inexperienced group were those mothers with an infant under three months and no other children. These were called the "primiparous" mothers. There were 50 mothers in each group to begin with but attrition due to some testing difficulties reduced the latter group to 40.

The revised socio-economic index for New Zealand compiled by Elley and Irving (1976) was used to establish two broad socio-economic groups. Families in scales 1, 2 and 3 of this scale were grouped together, and families in scales 4, 5 and 6 also grouped together. Evidence of whether the mother had any higher education was also collected, since the socio-economic scale concentrates on the husband's rather than the wife's education level. Each mother was asked all questions on the "night waking and infant crying" questionnaire (Appendix 1) and the same order followed for each interview. Some allowance for slight

differences in sentence structure was made in order to establish an easy rapport with the subject so that the subject felt at ease and answered freely and honestly to each crying situation portrayed. The general format and the essence of each question, however remained the same.

Instrument. The instrument used for the investigation was the interview schedule inserted in Appendix 1. Because the purpose of the study is to investigate what the mother does when her baby cries, if she does anything, and how long she takes to do it, it was necessary and integral that the state of the baby be identified. The mother was therefore told that the baby was crying, and then given a specific state related to the time since the baby's last feed. This allowed for the baby to be hypothetically hungry and hypothetically not hungry. In three of the situations the feeding time prior to crying had been satisfactory, in the last situation the feed had been unsatisfactory. Vignette I dealt with crying straight after feeding. Vignette II dealt with crying half an hour after feeding. Vignette III dealt with crying three hours after feeding and Vignette IV dealt with an unsatisfactory feed. Mothers were asked for their first, second and third choices of action to stop crying with each Vignette.

There was only one variable relating to the feeding situation which automatically assumed cognisance in the mother's reply, and that was whether the baby had been bottle or breast fed. Since the mother was

asked to reply to the Vignettes in the light of what she would do in her particular case, it was assumed that her answers were relevant to whether she breast or bottle fed her baby. This information from the interview sheet will be commented on later, as will age of mother and father, number of other children, race, feeding style and grizzliness/night waking cycle of baby and mother's attitude to spoiling.

The only time distinction made was that of the broad category of night and day. The mothers in the survey should have been well aware of the night feeding routine since they would have been either still in it, or would have very recently passed out of it because of the age of their baby. The limitations of the interview technique must be remembered. Mothers were interviewed during the day, away from the stress of a night-waking situation. If the questions asked were hypothetical, because baby did not wake, then the 'stressfulness' of the situation would be further eliminated.

Built into the interview schedule alongside the rating for maternal sensitivity was a factor rating for speed of maternal response. This was gauged by asking the mother whether she responded immediately, and if not how long she was prepared to wait before responding. This was asked in each one of the four hypothetical hunger states in order to determine which type of cry mother responded to most quickly and which was most readily ignored.

GENERAL RESULTS FROM PRIMIPAROUS
AND MULTIPAROUS MOTHERS

Age of mothers and fathers. The mean age of primiparous mothers was 26, the mean age of the father was 29. This may appear high, yet the mean age of mothers with higher education having their first child was 29, and of their husbands was 33.

The mean age of mothers with five or six children was 31 and 32 for their husbands. Of mothers having their second child 26, and 27 for their husbands. However, this is only a three month sample; and a winter sample also.

Breast feeding, bottle feeding mothers. In the multiparous group, thirty three of the fifty subjects were breast feeding, whereas in the primiparous group twenty six out of the forty were breast feeding. Table One illustrates this and shows the significance of these numbers.

TABLE ONE

NUMBERS OF MULTIPAROUS AND PRIMIPAROUS
MOTHERS BREAST OR BOTTLE FEEDING

	PRIMIPAROUS	MULTIPAROUS	TOTAL
BREAST FEED	26	33	59
BOTTLE FEED	14	17	31
TOTAL	40	50	90

$$\chi^2(1) = .0092 \text{ which is not significant}$$

Table Two shows the numbers of mothers in the multiparous group and primiparous group combined who breast and bottle fed and relates this to the educational level of the mother.

TABLE TWO

NUMBERS OF MOTHERS WITH AND WITHOUT
HIGHER EDUCATION WHO ARE
BREAST/BOTTLE FEEDING

	HIGHER EDUCATION	NIL HIGHER EDUCATION	TOTAL
BOTTLE FEED	4	28	32
BREAST FEED	29	29	58
TOTAL	33	57	90

$\chi^2(1) = 12.50$ which is significant at the .001 level

Routine or demand. In both the multiparous and primiparous groups there was an overwhelming number of mothers feeding on demand. In the primiparous group nine mothers were feeding to routine, all of whom were bottle feeding. In the multiparous group all but two mothers were demand feeding. The two multiparous mothers who were routine feeding were both working with father taking an equal share of the mothering. No relation was found between feeding method and age of baby in either the multiparous or the primiparous group. The table

below illustrates the significance of the above data.

TABLE THREE

NUMBER OF MULTIPAROUS AND PRIMIPAROUS
MOTHERS DEMAND AND ROUTINE FEEDING

FEEDING STYLE	MULTIPAROUS	PRIMIPAROUS	TOTAL
ROUTINE	2	9	11
DEMAND	48	31	79
TOTAL	50	40	90

$\chi^2(1) = 7.09$ which is significant at the .01 level.

Night waking. Babies waking two or three times a night in the primiparous group were all breast fed babies, with an average age of three weeks. However of all breast fed babies in the primiparous group the greatest percent rarely woke at night (53%) and none woke two or three times a night. Table Four shows raw data for multiparous and primiparous babies waking rarely at night and two or three times a night.

TABLE FOUR

	MULTIPAROUS	PRIMIPAROUS	TOTAL
WAKING RARELY	27	16	43
WAKING OFTEN	21	19	40
WAKING A LOT	2	5	7
TOTAL	50	40	90

$\chi^2(2) = 3.13$ not significant at the 0.05 level.

Solids. In the primiparous sample, 27% of mothers were giving solids - an equal number of these babies were breast and bottle fed. The average age was 7½ weeks.

In the multiparous sample, 42% of mothers were giving solids. Of these babies 75% were bottle fed. The mean age of babies having solids was 8.0 weeks.

Grizzliness. Very few of the multiparous mothers babies grizzled. (Seventy-two percent very rarely), and those that did, tended to grizzle in the evenings (18 percent) of those, 77 percent were breast fed. Table 5 summarises the results of the grizzliness scale for babies of multiparous and primiparous mothers, and relates grizzliness to the type of feeding method employed.

TABLE FIVE

MULTIPAROUS AND PRIMIPAROUS BABIES RARELY
GRIZZLY AND GRIZZLY AT NIGHT

	MULTIPAROUS	PRIMIPAROUS	TOTAL
RARELY GRIZZLY	36	24	60
GRIZZLY AT NIGHT	14	16	30
TOTAL	50	40	90

$$\chi^2(1) = 1.41, \text{ which is not significant}$$

The largest percent in the grizzliness scale of primiparous mothers was also for babies being very rarely grizzly - 55 percent. (See Table 5). Next

highest was grizzliness in the evening period (31 percent). Breast fed babies on the whole in the primiparous sample were less grizzly (28 compared with 27 percent bottle fed grizzly babies) although more breast fed babies were grizzly in the evening (18 percent compared with 13 percent). Of the two percent reported as being grizzly all the time in the primiparous group, all were breast fed. The mean age of primiparous babies rarely grizzly was 6 weeks whereas the mean age of primiparous babies grizzly in the evening 7.5 weeks. Of those primiparous babies grizzly in the evening, 50 percent had very little help from fathers, 25 percent had occasional help, 17 percent had fathers who helped when asked and only 8 percent had fathers who helped a lot. Of the fathers who helped very little, 67 percent were of bottle-fed babies. However, the 8 percent of fathers who helped a lot had bottle-fed babies. Those fathers who helped occasionally and when asked, had breast-fed babies.

Of those multiparous babies which were grizzly in the evening no mothers had husbands who helped them a lot. A few helped when asked.

Response to cry/attitude toward spoiling. Of the babies reported as being very rarely grizzly in the primiparous sample, 77 percent of mothers were always responsive to the baby crying, and only 15 percent were recorded as being afraid of spoiling the baby. In the primiparous mothers sample, 54 percent are always responsive to baby's cry and 15 percent are afraid of spoiling. Of those afraid of spoiling, 83 percent had

had no formal higher education.

Only two multiparous mothers were afraid of spoiling and both of those had only one other child. The highest percentage fall in category three of responding to the baby's cry, but inconsistently (50 percent), most stated that the degree and type of response they gave was dependent on the degree and type of cry they heard. A grizzle was ignored. A distress cry was attended to. Table Six illustrates these results.

TABLE SIX

ATTITUDE TOWARDS SPOILING OF MULTIPAROUS
AND PRIMIPAROUS MOTHERS

	MULTIPAROUS	PRIMIPAROUS	TOTAL
AFRAID OF SPOILING	2	6	8
NOT AFRAID OF SPOILING	48	34	82
TOTAL	50	40	90

$\chi^2(1) = 3.30$ which is not quite significant at the
.05 level

General health. All babies were reported as healthy by all mothers. Although 89 percent of babies rarely woke at night, it was found that babies aged between two and five weeks tended to wake at least once a night, whereas older babies (six to twelve weeks) tended to wake rarely at night.

Baby rating. In the baby rating scale all primiparous mothers except one rated baby as either very good and easy going or very good most of the time. The mother who said baby was difficult was bottle feeding on demand in the higher socio-economic status group and baby's father helped a lot. Baby was three weeks old. Percentage of babies rated as very good was 46, with 54 rated as good most of the time. Of the routine-fed babies, 50 percent were in each of the good/very good group. Of the bottle-fed babies, 54 percent were given high rating and 46 percent second highest rating. Of the breast-fed babies, 42 percent given highest rating and 57 percent next highest rating.

In the multiparous sample, all babies were rated as either very good and easy going, or very good most of the time. Percentage of babies rated as very good was 66 percent while 34 percent were rated as good most of the time. Of those rated very good, 61 percent were breast fed. Of those reported as good most of the time, 70 percent were breast fed.

Ethnic groups. Only an eighth of the group classified themselves as Polynesians and of those, none reported the baby as hearing any other language than English spoken in the home. The differences between the cultures were therefore not considered significant.

Father help. In the primiparous group 70 percent of fathers belonged in the highest S.E.S. group, although this is only 28 percent of the fathers in this group. An equal percentage from each S.E.S. group helped only when asked and 25 percent helped very little. In the

lower S.E.S. group, all of those who helped a lot helped with bottle-fed babies, which differs from the general picture of baby help. Sixty-five percent of this group helped very little.

In the multiparous group, 54 percent of fathers helped very little at night, and 18 percent helped occasionally but unreliably. Only four fathers helped a lot at night, and this help was equally divided between breast and bottle fed babies. Fifty-two percent of fathers help very little during the day, but eight fathers are reported as helping a lot during the day - five of breast-fed, three of bottle-fed babies. In the upper S.E.S. group, which contain 38 percent of the fathers, 52 percent rarely help at night, 26 percent help when asked, and 11 percent fall into helping occasionally and helping a lot categories. In the lower S.E.S. group, 41 percent rarely help, 32 percent help when asked, 19 percent help occasionally, and 6 percent help a lot.

RESULTS OF MULTIPAROUS AND PRIMIPAROUS
MOTHERS TO VIGNETTES

Responses to the questions following each Vignette were divided into four categories.

Category A: attention to basic physical needs comprised feeding, winding, changing nappies, checking if baby was hot or cold.

Category B: attention to social needs, comprised rocking, cuddling and soothing, playing and talking with, taking to bed, letting kick, putting on tummy, dancing with or singing to, lying on knee, walking round with baby on shoulder, rubbing baby's back and bathing.

Category C: seeking help and giving medication including ringing a friend, ringing Doctor or Plunket, taking baby's temperature, giving boiled water or Dinnifords or Disprin.

Category D: ignoring or isolating baby by putting into another room, shutting door, letting baby cry or giving a dummy and leaving.

Table Seven shows the numbers of multiparous and primiparous mothers choosing each of the above responses to Vignette I, II, III, and IV. In Table Eight, we see the time mothers' waited before answering baby's cry in Vignettes I, II, III, and IV. In Table Nine mothers' response categories to Vignettes I, II, III, and IV are shown. In Table Ten we see what those mothers who chose category A as a first choice, would choose as a second and third choice for each

TABLE EIGHT

WAITING TIMES OF MULTIPAROUS AND
PRIMIPAROUS MOTHERS IN VIGNETTES

(a) VIGNETTE I

	MULTI.	PRIMI.	TOTAL
Attend straight away	5	5	10
wait 5-10 minutes	35	31	66
wait 15 minutes	10	4	14
TOTAL	50	40	90

$\chi^2(2) = 1.5$, which is not significant at the .05 level.

(b) VIGNETTE II

	MULTI.	PRIMI.	TOTAL
Attend straight away	8	12	20
wait 5-10 minutes	30	23	53
wait 15 minutes	12	5	17
TOTAL	50	40	90

$\chi^2(2) = 3.8$, which is not significant at the .05 level.

(c) VIGNETTE III

	MULTI.	PRIMI.	TOTAL
Attend straight away	24	24	48
wait 5-10 minutes	23	16	39
wait 15 minutes	3	0	3
TOTAL	50	40	90

$\chi^2(2) = 2.52$, which is not significant.

(d) VIGNETTE IV

	MULTI.	PRIMI.	TOTAL
Attend straight away	20	20	40
wait 5-10 minutes	20	20	40
wait 15 minutes	10	0	10
TOTAL	50	40	90

$\chi^2(2) = 9.1$, which is significant at the .02 level.

TABLE NINE

RESPONSES OF MULTIPAROUS AND PRIMIPAROUS
MOTHERS TO VIGNETTES I, II, III AND IV

VIGNETTE I

9 (ai) 1st choice

(aii) Cumulative choice

CAT.	MULTI.	PRIMI.	TOTAL	CAT.	MULTI.	PRIMI.	TOTAL
A	39	27	66	A	85	50	135
B	6	13	19	B	28	54	82
C	0	0	0	C	13	11	24
D	5	0	5	D	24	5	29
TOTAL	50	40	90	TOTAL	150	120	270

$$\chi^2(3) = 5.95$$

$$\chi^2(3) = 13.92$$

VIGNETTE II

9 (bi) 1st choice

(bii) Cumulative choice

CAT.	MULTI.	PRIMI.	TOTAL	CAT.	MULTI.	PRIMI.	TOTAL
A	37	28	65	A	82	53	135
B	8	12	20	B	27	54	81
C	1	0	1	C	19	13	32
D	4	0	4	D	22	0	22
TOTAL	50	40	90	TOTAL	150	120	120

$$\chi^2(3) = 6.46$$

$$\chi^2(3) = 36.12$$

Table Nine cont'd

VIGNETTE III

9 (ci) 1st choice

(cii) Cumulative choice

CAT.	MULTI.	PRIMI.	TOTAL	CAT.	MULTI.	PRIMI.	TOTAL
A	43	30	73	A	109	48	157
B	2	10	12	B	11	49	60
C	3	0	3	C	14	23	37
D	2	0	2	D	16	0	16
TOTAL	50	40	90	TOTAL	150	120	270

$$\chi^2(3) = 8.51$$

$$\chi^2(3) = 63.55$$

VIGNETTE IV

9 (di) 1st choice

(dii) Cumulative choice

CAT.	MULTI.	PRIMI.	TOTAL	CAT.	MULTI.	PRIMI.	TOTAL
A	44	26	70	A	91	45	136
B	5	14	19	B	15	48	63
C	1	0	1	C	21	26	47
D	0	0	0	D	23	1	24
TOTAL	50	40	90	TOTAL	150	120	270

$$\chi^2(3) = 10$$

$$\chi^2(3) = 52.056$$

TABLE TEN

SECOND AND THIRD CHOICES OF THOSE MULTIPAROUS
AND PRIMIPAROUS MOTHERS CHOOSING CATEGORY A
AS A FIRST CHOICE TO STOP BABY CRYING

VIGNETTE I

(ai) Second choice

(dii) Third choice

CAT.	MULTI.	PRIMI.	TOTAL	CAT.	MULTI.	PRIMI.	TOTAL
A	21	9	30	A	13	2	15
B	11	16	27	B	10	16	26
C	3	2	5	C	11	8	19
D	4	0	4	D	5	1	6
TOTAL	39	27	66	TOTAL	39	27	66

$\chi^2(3) = 8.95$, significant
at the 5% level.

$\chi^2(3) = 6.78$ not significant.

VIGNETTE II

(bi) Second choice

(bii) Third choice

CAT.	MULTI.	PRIMI.	TOTAL	CAT.	MULTI.	PRIMI.	TOTAL
A	22	11	33	A	13	3	16
B	12	16	28	B	7	17	24
C	1	1	2	C	8	8	16
D	2	0	2	D	9	0	9
TOTAL	37	28	65	TOTAL	37	28	65

$\chi^2(3) = 4.44$ not significant. $\chi^2(3) = 20.45$, significant
at the 1% level.

Table Ten cont'd

VIGNETTE III

(ci) Second choice

(cii) Third choice

CAT.	MULTI.	PRIMI.	TOTAL	CAT.	MULTI.	PRIMI.	TOTAL
A	32	17	49	A	23	3	26
B	7	11	18	B	2	14	16
C	2	2	4	C	9	13	22
D	2	0	2	D	9	0	9
TOTAL	43	30	73	TOTAL	43	30	73

$$\chi^2(3) = 6.56$$

$$\chi^2(3) = 30.3$$

VIGNETTE IV

(di) Second choice

(dii) Third choice

CAT.	MULTI.	PRIMI.	TOTAL	CAT.	MULTI.	PRIMI.	TOTAL
A	31	9	40	A	11	1	12
B	7	16	23	B	3	14	17
C	3	1	4	C	14	11	25
D	3	0	3	D	16	0	16
TOTAL	44	26	70	TOTAL	44	26	70

$$\chi^2(3) = 14.24$$

$$\chi^2(3) = 28.44$$

TABLE ELEVEN

NUMBER OF MULTIPAROUS AND PRIMIPAROUS MOTHERS
CHOOSING CATEGORY A ONCE, TWICE, THREE TIMES
OR NOT AT ALL IN EACH VIGNETTE

VIGNETTE I

(a)

NUMBER OF CHOICES	MULTI.	PRIMI.	TOTAL
0	3	2	5
1	17	28	45
2	26	8	34
3	4	2	6
TOTAL	50	40	90

$\chi^2(3) = 12.26$, which is significant at the .01 level.

VIGNETTE II

(b)

NUMBER OF CHOICES	MULTI.	PRIMI.	TOTAL
0	2	1	3
1	20	25	45
2	18	12	30
3	10	2	12
TOTAL	50	40	90

$\chi^2(3) = 7.35$, which is not significant at the .05 level.

VIGNETTE III

(c)

NUMBER OF CHOICES	MULTI.	PRIMI.	TOTAL
0	0	0	0
1	15	23	38
2	20	14	34
3	15	3	18
TOTAL	50	40	90

$\chi^2(3) = 10.61$, which is significant at the .02 level.

VIGNETTE IV

(d)

NUMBER OF CHOICES	MULTI.	PRIMI.	TOTAL
0	3	2	5
1	19	27	46
2	22	11	33
3	6	0	6
TOTAL	50	40	90

$\chi^2(3) = 12.27$, which is significant at the .01 level.

Vignette. Table Eleven looks at the number of multiparous and primiparous mothers choosing category A once, twice, three times, or not at all in each Vignette.

Vignette I and II. The most common cycle in Vignette I was change, Dinnifords, then wind, then seeing that baby is still crying to feed again and if that does not work well, try it again or leave to cry and sleep. Baby is tired. Feeding is the most common resort. In Vignette I winding is tried before refeeding, since baby has only just been put down, whereas in Vignette II rocking is tried before refeeding. Since presumably baby has been asleep after a satisfactory feed before waking and the chances are, he will sleep again if rocked gently. If baby is not in a place where he can be rocked, then cuddling and walking with, is the alternative. Very few final measures occur in Vignette I and II such as those occurring in Vignette III, with the unsatisfactory feed. Mothers respond to crying by 'letting go to sleep on nipple', 'gently rocking', 'singing softly', 'walking round with baby cuddled on shoulder', all rather peaceful, contented and comfortably confident remedies. Those mothers who have thought seriously that something may be wrong, have indicated that the type of cry is the key factor in deciding whether baby is sick, and whether outside help should be called.

With regard to multiparous mothers, Vignette I (see Table 4) has 39 mothers winding, feeding or changing as a first choice. Feeding, winding and

changing are also the second choice along with 11 mothers who cuddle and soothe. Finally, 15 multiparous mothers let cry, and the others return to the feeding-winding-changing cycle or giving Dinnifords. Only 17 multiparous mothers cuddle as a last resort, whereas 25 primiparous mothers cuddle as a final measure. In Vignette II the pattern is basically the same, with a slightly heavier loading on category one than Vignette I had.

Vignette III. In the multiparous group, Vignette III has an overwhelming response to the feeding cycle. Feeding is first choice for 43 multiparous mothers, second choice for 39 multiparous mothers and third choice for 27 multiparous mothers. This Vignette has less attention to social needs and more attention to physical needs. This is to be expected, since it is three hours since the last feed. In Vignette III, since three hours after feed is obviously feed time, 30 of the 40 primiparous mothers would feed first, and most continue to feed, wind or change to stop the crying. Ten primiparous mothers cuddle or talk to first. Soothing is the largest second choice and ringing for help the largest third choice. Putting back to bed after a feed and leaving, picking up, rocking and cuddling (19 primiparous mothers), and calling Plunket or Doctor (20 primiparous mothers) are equally popular as final choices. In this group are also someone letting baby kick on floor, and someone recommending a bath for settling. If baby does not settle after a feed, it appears that most primiparous

mothers would choose to feed baby again, or let baby socialise for a while and then baby will settle.

Although it is obvious that this is feed time, some mothers will still change, wind, pat on back or talk to in cot before feeding, although most will change after feeding, before putting down. No mother left feeding, or an attempt to feed out of her reply. Very few mothers see a 'final resort' as being necessary, since the baby is simply fed until satisfied and happy, then put down.

Vignette IV. Vignette IV has the greatest percentage of multiparous mothers seeking help of all questions. If baby has been fed unsatisfactorily, then the response is to feed, wind, change again. If this, does not work, then it is probable that baby is sick, and Doctor will be rung, usually the next morning.

In Vignette IV the most common first choice for primiparous mothers is feeding followed by winding (26 primiparous mothers). All others would cuddle and soothe baby. Soothing is the most common second choice, followed by refeeding. It is seen however, that this question raises a problem, and more final resorts are listed here than for any other question, 24 primiparous mothers would ring Doctor or Plunket in this situation, and 17 multiparous mothers would leave baby to cry. Of the final resorts, the most common are rocking and cuddling to sleep, feeding, leaving/ignoring, giving Dinnifords and ringing Plunket or Doctor.

One primiparous mother in Vignette IV leaves the baby to cry, or puts baby into another room. One talks

to husband and one continues to wind. It is interesting to note how the breast is used as a comforter as well as a feeder - baby put back to breast continually - if not hungry, then gets comfort. If hungry, can eat.

Waiting times. In Vignette I, the most common response for both multiparous and primiparous mothers is to wait five or ten minutes before attending to baby's cry. Multiparous mothers are more likely to wait 15 minutes than primiparous mothers.

A similar pattern applies for Vignette II. In Vignette III 50 percent of the mothers in each group will respond straight away, this is obviously a feed time, and less will wait 15 minutes here than in any other Vignette. In Vignette IV, equal numbers will either attend straight away or wait five or ten minutes. Ten multiparous mothers will wait 15 minutes, but no primiparous mothers will wait this long before attending to baby's cry. Table 8 (a), (b), (c) and (d) illustrate these results.

DISCUSSION OF RESULTS FROM MULTIPAROUS
AND PRIMIPAROUS MOTHERS

- I. that there was no difference in the preference of multiparous and primiparous mothers to breast or bottle feed.

Table One presents a chi square which is not significant. In other words, there is no difference between the preferences of multiparous and primiparous mothers to breast or bottle feed.

- II. that there was no difference in the preference of multiparous and primiparous mothers to feed by routine or demand.

In Table Three, $\chi^2(1) = 7.09$, which is significant at the .01 level. In other words, there is a significant difference between the multiparous mothers and the primiparous mothers with regard to feeding routines. The proportion of multiparous mothers who feed on demand was 48/50 or 36% whereas for primiparous mothers it was 31/40 or 77.5%. We may assume therefore, that multiparous mothers prefer to feed to demand whereas primiparous mothers are more likely to feed to a routine.

- III. that there was no difference between the grizzliness of multiparous and primiparous babies.

In Table Five $\chi^2(1) = 1.41$. Therefore there was no significant difference between the grizzliness of multiparous and primiparous babies.

- IV. that there was no difference between the

multiparous and primiparous mothers' attitude toward spoiling.

Table Six illustrates that $\chi^2(1) = .10$.

We may assume, therefore that the ratios are the same and that primiparous mothers are no more afraid of spoiling than multiparous mothers.

- V. that there was no difference between the amount of times the babies of multiparous or primiparous mothers wake at night.

In Table Four $\chi^2(2) = 3.13$. There is no significant difference, therefore between multiparous and primiparous babies and the number of times they wake at night.

- VI. that there was no difference in the preference of multiparous and primiparous mothers to wait five, ten or fifteen minutes before answering baby's cry, or to answer it straight away, as seen in Vignettes I, II, III and IV.

In Table Eight (a), (b), (c), $\chi^2(2) = 1.5$, 3.8 and 2.5 respectively. There is not a significant difference, therefore, between the amount of time multiparous and primiparous mothers wait before attending to baby's cry at night. Table Eight (d) gives $\chi^2(2) = 9.1$, which is significant at the .02 level. The number of multiparous mothers waiting fifteen minutes is 10/50 or 20%, whereas there are no primiparous mothers waiting 15 minutes. In other words, multiparous mothers will often wait for at least 15 minutes before attending to

baby's cry when a feed has been unsatisfactory, whereas primiparous mothers will very rarely wait 15 minutes before attending.

- VII. (i) that there was no difference between the preference of multiparous and primiparous mothers for category A, B, C, or D as a first choice in either Vignette I, II, III or IV.

In Table Nine (a) and (b), $\chi^2(3) = 6$ and 6.46 respectively. We may assume, therefore that in Vignette I and II there is no significant difference between the category preference of multiparous and primiparous mothers. Table Nine (c) has $\chi^2(3)$ of 8.5, which is significant at the .05 level. The number of multiparous mothers choosing category B is 2/50, or 1% whereas the number of primiparous mothers choosing category B is 10/40 or 25%. From this, we may assume that primiparous mothers are far more likely to attend to baby socially than are multiparous mothers, as baby is not going to be fed.

In Table Nine (di), $\chi^2(3) = 10$, which is significant at the .025 level. Once again, primiparous mothers show a tendency to soothe baby, whereas multiparous mothers prefer to attend to basic physical needs.

Table Nine (aii), (bii), (cii) and (dii) has $\chi^2(3) = 13.92, 36.12, 63.55$ and 52.05, for Vignettes I, II, III and IV respectively. All of these are significant at the .001 level. In

each Vignette, the differences occur in the preference for categories B and D.

(ii) in Vignette I there are 54/120 choices for category B by primiparous mothers and only 28/150 choices for category B by multiparous mothers. Also, there are only 5/120 choices by primiparous mothers for category D, and there are 24/150 choices by multiparous mothers for category D. This pattern is followed in Vignettes II, III and IV and indicates that there is a very significant difference over all between the styles of primiparous and multiparous mothers. Multiparous mothers prefer to leave baby to cry to sleep after basic needs have been attended to, whereas primiparous mothers prefer to pick baby up and cuddle and talk to it, rather than let it cry.

VIII. that there is no difference between the preference of multiparous and primiparous mothers who choose category A as a first choice, to choose it again for a second or third choice.

In Table Ten (a) $\chi^2(3) = 8.95$, which is significant at the .05 level. Vignette I has a significant number of multiparous mothers leaving baby to cry 4/39, as compared with nil for primiparous mothers. There is also a significant number of primiparous mothers (16/27) preferring to attend to social needs as a second choice whereas only 11/39 multiparous mothers choose to attend to social needs. The

third choice shows an insignificant $\chi^2(3)$ of 6.78.

Vignette II shows an insignificant (3) of 4.44 for second choices of those who chose category A as a first choice. The third choice of Vignette II shows $\chi^2(3) = 20.45$, significant at the .001 level. In Vignette II we see that 13/37 multiparous mothers choose to refeed, whereas only 3/28 primiparous mothers choose to refeed, wind or change nappies. Primiparous mothers show a preference for category B (17/28) whereas only 7/37 multiparous mothers would choose to talk to or cuddle baby as a third choice.

In Table Ten (c) $\chi^2(3) = 6.56$ for second choice, which is not significant, and $\chi^2(3) = 30.3$ for the third choice in Vignette III, which is significant at the .001 level. With regard to third choices, therefore, there is a distinct difference in style between what a primiparous and what a multiparous mother would do to stop baby crying. Whereas 23/43 multiparous mothers would choose to attend to basic physical needs, only 3/30 primiparous mothers would attend to physical needs.

Most would attend to social needs (14/30), or ring Plunket or Doctor for help (13/30). No primiparous mothers would leave baby to cry to sleep, whereas 9/43 multiparous mothers would let baby cry to sleep.

Table Ten (d) has $\chi^2(3) = 14.24$ for second choice and 28.44 for third choice. Both are significant to the .001 level. Vignette IV is the hypothetical unsatisfactory feeding situation. It would appear that the more the baby cries, the more frantic the mother becomes and therefore the difference in behaviour between the multiparous and primiparous group is accentuated.

The results for Vignette IV show a similar pattern to the other Vignettes. Primiparous mothers show a significant preference to soothe and cuddle, whereas multiparous mothers attend primarily to physical needs and then either give medication, or let baby cry to sleep. Few will keep baby up rocking or cuddling until baby falls asleep.

There is an important peripheral point to bear in mind when interpreting these results. An unaware reader may assume that multiparous mothers do not care to cuddle baby and will let baby cry because they are hardened to the noise. However, many multiparous mothers stated that whether they left baby to cry, depended on the type of cry they heard, and they would not put baby down if he was unsettled. If baby continued crying they would ring Doctor in the morning. However, they had to limit the amount of time they could spend giving baby undivided attention because of the needs of others in the

household.

IX. that there is no difference between the numbers of primiparous and multiparous mothers choosing category A once, twice, three times or not at all in Vignettes I, II, III and IV.

In Table Eleven (a), $\chi^2(3) = 12.26$, which is significant at the .01 level. In other words, primiparous mothers show a tendency to attend to basic needs once (28/40) whereas multiparous mothers will generally try it twice (26/50). Also, four multiparous mothers continued to try winding feeding or changing to stop baby crying, whereas only two primiparous mothers will try this. In Vignette II $\chi^2(3) = 7.3$, which is not significant. In Vignette III and IV $\chi^2(3) = 10.62$ and 12.3 respectively, which are significant at the .02 and .01 levels. Once again the trend is for primiparous mothers to try to stop baby crying whereas multiparous mothers will try category A two or even three times. In both Vignette III and Vignette IV, numbers of multiparous mothers employing category A two and three times exceeds the expected, whereas numbers of primiparous mothers choosing category A two or three times falls well short of the expected number. This further supports the findings related to Table Ten, where primiparous mothers showed a tendency to attend to baby socially in order to stop baby crying, whereas multiparous mothers would attend

to baby's physical needs to stop the crying.

X. that there was no significant difference between the educational qualification of the mother and the preference for breast or bottle feeding.

Table Two shows a significant preference for mothers with higher education to breast feed and for mothers without higher education to bottle feed. $\chi^2=8.0$, which is significant to the .001 level.

The major purpose of the study was to investigate the styles employed by primiparous and multiparous mothers to cope with night waking and infant crying. The hypothesis was that there were no significant differences between the styles of multiparous and primiparous mothers. The above results show that there are significant differences between the styles of multiparous and primiparous mothers when coping with night waking and baby crying. Regardless of the time since feeding, or the satisfactory or unsatisfactory nature of the feed, both primiparous and multiparous mothers will attend first to baby's physical needs. The significant differences in the styles of the two groups of mothers appears after it is apparant that feeding winding and changing has not settled baby. When this occurs, primiparous mothers show a significant preference for cuddling, talking to, or walking round with baby, whereas multiparous mothers show a significant preference for refeeding, winding and changing, or leaving baby to cry.

As the Ainsworth and Bell (1969) studies studied infants over the first year of life, it would be invalid to compare results from this questionnaire survey of babies between three weeks and three months of age. Bell and Ainsworth (1969) found that mothers who responded promptly to crying, had infants who tended to cry less. Results from this survey show that most mothers, whether multiparous or primiparous, respond promptly to their baby's cry at night. However, 77 percent of primiparous mothers who were always responsive to their baby crying reported that their babies were very rarely grizzly, and 82 percent of multiparous mothers who were always responsive had babies who were rarely grizzly.

Bell and Ainsworth (1969) do not state whether mothers are primiparous or multiparous. The present survey found that whereas most (77 percent) primiparous mothers were always responsive, most (50 percent) multiparous mothers responded inconsistently to the baby's cry. It was found that primiparous mothers are more responsive than multiparous mothers to the baby's cry. Primiparous mothers are more afraid of spoiling than multiparous mothers (Table Six). This difference appears to be explained by the fact that multiparous mothers distinguish between 'fake' cries (Wolff 1967) and real cries and attend only to the real cries demanding fulfilment of basic physical needs. Multiparous mothers state that the only persistent cries at night, are those relating to physical needs. Cries relating to social needs are usually inconsistent

at night, and are not reinforced by attention. Since those mothers who always attend, and those mothers who attend to cries only when necessary both report to have rarely grizzly babies, it could be hypothesised that the degree of attention given to the baby's cry, is dependent on the mother's general style of mothering.

If the response pattern that the mother employs whatever it be, suits both her and baby, then satisfactory synchronization of mother/baby rhythms, and signals will result. This would lend support to Ainsworth and Bell's (1969) statement that "feeding practices which have as their objectives explicitly or implicitly both the gratification of the baby and the regulation of his rhythms seem to succeed". It also substantiates Wolff's (1965) view that what the mother does when she hears a cry depends on her general style.

Mother child interaction dyad related to multiparousness and primiparousness. Wolff (1965) states that most experienced mothers depend on knowledge of prior circumstances for their type of response. The results above would confirm this view. Multiparous mothers will not attend to a cry at night unless it is time for a feed, or unless baby has previously been unsettled or sick. There is one aspect of Wolff's (1965) work and Thoman's (1970) work that the present survey does not confirm. Wolff and Thoman state that most primiparous mothers will feed before attempting other soothing measures. The present survey (see Table 8) found that it was multiparous mothers who fed before

attempting to soothe (see Table 8) whereas primiparous mothers often talked to, cuddled, rocked or picked up and soothed before feeding as a second or third choice. This occurred even when it was three hours since the last feed; an obviously feed-first situation to multiparous mothers.

Bernal's (1972) findings contradicted Wolff's findings in a similar way. She found that multiparous mothers responded more by feeding than primiparous mothers, and also that the sequence of events in the previous three or four hours was vitally important. Multiparous and primiparous differences in responses to night waking as seen in Vignettes. As stated earlier, the answers to the questions displayed differences of action in response to cries, in relation to mothering experience, which support Wolff's and Bernal's hypothesis that distinct differences exist between the responses of multiparous and primiparous mothers.

Brackbill (1958) found that picking up, smiling and talking to baby reinforced smiling as a means of communication and he states that it is highly likely that babies who cry a lot have received little reinforcement for smiling. In the multiparous sample, few mothers spend as much time comforting and smiling to babies as in the primiparous sample, yet there is no significant difference between the grizzliness of multiparous and primiparous babies (.47 and .94). It is possible that babies in the Brackbill study who cried a lot were doing so because their basic physical

needs were not being successfully met rather than that their basic social needs were not being successfully met. It is necessary to bear in mind that a new mother will probably be far more aware of grizzliness than a multiparous mother, since for the new mother, this is a new type of behaviour to accommodate to. We cannot ascertain how compatible a 'grizzly' response is to a multiparous and a primiparous mother. There appears to be one principal difference between the primiparous and the multiparous mothers, and that is the fact that multiparous mothers are concerned with attending quickly and efficiently to the baby's physical needs. Multiparous mothers replies for all Vignettes are predominately feed, then wind, feed, then wind, feed, leave.

Multiparous mothers attend principally to physical needs whatever the time, or circumstances behind the babies' waking. The majority will wind first, then change nappies, and feed. Often these are classed as a single activity of making comfortable. So the mother may list two or three things she would attend to first, such as picking up, winding, checking baby was not too cold or hot, changing, etc. Feeding is usually following or accompanied by winding and changing and a few social activities, then if baby does not settle, a few social needs are attended to, medication may be given and more often than not baby will be left to settle and let cry.

Whether baby is left is usually dependent on the 'type' of cry. Often, baby will be left to cry on

and off for half an hour or more, but if necessary Doctor will be rung the next day. Mothers often said that, depending on the type of cry, they may take the child to the doctor, but they did not include this on their formal answer sheet as a course of action for grizzliness after a feed. This would only be feasible if baby had been grizzling all day as well as all night. This supports Ainsworth's (1962) finding that multiparous mothers may leave their baby up to thirty minutes, depending on the type of signal emitted.

Table Eight shows the distinct differences between the strategies used by multiparous and primiparous mothers. Multiparous mothers use dummies more than primiparous mothers. Multiparous mothers let baby cry more than primiparous mothers. Primiparous mothers tend to give boiled water, whereas multiparous mothers tend to give Dinnifords or Disprins. Primiparous mothers spend a lot more time cuddling, soothing, talking to and enjoying baby whereas multiparous mothers attend primarily to baby's physical needs and have less time available for individualised attention. Multiparous mothers spent little time walking round with baby on shoulder or patting and talking to baby until it went to sleep. They often let baby to cry to sleep, or put baby into another room; this differs from the primiparous mothers, who spent a lot of time in close social activity with baby, such as cuddling, talking to, rocking and singing to.

Discussion of Vignettes in multiparous and primiparous Groups. In the primiparous group, some unusual

responses were recorded. One mother would dance with baby until baby went to sleep, another put baby in front of television, one put baby into another room and ignored the cry, and one rang a friend. Very few actually took baby to bed with them, and this was a last resort. Only once is there mention of a dummy, yet in the multiparous mothers group, there are two mothers who, apart from feeding list dummy, honey, more honey on dummy, check honey on dummy as the only response. No primiparous mothers mention medicine. Baby disprin or medicine is used more often by multiparous mothers, as a last resort.

Many primiparous mothers mentioned that they had not experienced a prolonged crying situation such as the one hypothesised at the end of each story. They said that in this situation they would really not know what to do. Only a few mentioned that the urgency and type of response they made would be dependent on the type of cry the baby was making.

The answers given to Vignettes concerning night waking and infant crying show several interesting trends

- (i) Mothers follow distinct patterns of behaviour in dealing with crying babies which are not related to breast or bottle feeding, or higher or lower S.E.S. group (see Table 4).
- (ii) Some mothers follow the same pattern regardless of whether baby has just been fed, was fed half an hour ago, or three

hours ago. Other mothers alter the priority of what they do, but few introduce anything decidedly different.

- (iii) Most mothers give Dinnifords or boiled water to settle baby after a feed, but few actually feel free or see a need to ring a Doctor or call Plunket. One mother remarked that she would wake her husband and cry herself if baby cried excessively!

In Vignette III and IV the dominant first response is to feed. Vignette I and II follow a different pattern. Whereas feeding is the emphasis in Vignette III and IV, in Vignette I and II, this has presumably been more successful, so the mother is left to cope with the crying by trying different soothing, comforting methods. Many still resort to feeding, and place it in the cycle of feed, wind, change, walk round with, etc.

Degrees of Multiparousness. However, as well as there being a difference between the multiparous and primiparous mothers it is also possible that there is a difference between the degree of multiparousness in the multiparous mothers, that is that a difference in mothering exists between those mothers who have six or more children and those mothers who have two children. It is the seventh time mothers and the first time mothers of this survey that appear to produce the differences in mothering found by Wolff (1965) and Bernal, (1972) in previously cited research. Many of the multiparous group who have only one other child fall into the response categories of the primiparous

group because their experience in mothering is not equal to those mothers who have four, five or six other children. However because of the same number of mothers (8) in the survey who had six or seven children and the fact that they all fell into the lower S.E.S. group, as distinguished by Elley and Irvine (1976) no significant results were attempted.

Discussion of results in relation to waiting times of multiparous and primiparous mothers. Primiparous mothers rarely wait for more than five minutes, whereas multiparous mothers usually wait for about fifteen minutes, and often leave baby to settle for about half an hour. This does not apply to Vignette III which is three hours after a feed. In this situation multiparous mothers attend straight away, and feed.

Experienced mothers' replies are clustered around a fifteen minute waiting time. However, a closer investigation of the multiparous waiting times shows that maxi-multiparous mothers show a surprisingly close clustering around the fifteen minute times for all but the feeding period and for the mini-multiparous mothers, around the ten minute waiting time, except for feeding time. This supports the Bernal (1972) study, where time since last feed was an important determinant of how to respond, and how quickly.

The waiting times of each situation show responses to Vignette I and II as having similarities and responses to Vignette III and IV as having similarities. Vignette IV has the highest percent of mothers responding straight away (63), but also the

'highest number waiting fifteen minutes. Obviously this is an area of some concern in mothering, with mothers taking one extreme of waiting longer after a difficult feed to see if baby settles, or responding immediately because of the knowledge of a difficult time prior to the crying. The urgency of this response is even greater than that of Vignette III which is crying three hours after a feed. Obviously a cry to be primarily settled with feeding. Vignette III has the least number of responses waiting fifteen minutes, which shows a general awareness of the significance of feeding as a primary pacifier.

This supports Wolff's (1965) and Eisenson's (1963) assertion that the primary cause of crying is hunger, and confirms the general acceptance by mothers of feeding as the only successful pacifier for a hungry baby. It illustrates the reasons for the persistence of both multiparous and primiparous mothers to feed the baby successfully.

It also shows the realisation of the necessity for the full feeding routine to be carried out successfully and the significance of the bonding between winding, feeding, and changing nappies. Each of these three are consistently checked and rechecked by both multiparous and primiparous mothers in order to alleviate a crying situation. One would tend to replace the single word 'feeding' that Wolff cites (1965) as primary pacifier, for the words 'feeding cycle'. Feeding is not a primary satisfier if it produces discomfort from wind or soiled nappies. In

this light feeding could also be seen as a primary agent producing discomfort. For primary pacifying, the full 'feeding cycle' must be employed. Following Murray's (1975) research, there appears a case for small families providing the most adequate child care patterns. Murray (1975) states that maternal responsiveness to baby's cry is associated with secure attachment patterns, and with greater compliance to maternal demands. The present survey shows that although both multiparous and primiparous mothers respond to baby's cries, primiparous mothers afford their babies far more social time than multiparous mothers. The primiparous baby gets the best of both social and physical attention. The multiparous baby gets the best of physical attention. Table Seven illustrates this point.

CONCLUSIONS

The important findings resulting from this study appear to be:

- (i) Primiparous mothers spend far more social time with baby than multiparous mothers.
(Table Nine)
- (ii) Multiparous mothers are concerned primarily with meeting basic physical needs.
(Table Nine)
- (iii) Degree of experience of multiparous mothers is important for determining response. The multiparous category is too broad for validity. Further distinction is necessary. A maxi-multiparous and a mini-multiparous group is suggested. Maxi-multiparous would include mothers with four or more children whereas mini-multiparous would include mothers with only one or two other children.
- (iv) No differences were found in mothering practices of different socio-economic levels, although differences were found linked to family size.
- (v) Breast feeding to baby's demand was the most widely practised feeding method in the sample overall.
- (vi) When dealing with babies under three months, it would appear to be those babies whose physical needs are met who are least grizzly. This does not substantiate the 1969 Bell

and Ainsworth findings of babies who were satisfied in both social and physical needs to be most content. It may be that at this young age physical needs take priority.

Although primiparous mothers spent a lot more time cuddling and soothing baby, their babies were no less grizzly or more content than the babies whose physical needs were quickly met, (Table 5).

However, for this to be substantiated, observation of mother and baby in the home is needed, rather than relying on mothers' ratings of what kind of baby, baby is.

- (vii) It was found that mothers, particularly primiparous, needed at least a week at home with baby in order to establish routine, and a satisfactory mother-infant interaction. Most mothers had little time with baby when in hospital and interviewing them as to what they would do when baby cried, before they had 'settled in', was impossible. This supports the Burns, Sanders, Stechler and Julia study (1972) and gives support to the necessity for a closer infant/mother relation while mother is in hospital.
- (viii) It is suggested that the isolated 'feeding' response cited by Wolff (1967) as the primary pacifier for infant crying, be replaced by the concept of a 'feeding cycle'. It is only the complete feeding,

winding, nappy changing cycle used by mothers in this survey that successfully pacifies the crying baby. The feeding cycle was employed by both multiparous and primiparous mothers as a first choice to stop baby crying (Table Seven).

- (ix) It was also found that mothers with higher education tended to breast-feed significantly more than mothers without higher education. $\chi^2 = 8.0$

From the results of this survey, it is suggested that further studies could:

- (i) investigate the differences in response to crying during the day, and compare this to the night-waking sample;
- (ii) investigate cultural trends in mothering;
- (iii) investigate different mothering procedures used by mothers of different ages;
- (iv) use a pre-coded questionnaire for responses to night waking on the basis of replies found through this study in order to obtain a more statistically valid instrument; and,
- (v) the differences between coping styles of multiparous mothers with 5-6 children and those with only 2 or 3 children.

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Night Waking and Infant Crying Questionnaire. (3)

D.Slater.

23. How often does baby's father help you with baby care during the day?
(SHOW CARD 4)

very little
occasionally, unreliably
when asked, when mother absent
a lot

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24. All babies cry of course. Some mothers feel that if you pick a baby up every time it cries you will spoil it. Others feel that you should never let a baby cry for very long. How do you feel about this?
(SHOW CARD 5)

afraid of spoiling
generally unresponsive
responsive but inconsistent
always responsive

25. What sort of baby is baby generally?
(SHOW CARD 6)

very good, easy going
good most of the time
more irritable, difficult a lot of the time
very difficult, always irritable

26. I would like you to imagine that it is the middle of the night, about three o'clock, and you have just fed baby and put him/her back to sleep. It was a smooth, satisfactory feed, and this is the first time you have been up this night. Baby is not upset when you put him/her back to rest, but then starts to cry. Do you do something straight away or do you wait?
(SHOW CARD 7)

straight away skip to Q.28.
wait

27. If you wait, how long do you wait?

five minutes
ten minutes
fifteen minutes
longer than fifteen minutes

28. What do you tend to do to stop baby crying in this situation?

29. But if that doesn't work and baby is still crying, what do you do then?

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30. And finally, if baby is still crying and extremely upset after half an hour, what would you do?
31. This time, would you imagine that the baby has been fed earlier, and put down to rest about half an hour ago. This would be the first time you have heard it crying since putting it down. Once again the last feeding was smooth and satisfactory for both of you. Now the baby has started to cry. Would you get up and do something straight away or would you wait?
(SHOW CARD 8)
- straight away skip to Q.33
- wait
32. If you wait, how long do you wait?
- about five minutes
- about ten minutes
- about fifteen minutes
- longer than fifteen minutes
33. What would you do to stop baby crying?
34. And if baby is still crying after you have done that what would you do?
35. And if that doesn't work and baby is still crying and very upset after about half an hour, what would you finally do to try and stop the crying?

Night Waking and Infant Crying Questionnaire. (5)

D.Slater.

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36. Now would you imagine that the baby was fed earlier, about three hours ago, and put down to rest. This is the first time that you have heard baby crying since putting him/her down for the night. Once again the previous feed was smooth and satisfactory for you both. Now the baby has started to cry. Would you do something straight away or not?

(SHOW CARD 9)

straight away

skip to Q.38.

no, wait

37. How long would you wait?

about five minutes

about ten minutes

about fifteen minutes

longer than fifteen minutes

38. What would you tend to do first to stop baby crying?

39. But if that didn't work, and baby still cried what would you do then?

40. Finally, if the infant is still crying after half an hour on and off in a distressed way, what would you do?

41. Once again imagine it is the middle of the night and the baby has just been fed. The feeding was rather difficult and unsatisfactory for both of you. The baby is unsettled when put back to rest, and then starts to cry. It is the first time that you and baby have been up that night.

Would you tend to do something straight away or would you wait a while?

(SHOW CARD 10)

Night Waking and Infant Crying Questionnaire (6)

D.Slater.

straight away

skip to Q.43

wait a while

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42. Would you wait

five minutes

about ten minutes

about fifteen minutes

more than fifteen minutes

43. In this situation what would you tend to do to stop baby crying?

44. But if that doesn't work and the baby still cries, what would you do?

45. And then if baby is still crying and very upset after about half an hour, what would you do then?