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I am submitting herewith a dissertation written by Jean E. Dumas, entitled "Some Problems of Inconsistent and Aversive Mothering or 'Damned if You Do, Damned if You Don't'". I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

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# SOME PROBLEMS OF INCONSISTENT AND AVERSIVE MOTHERING OR "DAMNED IF YOU DO, DAMNED IF YOU DON'T"

A Dissertation

Presented for the

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To the many mothers and their children who made this study possible.

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ABSTRACT

This study was conducted with 52 mother-child dyads taking part in a parent-training program aimed at modifying coercive, antisocial child behavior. Prior to any therapeutic intervention, scores on 14 measures of mother-child interaction and on an index of maternal community contacts (known as "insularity") were obtained for each dyad. This index was used to divide the sample into two groups (noninsular $n$=21; insular $n$=31). The interactional measures were then compared between the groups. Results indicated that insular mothers were significantly more aversive and inconsistent in their use of aversive behavior toward their children than noninsular mothers, while their children were significantly more aversive than noninsular children, especially in response to aversive maternal behavior. The theoretical implications of these results are discussed. It is concluded that they imply that research should go beyond the narrow limits of the immediate dyadic interactions generally reported in the literature and consider these interactions within the social setting in which they take place, using this setting to account, at least in part, for their outcome.

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# CHAPTER I

## INTRODUCTION

While the popular literature emphasizes that parents ought to discipline their children consistently and in a prosocial manner to insure that they behave in socially acceptable ways (e.g., Dreikurs, 1972; Eden, 1980; Gordon, 1975; Spock, 1977), little research work directly substantiates the validity of this claim. However, the recommendation receives strong indirect support from several studies of interactions in normal and deviant families. This research generally indicates that parental and, more specifically, maternal inconsistency and/or aversiveness are associated with the development and maintenance of coercive and antisocial behavior patterns in children. Inconsistency refers here to the extent to which the same social agent responds to the same child behavior (e.g. opposition) in a different manner (e.g. by reinforcing or punishing it) each time it occurs or responds to different child behaviors (e.g. opposition and compliance) in the same manner (e.g. by punishing them). Aversiveness refers to the tendency of a social agent to attempt to control others by using stimuli that would generally be considered to be unpleasant, humiliating, or painful. We review some of the major studies

reported in the literature before discussing the processes that appear likely to account for maternal inconsistency and aversiveness in the context of the family.

## A Review

Despite major differences in research settings, designs, methodologies, and populations, several studies point to the adverse effects of maternal inconsistency and/or aversiveness on child behavior. These effects can be seen in infancy, middle childhood, and adolescence.

It appears that a social environment in which adults tend to respond to infant behavior in an unpredictable or noncontingent manner is associated with the emergence of a common form of child coercive behavior - noncompliance. In a study of compliance in infants aged 9-12 months, Stayton, Hogan, and Ainsworth (1971) observed mother-child interactions in the home and coded maternal behaviors directed to the child into three classes: a global rating reflecting the mother's sensitivity to her child's behavior and the positive or aversive quality of her response style, the frequency of her verbal commands, and the frequency of her discipline-oriented physical interventions. Results indicated that these two frequency measures were unrelated to child compliance. However, the global rating of maternal sensitivity was positively correlated with compliance,

accounting for 42 percent of the variance in this variable. The authors wrote:

> The insensitive mother is geared almost exclusively to her own wishes, moods, and activity; her interactions tend to be prompted by signals within herself and therefore are rarely contingent upon the baby's signals. (p. 1061, emphasis added)

This and comparable observational studies (Ainsworth, 1979; Ainsworth & Bell, 1974; Ainsworth, Blehar, Waters, & Wall, 1978) indicate that, by the age of one, most children display interpersonal behavior patterns that are distinguishable on a prosocial-coercive dimension. Follow-up studies of prosocial and coercive infants demonstrate that those children who continue to develop in an environment characterized by inconsistent and aversive mothering acquire additional coercive skills and generalize their use to other social relationships (Arend, Gove & Sroufe, 1979; George & Main, 1979; Matas, Arend & Sroufe, 1978; Waters, Wippman & Sroufe, 1979). For example, the adverse impact of adult aversiveness on socialization was clearly demonstrated by George and Main (1979). These authors compared 10 children (aged 1-3 years) known to have been abused and 10 matched controls from families experiencing stress (not further defined). Direct observations of the social interactions of these children with caretakers and peers in a daycare environment indicated that the abused toddlers physically assaulted their peers over twice as often as the controls did.

Similarly, five of the abused infants but none of the controls assaulted or threatened to assault their caretakers. When verbal and nonverbal aggressive behaviors were considered together, the abused group was found to aggress against caretakers over four times as often as the control group. It thus appears that young victims of abuse tend to repeat in new relationships the patterns of interaction they have acquired in their families. If they have learned to regard their primary caretakers as dangerous, they are more likely to aggress other adult caretakers as well as children of their own age.

Research conducted with older children supports and extends these findings. In several developmental studies, Baumrind (1971, 1973, 1978) observed three styles of parental discipline and child rearing and described their effects on later social competence. The first of these styles, the "authoritarian" style, is characterized by the use of power-assertive, punitive methods of control in a superior/subordinate parent-child relationship. The second one, the "permissive" style, is typified by an affirmative, acceptant, benign stance toward the child's behavior in which parents act as resources but not as active control agents responsible for shaping or modifying behavior. The third style, the "authoritative" style, is marked by a consistent use of power and reason to guide the child's

behavior in prosocial ways. Three separate studies of preschoolers of both sexes indicated that authoritative parenting was associated with the highest level of social competence in children. Specifically, in early childhood, parental use of consistent, contingent social approval and disapproval tended to foster high social competence. In contrast, parental use of inconsistent, harsh, or rejecting punishment was associated with antisocial behavior, especially in boys. Similar results have been reported in other studies of social competence, and particularly compliance, in young children (Lytton, 1977, 1980; Minton, Kagan, & Levine, 1971).

The same picture emerges from the epidemiological literature. Cameron (1977), relying upon retrospective data, reported that inconsistent discipline, besides parental rejection and disapproval, had the greatest impact on maladjustment in a sample of 136 preschoolers. Langner, McCarthy, Gersten, Simcha-Fagan, and Eisenberg (1979), in a five-year survey of approximately 2000 families, found that two global ratings, one labeled "parental punitiveness", the other "mother excitable-rejecting" (a factor partaking of aggressiveness and inconsistency), when measured at year 1, were highly and uniquely predictive of antisocial behavior inside and outside the home five years later, this in children ranging from 6 to 18 years. Similarly, West and

Farrington (1973), in another predictive study of delinquency, surveyed 411 boys, first when the children were aged 8-9 years and regularly thereafter. They found that "poor" parental behavior--i.e., behavior characterized by emotional rejection, inconsistent, harsh, or very strict discipline, and parental conflict--was highly predictive of delinquency in adolescence. Boys who experienced the worst parental behavior became delinquent over twice as often as boys who did not.

In keeping with these findings, more molecular analyses of both normal and clinical populations indicate that parents in general, but especially mothers, tend to respond to coercive, antisocial child behaviors in an aversive and inconsistent manner and more often than they respond to positive behavior. Johnson and his associates (Johnson, Wahl, Martin, & Johansson, 1973; Wahl, Johnson, Johansson, & Martin, 1974) found not only that the level of deviance of a sample of normal children was best predicted by the level of their parents' aversiveness, but also that the more deviant children got a higher level of parental attention (both positive and negative) than their better behaved counterparts. Similar findings have been reported in studies that compared parental consequences for child behavior in families with normal and antisocial children (Herbert & Baer, 1972; Patterson, 1976; Snyder, 1977) or in

families with antisocial children before and following therapeutic intervention (Taplin & Reid, 1977). Patterson (1976) found that the identified coercive children in his sample received approximately twice as many aversive consequences from their mothers (but not fathers) as their nonproblem counterparts, and this often on a noncontingent basis. Furthermore, contrary to what happened in control families, such a consequence pattern had generally negative effects, leading to increases instead of decreases in child aggression, a phenomenon the author referred to as "punishment acceleration". Similarly, Taplin and Reid (1977), in a study of changes in parental consequences as a function of family intervention, reported that a behaviorally-oriented treatment program led to significant reductions in both aversiveness and inconsistency in mothers (but not fathers) of aggressive boys.

Finally, the importance of consistency in child management is also emphasized in laboratory studies of the effects of different schedules of reinforcement and punishment. These indicate that inconsistent responding (i.e., approval and disapproval of the same aggressive responses), when compared to consistent punishment, leads to significantly more aggressive responses in young boys (Deur & Parke, 1970; Katz, 1971; Parke & Deur, 1972; Sawin & Parke, 1979). For instance, Sawin and Parke, besides being

able to demonstrate the existence of a causal link between inconsistency and aggression, showed that inconsistent discipline led to more aggressive responses than either consistent reinforcement, punishment, or ignoring. Furthermore, it appears that inconsistency affects future prosocial learning. Cairns and Paris (1971) and Warren and Cairns (1972) showed that, compared to contingently reinforced children, children first exposed to rich schedules of noncontingent reinforcement had greater difficulty learning on later trials when reinforcement was made contingent upon performance. Similarly, the experience of inconsistent punishment has been found to lead to increased resistance of the aggressive response to change under conditions of extinction and/or continuous, contingent punishment (Deur & Parke, 1970; Sawin & Parke, 1979).

## Accounting for Maternal Inconsistency and Aversiveness

The developmental, epidemiological, clinical, and laboratory evidence just reviewed indicates that inconsistency and aversiveness, particularly in mothers, are associated with the presence of coercive, antisocial behavior patterns in children at all stages of development. This association raises an obvious question. Why would a mother interact with her developing child in an inconsistent and aversive manner, this often when the child is but an

infant? To answer this question requires, we believe, that we go beyond the narrow limits of the dyadic interactions commonly studied in the family literature and place these interactions within a social context.

Consider a mother who is regularly engaged by her child in coercive interchanges. Two classes of events are of interest here, namely, the immediate discriminative stimuli provided by the child to the mother and, further removed in time, the many stimulus-response contingencies which characterize the mother's relationship to her child and to other persons in her environment. We refer to the former class as stimulus events and to the latter as setting events (Wahler & Dumas, in press a, in press b; Wahler & Fox, 1981; Wahler & Graves, in press). Examples of stimulus events include the many aversive child behaviors studied in the literature reviewed above (e.g., noncompliance, physical aggression). Examples of setting events include a mother's history of interaction with and perception of her child as well as the pattern of daily social contacts she experiences (e.g., with spouse, relatives, or friends).

Stimulus events. We consider first the role of the child-provided stimulus events in the development and maintenance of undesirable maternal behaviors. Several studies

point to the very high level of vigilance required of mothers of preschool children. When taking care of her 2-3 year old, such a mother is likely to have to monitor her youngster on an almost continual basis. Both laboratory (Forehand, King, Peed, & Yoder, 1975; Minton et al, 1971) and home (Johnson et al, 1973; Patterson, 1976; Wahl et al, 1974) observations of social interactions in normal mother-child dyads indicate that a mother is apt to respond to child-provided stimuli by commanding or disapproving once every three to four minutes. Moreover, the probability is one in four that the child will fail to obey her commands. If these figures are at all representative, they indicate that mothers of young children spend much of their time warding off or responding to aversive child-produced stimuli. Under such conditions, we would expect mothers with highly aversive children to be less able to correctly discriminate between the nature of their children's behaviors (i.e., whether they are aversive or prosocial) than mothers with less aversive children and to be, therefore, more likely to respond to <u>all</u> of these behaviors inconsistently (i.e., indiscriminately) and aversively. However, while the sheer amount of vigilance required of mothers during the early childrearing years might account in part for maternal inconsistency and aversiveness, it does not account for the fact that not all mothers respond to child aversiveness by

exhibiting such behaviors. In fact, Minton et al. (1971) specifically stressed that most mothers in their sample tended to be "nurturant and consistent" (p. 1886). Another source of influence must, therefore, be considered.

Setting events. Our discussion until now has focused exclusively on the immediate discriminative stimuli provided by children to their mothers. However, besides these stimulus events, the caretaking mother obviously experiences several sources of social input, both from the child and from other social agents. While the importance of such input is commonly acknowledged, little effort has been made to study the mother-child relationship in a truly social context or "setting". The limited evidence available indicates that childrearing, while at best a challenging task, is made easier or more difficult depending upon the reinforcing functions served by the child and the adults that are a part of the mother's social system (Caplan, 1976; Cochran & Brassard, 1979; Lynn, 1974). Specifically, it would appear that mothers who fail in their childrearing task do receive more aversive and fewer positive social inputs than mothers who succeed and that this sets the occasion for the development and maintenance of inconsistent and aversive responding. For example, in a longitudinal study of the two years following divorce, Hetherington, Cox, and Cox (1976) found that

a divorced mother's effectiveness in interacting with her preschool child was associated with the availability of social support from friends, neighbors, and kinfolks. The circumstances which make social input differences likely can generally be found if: (1) The child is "difficult" to manage; (2) Other persons in the mother's social network are consistent sources of aversive interchanges.

It has been recognized for some time that from birth the young infant influences his/her environment (e.g., Bell, 1968). While crying is the neonate's major means of influencing caretakers, the infant soon acquires another means of social control: smiling. Although these two responses are used by most infants, there are considerable individual differences among them (Brazelton, 1973; Carey, 1970) which directly affect their social environment. These differences are commonly referred to as temperamental differences. Consider the effects of crying upon a mother. Frodi, Lamb, Leavitt, and Donovan (1978) reported both self-report and psychophysiological data which support the commonsense notion that a crying infant acts as an arousing and aversive stimulus. While this type of stimulus commonly increases the likelihood that an aggressive response will follow, in most cases the arousal remains limited and the aversive situation is terminated by relieving the cause of the infant's discomfort. However, the situation is more complicated when

one is dealing with a "difficult" infant. As reviews of temperamental differences indicate (Bates, 1980; Thomas, Chess, & Birch, 1970), these infants cry for longer periods and often seem inconsolable despite their caretaker's repeated efforts. As a result and through a process of conditioning, the child may become an aversive stimulus whether it is crying or not (Lamb, 1978), this in turn leading its mother to become less responsive and consistent in her caretaking behavior (Donovan, Leavitt & Balling,1978; Milliones, 1978). The infant's aversive actions may indeed elicit avoidance responses in the mother and increase the likelihood that she will exhibit a variety of aversion reducing behaviors (e.g., pick the infant up, scold the infant). Given a number of similar mother-child interchanges, the infant's entire range of social actions might come to function as a class of conditioned aversive stimuli eliciting maternal avoidance and/or setting the occasion for her performance of those aversion reducing responses which in the past were successful in "turning off" the infant's aversive actions. If this is correct, we would expect "difficult" infants to set the stage for maternal inconsistency and aversiveness by conditioning their mothers to generally disregard their signals and/or respond to them aversively. Under such circumstances, a mother might develop a negative perception or summary report of her child's behavior and

generally evaluate and respond to most of her child's social actions in light of this report.

The literature indicates that these undesirable maternal responses can also be under the control of temporally distant stimuli which may have no direct, contingent relationship with the responses in question. For example, a mother's confrontation with her husband in the morning might be shown to increase the likelihood that she will interact aversively with her child in the afternoon, even though the two events are not contingently related (Wahler & Dumas, in press b). Similarly, a mother's history of depression or ability to tolerate her child's aversive behavior might lead her to descrdibe her child as behaviorally "deviant", even though his/her behavior does not differ from that of normal children on objective behavioral measures (Delfini, Bernal, & Rosen, 1976; Griest, Wells, & Forehand, 1979; Lobitz & Johnson, 1975).

A recent study by Egeland and Sroufe (1981) illustrates this process of indirect influence. The authors compared a group of 31 mother-infant dyads with a known history of abuse and neglect with a group of 33 dyads in which maternal care was judged to be excellent. Home observations of mother-infant interactions were conducted when the children were 12 and 18 months old. As expected from the research reviewed above, the first comparison indicated

that the maltreated children were more likely than their counterparts to interact with their mothers in coercive and avoidant ways. However, six months later the two groups no longer differed. This was so because, while the control infants had not changed, some of the maltreated infants had become significantly more prosocial. Life stress interviews independently obtained from mothers when the infants were 12 and 18 months showed that infants who had become significantly more prosocial over this 6-month period had mothers who had reported significant reductions in stressful life events over the same period. Specifically, this change seemed to be associated with maternal reports of greater support from social agents outside the family.

The impact of a mother's social contacts upon child behavior has also been reported in epidemiological (Kellam, Ensminger, & Turner, 1977; Kolvin, Garside, Nicol, Macmillan, Wolstenholme, & Leitch, 1977; Lagerkvist, Lauritzen, Olin, & Tengvald, 1975) and clinical (Wahler, 1980; Wahler, Hughey, & Gordon, 1981; Wahler, Leske, & Rogers, 1979) studies of older populations. Wahler's work is of particular interest here. This work relies upon the concept of "insularity." Insularity may be defined as a specific pattern of social contacts within the community that is characterized by a high level of negatively perceived coercive interchanges with relatives and/or helping agency representatives

and a low level of positively perceived supportive interchanges with friends. Differences in maternal patterns of social contacts are associated with differences in deviant child behavior. Wahler et al. (1981) found that while insular and noninsular mothers evidenced comparable rates of child opposition and mother aversive and positive consequences when observed in their home environments, these coercive episodes lasted much longer for the insular dyads; moreover, the insular mothers were more likely to respond inconsistently (i.e., both negatively and positively) during these episodes. That these results reflect the existence of a covarying relationship between maternal community contacts and mother-child interactions at home, rather than the effect of a third, undetermined, factor on both variables, is suggested by Wahler (1980). This study correlated, day by day, maternal self-reports of community contacts and observed aversive interactions between mothers and their children. On days marked by low proportions of friend contacts (20 percent or less of all contacts) mothers were significantly more aversive with their children than on days marked by high proportions of friend contacts (80 percent or more of all contacts). Not surprisingly, insular mothers have also been found to fare more poorly than their noninsular counterparts in a behaviorally oriented parent training program aimed at modifying coercive relationships between

themselves and their children (Dumas & Wahler, in press), again suggesting that aversive social exchanges impede a mother's ability to relate to her child in a prosocial manner. Finally, insularity has been found to be related to a mother's perception or summary report of her child's deviant behavior. Wahler and Afton (1980) compared the verbal descriptions of coercive child interchanges given by two groups of noninsular and insular mothers before, during, and after parent training. Results showed that both groups tended to describe these interchanges in global and blame-oriented terms prior to training. During training, both groups demonstrated their ability to successfully modify their children's coercive behaviors. However, only the noninsular mothers altered their verbal descriptions of these problems; the insular mothers continued to describe them in global and blame-oriented terms. As expected from Dumas and Wahler (in press), these mothers, contrary to their noninsular counterparts, failed to maintain their treatment gains following parent training.

While the specific operational characteristics of setting events are far from being understood, the limited evidence just presented indicates that a mother's inconsistency and aversiveness directed at her child are not only a function of the immediate stimulus events presented by the child. They are also under the influence of setting events

(such as the mother's history of interaction with her child or her pattern of social contacts), which may bear little or no temporal or contingent relationship to these child-provided stimuli.

This evidence leads us to suggest that maternal inconsistency and aversiveness may be best accounted for by considering both the stimulus and setting events which impinge upon a mother. Specifically, we predict that these undesirable behaviors are most likely to be found in mothers who live in what we will call a "high-density coercive environment", i.e., an environment characterized by high rates of aversive inputs from both the child and other social agents. The present study was conducted to test this prediction.

## The Study

While research on family interaction ultimately concerns the patterns of interaction among family members, most studies reviewed above failed to look at patterns (for exceptions see Patterson, 1976; Snyder, 1977; Taplin & Reid, 1977; Wahler et al., 1981). Rather, they reported differences in rates of specific behaviors within individuals, and used these differences to draw conclusions about the nature of the relationship between individuals. In other words, most studies of family interaction failed to directly

measure how the behavior of one family member affects the behavior of another member over time, a point well made by Hetherington and Martin (1979) in their review of the family interaction literature:

> Most of the studies of family interaction have yielded separate frequency measures of parent and child behavior that is recorded during the interaction. However, usually investigators are interested in the etiology, the contingencies, and the sequencing of these observed behaviors and often generalize to such questions on the basis of inappropriate methodology ... Such studies should look sequentially at interchanges involving chains of interpersonal exchanges and investigate shifts in probabilities of response in one family member as they are related to the specific behavior of others (p. 254, emphasis added).

The present study relied on sequential analyses as advocated by Hetherington and Martin (1979). It was conducted to test the prediction that maternal inconsistency and aversiveness are most likely to be found in mothers who are regularly subjected to high rates of aversive inputs from several sources (i.e. child and other social agents). To do so, the study compared the nature of mother-child interactions between dyads in which the child was aversive but the mother was not subjected to a high level of aversive inputs from other sources (noninsular dyads) and dyads in which the child was aversive and the mother was regularly subjected to such aversive inputs (insular dyads). Mother-child interactions were assessed by computing the baserate

and conditional probabilities of several interactional measures and comparing them within and between dyads to determine the extent to which specific maternal and child behaviors were under the control of specific stimuli presented by the other party.

It was predicted that:

1. The baserate probabilities p(mother aversive) and p(child aversive) would be higher in insular than in noninsular families.

2. The conditional probabilities p(mother aversive/child nonaversive) would be higher in insular than in noninsular families and would not significantly differ from the conditional probabilities p(mother aversive/child aversive).

3. The conditional probabilities p(child aversive/mother aversive) would be higher in insular than in noninsular families.

In other words, insular mothers were expected to be more aversive and more inconsistent in their use of aversive behavior than noninsular mothers, while their children were expected to be more aversive than noninsular children, especially in response to aversive maternal behavior.

# CHAPTER II

# METHOD

## Design

This study was conducted with 52 mother-child dyads taking part in a behaviorally-oriented parent-training program aimed at modifying coercive, antisocial child behavior. Prior to any therapeutic intervention, scores on 14 measures of parent-child interaction and on an index of insularity were obtained for each dyad. The insularity measure was used to divide the sample into two groups (noninsular and insular). The measures of parent-child interaction (expressed in terms of baserate and conditional probabilities) were then compared between the two groups.

## Participants

The 52 mother-child dyads represented all the families who had been referred to the Child Behavior Institute of the University of Tennessee, Knoxville, from April 1976 to July 1981 and for whom complete baseline (pre-intervention) data were available. Each of these families had sought psychological help for child behavior problems. They had either referred themselves for treatment or had been referred by schools or social agencies (e.g. Department of Human Services, courts). Referral problems were similar for each family. All children were described as coercive and opposi-

tional at home and/or school, while their mothers described themselves as having considerable difficulty or being unable to enforce rules and instructions and as often yelling, screaming or striking their child.

At time of referral, mothers ranged in age from 21 to 38 years (M=28.37; SD=5.93). Thirty-six of their children were boys and 16 girls. They ranged in age from 2 to 11 years (M=6.22; SD=2.31). Mothers in the noninsular group (n=21) ranged in age from 21 to 38 years (M=28.81; SD=4.73), while their children (15 boys; 6 girls) ranged in age from 2 to 11 years (M=5.63; SD=2.64). Mothers in the insular group (n=31) ranged in age from 22 to 37 years (M=29.07; SD=4.10), while their children (21 boys; 10 girls) ranged in age from 4 to 11 years (M=6.63; SD=1.99).

## Measurement Procedures

Dyadic interactions. Following an initial interview, all mother-child dyads were observed twice a week in their homes over baseline periods ranging from 2 to 10 weeks. Observation sessions were established during the initial interview. They were chosen in each case by the mother as times of day when interaction problems were most likely to occur in the family. All observations were conducted by trained observers, using the Standardized

Observation Codes developed by Wahler, House, and Stambaugh (1976). This coding system provides a comprehensive (24 codes) picture of interactions between the target child and other family members. During each observation session, which lasts 30 minutes, the observer is signaled through earphones to observe for 10 seconds and then record code occurrences for the following 5 seconds on purpose-made NCS Trans-Optic forms. A total of 120 intervals of code occurrences is thus possible for each observation. A code can only be scored once per interval, but there is no upper limit to the number of codes that may be scored in a single interval.

Ten of the 24 codes are relevant to the present study. They are briefly described in Table 1. These codes can be grouped into four different behavior clusters. These clusters provide overall measures of mother and child non-aversive and aversive behavior as follows: (a) Total Mother Non-Aversive represents all intervals in which either of the two specific codes reflecting the mother's non-aversive child-directed behaviors were scored. (b) Total Mother Aversive represents all intervals in which either of the two specific codes reflecting the mother's aversive child-directed behaviors were scored. (c) Total Child Non-Aversive represents the sum of 10-second intervals in which either of the two specific codes reflecting the child's non-aversive mother-directed behavior were scored.

Table 1

Summary definitions of behavioral codes (single codes and code clusters) used in the study. Actual scoring of these codes would require for comprehensive definitions provided in Wahler, House, and Stambaugh (1976).

| Single Codes | Code Clusters |
|---|---|
| Mother Behavior | |
| Non-Aversive Instruction. Scored for any instance of discrete instruction directed to the child. | Total Mother Non-Aversive. Scored whenever an instance of Non-Aversive Instruction or Non-Aversive Social Attention is recorded. |
| Non-Aversive Social Attention. Scored for any instance of neutral or positive physical or verbal behavior directed to the child. | |
| Aversive Instruction. Scored for any instance of discrete instruction directed to the child accompanied by aggressive physical or verbal behavior. | Total Mother Aversive. Scored whenever an instance of Aversive Instruction or Aversive Social Attention is recorded. |
| Aversive Social Attention. Scored for any instance of aggressive physical or verbal behavior directed to the child | |
| Child Behavior | |
| Social Interaction with Mother. Scored for any instance of physical or verbal exchange between the child and the mother. | |
| Compliance. Scored for any instance of compliance with a discrete instruction given by the mother. | |

Table 1 (continued)

| Single Codes | Code Clusters |
|---|---|
| Child Behavior (continued) | |
| Social Approach to Mother. Scored for any instance of physical or verbal contact with the mother initiated by the child and not involving any aversive behavior. | Total Child Non-Aversive. Scored whenever an instance of Compliance or Social Approach to Mother is recorded. |
| Opposition. Scored for a full interval of noncompliance with a discrete instruction by the mother. | |
| Rule Violation. Scored for any instance of violation of an established household rule. | Total Child Aversive. Scored whenever an instance of Opposition, Rule Violation, or Complaint is recorded. |
| Complaint. Scored for any instance of physical or verbal protest. | |

(d) Total Child Aversive represents all intervals in which any of the three specific codes reflecting the child's aversive mother-directed behaviors were scored. Both single codes and code clusters were used in the data analyses.

Insularity index. At the end of each observation session, the observer asked each mother to complete a brief interview known as the Community Interaction Checklist (Wahler et al., 1979). This checklist is a multiple-category instrument used to prompt parental recall of all extra-family social interactions that occurred in the 24-hour period immediately preceding reporting time. Each mother was asked to recall these social contats within the framework of several categories. Two of them are relevant to the purpose of the present study, namely, the identity of the contact person (e.g. friend, kinfolk, helping agency representative) and the valence of the contact for the mother (from +3 = very positive, through zero = neutral to -3 = very aversive). At the end of the baseline phase, the following data were obtained from a summary of each family's checklists: mean number of daily contacts, percentage of daily contacts with friends, percentage of daily contacts with kinfold and/or helping agency representatives, and percentage of daily contacts perceived as neutral and/or aversive. Based on these data, a mother had to satisfy at

least one of two conditions to be described as "insular": (a) To report at least twice as many of her daily contacts with kinfolk and/or helping agency representatives as with friends, or (b) To report at least a third of all her daily contacts as neutral or aversive (score of 0 to -3). Applying these criteria, 21 mothers were found to be noninsular and 31 to be insular. Major differences in the patterns of social contacts of these two groups of mothers are summarized in Table 2.

## Measurement Reliability

Dyadic interactions. To assess the reliability of the Standardized Observation Codes, each mother-child dyad was regularly observed by two observers (the standard observer and a reliability checker) simultaneously. Fifty-two baseline reliability observations were collected.

Measures of session reliability and of interval-by-interval reliability were then obtained. The measures of session reliability were computed on all 52 cross-check observations, while the measures of interval-by-interval reliability were computed on a random sample of 26 of these observations.

Interclass correlation coefficients were computed to measure the session reliability of all behavioral codes. They are presented, with their tests of significance, in

Table 2

Comparison of the patterns of extra-family social contacts reported by noninsular and insular mothers.

| | Noninsular ($n$ = 21) | Insular ($n$ = 31) | $t$ (50) |
|---|---|---|---|
| Mean number of daily contacts | 5.31 | 3.48 | 2.79* |
| Mean percent of daily contacts: With Kinfolk/ helping agents | 0.18 | 0.38 | -4.98** |
| With friends | 0.62 | 0.28 | 4.99** |
| Rated neutral/aversive | 0.15 | 0.44 | -4.11** |

* $p < .01$
** $p < .0001$

Table 3 (first column). They were all found to be significantly different from zero. The use of this correlational technique to estimate the reliability of session level scores has been recommended by Hartmann (1977); see Guilford and Fruchter (1978) or Winer (1971) for computational procedures. This measure of reliability was considered appropriate for all data analyses which compared total session scores across the two groups (i.e. for all baserate probability comparisons; see below).

Two measures of interval-by-interval agreement for each observer pair were also obtained by tabulating (in 2 X 2 tables) the number of interval agreements and disagreements for occurrences and nonoccurrences of each behavioral code. This yielded 26 four-cell tables. The totals of each corresponding cell were then added and averaged to obtain one summary table for each behavioral code. The first measure of interval-by-interval agreement (a measure of <u>overall percentage agreement</u>) was computed by adding the average number of agreements on code occurrences and nonoccurrences, dividing this number by 120 (the total number of intervals per session), and multiplying the result by 100. Overall percentage agreements for each behavioral code are reported in Table 3 (second column). As this measure is inflated by the fact that agreement can be expected to occur by chance alone, a second measure of interval-by-interval

Table 3

Measures of reliability of the Standardized Observation Codes. Measures of session reliability are based on all 52 cross-check observations. Measures of interval-by-interval reliability are based on a random sample of 25 of these observations.

| | Session reliability | | Interval-by-Interval Reliability | |
|---|---|---|---|---|
| | Interclass correlation coefficient | ($F$ 50,51) | Overall | Kappa ($z$) |
| Mother behavior | | | | |
| Non-Aversive Instruction | .83 | (10.81)* | .95 | .51 (5.63)* |
| Non-Aversive Social Attention | .97 | (75.05)* | .91 | .81 (2.88)* |
| Aversive Instruction | .96 | (54.03)* | .98 | .53 (5.58)* |
| Aversive Social Attention | .73 | (6.47)* | .98 | .58 (4.25)* |
| Child behavior | | | | |
| Social Interaction with Mother | .98 | (99.41)* | .91 | .81 (8.88)* |
| Social Approach to Mother | .84 | (11.82)* | .96 | .53 (3.74)* |
| Compliance | .97 | (60.54)* | .95 | .64 (7.36)* |
| Opposition | .96 | (53.42)* | .97 | .52 (4.97)* |
| Rule Violation | .84 | (11.62)* | .97 | .63 (6.91)* |
| Complaint | .84 | (11.89)* | .97 | .61 (6.51)* |

* $p < .0001$

agreement (a measure of agreement which controls for chance agreements) was obtained by computing a statistic known as kappa (see Hartmann, 1977, or Hubert, 1979, for rationale and computational procedures) for each behavioral code. This statistic is reported in Table 3 (third column). While this measure was consistently lower than the overall percentage measure, it was found to be significantly different from zero in all cases (see Hubert, 1979, for statistical test), indicating that interval-by-interval agreement among observers was systematically higher than would be expected by chance alone. This more stringent measure of reliability was necessary for all data analyses which compared within session scores across the two groups (i.e. for all conditional probability comparisons; see below).

Insularity index. The level of agreement generally obtained with the Community Interaction Checklist was evaluated by randomly selecting a checklist which a mother had completed and interviewing (usually by telephone) the people she had designated as her contact parties on that particular checklist. For ethical reasons, this procedure required that both the mother and her regular contact parties agree in advance to a cross check evaluation. Consent was obtained in 19 cases. While this subsample of families was not random, noninsular and insular mothers were sampled an approximately equal number of times (noninsular $n$=9;

insular n=10). The results of these cross check evaluations were used to establish the extent to which mothers and their contacts agreed that the contact did take place and agreed on its valence (neutral/negative or positive). This was done by dividing the number of agreements on both measures by the total number of contacts reported by a mother, multiplying the results by 100, and averaging over the total number of cross check evaluations. This procedure yielded good agreement that the contact did occur (mean percentage agreement = .98) and moderate agreement on the valence of the contact (mean percentage agreement = .76).

## Data Analyses

As stated earlier, the study was conducted to compare the nature of parent-child interactions between noninsular and insular mother-child dyads. The data were analyzed (with the help of specially designed computer programs) in three phases.

Preliminary analyses. Preliminary analyses were conducted to establish that mother-child interactions had been sampled an equal number of times in both groups and that the groups did not differ in their rates of social interaction. This was done by comparing the mean number of

observations per family and the probabilities (baserate probabilities) that children would interact with their mothers in both groups.

Baserate probabilities. Given no significant differences between groups on these measures, the baserate probabilities of non-aversive and aversive mother and child behaviors were computed. This was done by grouping all baseline observations for each family, separately adding the number of observation intervals in which each behavioral code or cluster had been scored, and dividing the results by the total number of intervals. These probabilities, all of the form p(mother behavior) and p(child behavior), were thus obtained for each family separately. They were then averaged across families in both groups and compared.

Conditional probabilities. Finally, the observational data were tabulated to establish how mothers and children responded to each other's behavior. This was done by counting the number of observation intervals in which a behavioral code or cluster of interest (e.g. mother Aversive Social Attention) had been scored, but only if it had been preceded by another behavioral code or cluster of interest (e.g. child Opposition) in either of the previous two observation intervals (i.e. 30 seconds) and dividing the

result by the baserate probability of the second behavioral code or cluster. In other words, the conditional probability were computed with the formula: p(A/B) = p(A B)/p(B). To limit the size of the analysis, only the behavioral codes and clusters which occurred most frequently as baserates were used to compute these probabilities.

Baserate and conditional probabilties were also compared within groups, by using a z statistic proposed by Sackett (1979) and recently modified by Allison and Liker (1982). This statistic, which provides a test for the existence of lagged dependencies in the behavior of two persons, rests upon the assumption that the hypothesis of no dependence corresponds to the statement that the conditional probability of Person A's behavior given Person B's behavior is equal to the baserate probability of Person A's behavior. z is given by:

$$z = \frac{p(A/B) - pA}{\sqrt{\frac{pA(1-pA)(1-pB)}{(n-k)pB}}}$$

in which:

p(A/B) is the conditional probability of Person A's behavior given Person B's behavior;
pA is the baserate probability of Person A's behavior;
pB is the baserate probability of Person B's behavior;
n is the number of observation intervals;

k is the number of intervals or lags in the computation of p(A/B).

To insure conservative estimates of lagged dependencies, all $z$'s were computed by setting $n$ to the smallest number of observation intervals for each family group (noninsular $n$ = 480; insular $n$ = 600).

# CHAPTER III

# RESULTS

## Preliminary Analyses

All data analyses were based on a total of 682 observation sessions, 245 for the noninsular dyads and 437 for the insular dyads. The mean number of observations per family was comparable (noninsular $M$=11.67, $SD$=7.86; insular $M$=14.10, $SD$=6.98), indicating that mother-child interactions were sampled an equal number of times in both groups, $t(50) = -1.17$, NS.

The probability that children would interact--p(Social Interaction with Mother)--with their mothers did not significantly differ between groups (see Table 4), indicating that other differences in mother-child interactions could not be attributed to a greater likelihood of social exchanges in one group than in the other.

## Baserate Probabilities

The baserate probabilities of all behavioral codes and clusters for both groups, together with their associated tests of significance, are presented in Table 4. Approximate $t$ statistics were computed when the variances of the two groups were found to be unequal ($p$ .001). Table 4 shows that the groups did not differ on any of the measures

Table 4

Baserate probabilities of all behavioral codes and clusters. These probabilities are presented separately for the noninsular and insular dyads and compared between the two groups.

| | Noninsular ($n$ = 21) | Insular ($n$ = 31) | t (50) |
|---|---|---|---|
| Mother behavior: | | | |
| Non-Aversive Instruction | .061 | .063 | -0.22 |
| Non-Aversive Social Attention | .454 | .420 | 0.54 |
| Total Mother Non-Aversive | .467 | .441 | 0.41 |
| Aversive Instruction | .007 | .017 | -1.69* |
| Aversive Social Attention | .013 | .032 | -2.33* |
| Total Mother Aversive | .018 | .043 | -2.17* |
| Child behavior: | | | |
| Social Interaction with Mother | .443 | .416 | 0.42 |
| Compliance | .069 | .068 | 0.01 |
| Social Approach to Mother | .044 | .059 | -1.56 |
| Total Child Non-Aversive | .104 | .114 | -0.51 |
| Opposition | .023 | .042 | -2.21* |
| Rule Violation | .011 | .036 | -2.85** |
| Complaint | .042 | .061 | -1.62 |
| Total Child Aversive | .072 | .123 | -3.42*** |

* $p < .05$
** $p < .01$
*** $p < .001$

of mother or child non-aversive behavior but differed significantly on all but one category--p(Complaint)--of aversive behaviors. Specifically, while the probabilities of mother or child aversive behavior were relatively low, both members of the insular dyads were found to exchange approximately twice as many aversive behaviors as their noninsular counterparts.

## Conditional Probabilities

The manner in which noninsular and insular dyads responded to each other's most frequently occurring behaviors was assessed by computing the conditional probability of one member's response occurring, given that the other member of the dyad had emitted a particular behavior within the preceding 30 seconds. Eight behavioral codes and clusters were used in this analysis. They were Non-Aversive Social Attention, Total Mother Non-Aversive, Aversive Social Attention, and Total Mother Aversive on the one hand, and Compliance, Total Child Non-Aversive, Opposition, and Total Child Aversive, on the other. Results are presented separately for mothers and children.

Consequences provided by mothers. The conditional probabilities p(mother behavior/child behavior) are

presented in Table 5 and compared both within and between groups.

Within group comparisons indicate that all mothers were far more likely to respond to any child behavior with non-aversive than with aversive behavior, whether the conditional probabilities were computed on single codes or code clusters.

Between group comparisons indicate that this non-aversive response tendency applied equally to the two groups. However, although all the probabilities of aversive maternal responses remained relatively low, insular mothers were found to be more likely than noninsular mothers to respond to their children's behavior aversively. This was true of their responses to non-aversive and aversive behavior but, in the latter case, only when child aversiveness was measured as a behavioral cluster; it did not apply when this variable was measured in terms of the single code Opposition, probably because of the relatively low rate of this behavior in both groups.

Given these differences in maternal aversive responding, the conditional probabilities of mother aversive behaviors given non-aversive and aversive child antecedents were compared to the baserate probabilities of mother aversive behaviors. This was done to test whether maternal aversiveness depended upon any of the child behaviors which immediately preceded it. The results of this analysis are

Table 5

Conditional probabilities of selected mother behaviors given non-aversive and aversive child behaviors. These probabilities are presented separately for the noninsular and insular dyads and compared within (column) and between (rows) the two groups.

| | Noninsular ($n$ = 21) | Insular ($n$ = 31) | $t$ (50) |
|---|---|---|---|
| Child antecedent: Compliance | | | |
| Mother Non-Aversive Social Attention | .723 | .757 | -0.39 |
| Mother Aversive Social Attention | .035 | .085 | -2.05* |
| $t$ (19 or 29) | 9.43** | 9.78** | |
| Child antecedent: Total Child Non-Aversive | | | |
| Total Mother Non-Aversive | .833 | .827 | 0.09 |
| Total Mother Aversive | .047 | .091 | -1.63 |
| $t$ (19 or 29) | 13.37** | 12.51** | |
| Child antecedent: Opposition | | | |
| Mother Non-Aversive Social Attention | .621 | .624 | 0.62 |
| Mother Aversive Social Attention | .101 | .110 | -1.25 |
| $t$ (19 or 29) | 6.43** | 7.92** | |
| Child antecedent: Total Child Aversive | | | |
| Total Mother Non-Aversive | .713 | .624 | 0.35 |
| Total Mother Aversive | .066 | .127 | -2.10* |
| $t$ (19 or 29) | 7.30** | 2.34** | |

* $p < .05$
** $p < .0001$

presented in Table 6. This figure shows that noninsular mothers significantly increased their level of aversiveness only in response to aversive child behavior but that insular mothers significantly increased their level of aversivenss in response to both aversive and non-aversive child behavior. These results, which were obtained in analyses of single codes and code clusters, offer strong evidence of maternal inconsistency in insular families. Mothers in these families were indeed likely to respond with as much aversiveness to child non-aversive as to child aversive behavior, as indicated by the fact that their conditional probabilities of responding aversively to aversive child antecedents did not differ from their conditional probabilities of responding aversively to non-aversive child antecedents (for single code comparison: $t(29) = -1.57$; $p = .13$; for code cluster comparison: $t(29) = -1.36$; $p = .22$).

Consequences provided by children. The conditional probabilities p(child behavior/mother behavior) are presented in Table 7 and compared both within and between groups.

Within group comparisons indicate that noninsular children were more likely to respond to nonaversive and aversive Social Attention with Compliance than with Opposition. They were also more likely to respond to Total Mother Non-Aversive with non-aversive than with

Table 6

Diagrams of observed lagged dependencies in mother aversive behaviors given non-aversive and aversive child behaviors. All probabilities to the left of the diagrams are baserate probabilities; all probabilities to the right of the diagrams are conditional upon a child behavior.

| Variables | Noninsular | Insular |
|---|---|---|
| Aversive Social Attention → given Opposition / given Compliance | .013 → z = 2.57** → .101; z = 1.10 → .035 | .032 → z = 2.20* → .110; z = 1.97* → .085 |
| Total Mother Aversive → given Total Child Aversive / given Total Child Non-aversive | .018 → z = 2.20* → .066; z = 1.62 → .047 | .043 → z = 3.76*** → .127; z = 2.05* → .091 |

* $p < .05$
** $p < .01$
*** $p < .001$

Table 7

Conditional probabilities of selected child behaviors given non-aversive and aversive mother behaviors. These probabilities are presented separately for the noninsular and insular dyads and compared within (column) and between (rows) the two groups.

| | Noninsular ($n$ = 21) | Insular ($n$ = 31) | $t$ (50) |
|---|---|---|---|
| Mother antecedent: Non-Aversive Social Attention | | | |
| Compliance | .101 | .100 | 0.05 |
| Opposition | .037 | .054 | -1.57 |
| $t$ (19 or 29) | 4.60*** | 4.51**** | |
| Mother antecedent: Total Mother Non-Aversive | | | |
| Total Child Non-Aversive | .147 | .157 | -0.36 |
| Total Child Aversive | .107 | .180 | -3.00** |
| $t$ (19 or 29) | | | |
| Mother antecedent: Aversive Social Attention | | | |
| Compliance | .233 | .182 | 0.88 |
| Opposition | .083 | .212 | -2.30* |
| $t$ (19 or 29) | 2.54** | -0.71 | -2.30* |
| Mother antecedent: Total Mother Aversive | | | |
| Total Child Non-Aversive | .270 | .301 | -0.42 |
| Total Child Aversive | .354 | .515 | -1.92* |
| $t$ (19 or 29) | -0.88 | -4.92**** | |

* $p < .05$
** $p < .01$
*** $p < .001$
**** $p < .0001$

aversive behavior but showed a nonsignificant tendency to respond to Total Mother Aversive in an aversive manner. Insular children responded only to Non-Aversive Attention with more Compliance than Opposition. They responded to all other mother antecedents by exhibiting more aversive than nonaversive behavior, although this response tendency was only found to be significant for the antecedent Total Mother Aversive.

Between group comparisons indicate that all children were equally likely to respond with non-aversive behavior to both non-aversive and aversive maternal behavior. However, insular children were found to be significantly more likely than noninsular children to respond to any maternal behavior aversively.

Given these differences in child aversive responding, the conditional probabilities of child aversive behaviors given non-aversive and aversive maternal antecedents were compared to the baserate probabilities of child aversive behaviors. As in the case of mothers, this was done to test for the presence of lagged dependencies in child behaviors. The results of this analysis are presented in Table 8. This table shows that non-insular children tended to increase their level of aversiveness in response to both aversive and non-aversive maternal behavior. However, this increase was only significant when the analysis was conducted on code

Table 8

Diagrams of observed lagged dependencies in child aversive behaviors given non-aversive and aversive maternal behaviors. All probabilities to the left of the diagrams are baserate probabilities; all probabilities to the right of the diagrams are conditional upon a maternal behavior.

| Variables | | Noninsular | Insular |
|---|---|---|---|
| Opposition | given Aversive Social Attention | .023 → z = 1.13 → .023 | .042 → z = 3.76*** → .212 |
| | given Non-Aversive Social Attention | .023 → z = 1.50 → .037 | .042 → z = 1.17 → .054 |
| Total Child Aversive | given Total Mother Aversive | .072 → z = 3.23** → .354 | .123 → z = 6.23*** → .515 |
| | given Total Mother Non-Aversive | .072 → z = 2.81* → .107 | .123 → z = 3.24** → .180 |

* $p < .01$
** $p < .001$
*** $p < .0001$

clusters, probably, as mentioned earlier, because of the relatively low rate of the code Opposition. Insular children were found to respond in a similar, though much more aversive manner than their noninsular counterparts. Specifically, they evidenced extremely high increases in aversive behavior in response to maternal aversiveness, this even when the analysis was conducted on single codes. This suggests that, rather than leading to a reduction in child aversiveness, maternal aversive behavior tended to increase it well above baserate, especially in insular families. Although, when the analysis was conducted on code clusters, all children responded with increased aversiveness to any maternal behavior and thus evidenced some degree of inconsistency, they never responded with as much aversiveness to maternal non-aversive as to maternal aversive behavior. This is indicated by the fact that their conditional probabilities of responding aversively to aversive maternal antecedents were significantly higher than their conditional probabilities of responding aversively to non-aversive maternal antecedents (noninsular: $t(19) = 4.32$, $p < .001$; insular: $t(29) = 7.33$, $p < .0001$). This suggests that all children always remained able to to discriminate between maternal antecedents and generally responded accordingly.

# CHAPTER IV

## DISCUSSION

In keeping with a set of predictions derived from a review of the literature, the results indicate that insular mothers are significantly more aversive and inconsistent in their use of aversive behavior than noninsular mothers, while their children are significantly more aversive than noninsular children, especially in response to aversive maternal behavior. They also indicate that both groups of mothers are far more likely to respond to any child behavior in a non-aversive than in an aversive manner, but that this response tendency does not seem to apply to their children.

These results confirm and extend previously reported findings. Parents of both normal and deviant children have commonly been found to be more likely to respond to their children's behavior in a non-aversive than in an aversive manner, irrespective of the nature of this behavior (Reid et al., 1981; Snyder, 1977; Wahl et al., 1974). Similarly, previous research shows that, while parental aversive responses tend to decrease the likelihood of continued child aversiveness in normal families, the same responses actually increase or "accelerate" it in deviant families (Patterson, 1976; Snyder, 1977; Wahler et al., 1981). The present study adds to earlier findings, however, by demonstrating that,

rather than being a characteristic of all mothers of coercive, antisocial children, inconsistency is generally found in insular mothers only, i.e. in mothers who are repeatedly subjected to aversive social inputs from both their children and other social agents. In other words, the study demonstrates the importance of aversive setting events in the manifestation of maternal inconsistency. (Note that, strictly speaking, this is only correct if one assumes that maternal inconsistency was not due in this study to the significant differences in baserates of aversive behavior between noninsular and insular children. The fact that computations of the conditional probabilities of maternal aversiveness given child aversiveness control for these baserate differences makes this assumption reasonable.) We turn to a discussion of maternal inconsistency and aversiveness and of their association with marked increases in child aversive behavior.

The major question raised in the introduction must be repeated in light of the present findings: why do some mothers interact with their children in an inconsistent and aversive manner? It would appear that the functioning of a mother who operates within a high density coercive environment, i.e. an environment in which she is subjected to multiple aversive social inputs, is qualitatively different from that of a mother whose aversive social inputs are

limited to her child relationship. As we have argued elsewhere (Wahler & Dumas, in press a), when an insular mother responds to any one of her coercive partners, her response is not influenced by that person only; it is also influenced by all the other persons who regularly engage her in coercive interchanges. This argument is supported by a recent experimental case study of one insular mother (Wahler & Graves, in press). This study showed that, on days in which Mrs. Jones reported having visited her own mother and engaged with her in a coercive interchange prior to a home observation of her interactions with her noncompliant son Jimmy, she was five times more likely to respond to him aversively during the observation than on days in which she had not previously engaged in such an interchange. Although Jimmy was also more likely to be aversive on such days, the findings could not be attributed to a greater likelihood that he would then engage his mother in coercive interchanges or respond to her aversive behavior with increased aversiveness. Thus, it appears that Mrs. Jones, following aversive exchanges with her mother, behaved as if these exchanges were discriminative for her later interactions with her son. In other words, while most insular mothers certainly "believe" that they are attending and responding to the aversive cues presented by their children at any given time (e.g. complaint, destructiveness), they may in

fact often attend and respond to a broader pattern of cues. This broader pattern includes cues provided by other social agents in other settings. These cues may influence their child-directed behaviors even though: (1) The environmental circumstances which gave rise to them have since ceased to exist (i.e. Mrs. Jones' confrontation with her mother is over by the time she has returned home and is interacting with Jimmy); (2) These cues may have no contingent relationship to these child-directed behaviors (i.e. Mrs. Jones' confrontation with her mother is not contingently related to her later aversive interchanges with Jimmy). Multiple aversive social inputs and the aversive cues associated with them thus provide, we believe, the conditions under which insular mothers are most likely to interact with their children in an aversive and inconsistent manner, this probably because they then behave as if they were under the control of what would generally be considered faulty discriminative cues.

Consider now a second question raised by the findings of this study: why are maternal inconsistency and aversiveness associated with marked increases (above baserates) in child aversiveness? The results indicate that insular children function in an environment in which the probabilities of seeing their non-aversive behaviors aversively consequated are higher than they are for their noninsular

counterparts. In other words, non-aversive behavior generally appears to invite a more unpredictable maternal response for insular than for noninsular children. If this is correct, it suggests that insular children may respond to maternal aversiveness with marked increases in coercive actions at least partly in order to generate predictability. This hypothesis has not been empirically tested. (It could be tested by computing the conditional probabilities of maternal non-aversive response given child aversive antecedent at all stages of a series of aversive mother-child interchanges. It would be supported if these probabilities decreased considerably and became equal to zero in the early stages of these aversive interchanges, i.e. if mothers became increasingly consistent in the course of interaction.) However, despite a lack of empirical evidence, the hypothesis is strongly, though indirectly, supported by the finding that aversive mother-child interchanges last much longer in insular than in noninsular families (Wahler et al., 1981) and in deviant than in normal families (Patterson, 1976). Specifically, Wahler et al. (1981) found that these interchanges lasted approximately twice as long in insular than in noninsular dyads and that as they developed, insular mothers tended to become increasingly aversive toward their children, thereby, presumably, providing them with greater consistency or predictablity.

More generally, the hypothesis is also supported by the considerable amount of animal (Hymowitz, 1979; Imada & Nageishi, 1982) and, to a lesser extent, human (Furedy & Klajner, 1972; Nuttin, 1973) evidence indicating a very general preference for predictable over unpredictable stimulus-response arrangements. For example, adults bathed in hot and humid air from the chin up prefer signaled to unsignaled 15-second cooling air puffs delivered to the face (Furedy & Klajner, 1972). Similarly, preschoolers prefer to play with a machine on which the manipulation of two levers turn two electric light bulbs on and off than with an identical machine on which the lights are turned on and off independently of any manipulation (Nuttin, 1973). Finally, rats have been found to choose signaled shocks lasting 4 to 9 times longer than unsignaled shocks of the same intensity or, when duration was held constant, signaled shocks 2 to 3 times more intense than unsignaled shocks (Badia, Culbertson & Harsh, 1973). These and similar experiments suggest that predictability may play a major role in the organization of a person's or animal's behavior. It may, therefore, be sought after, as was the case in the last experiment and probably is the case with insular children, <u>at the cost of far longer or much more intense aversive stimulation</u>.

If our discussion makes any sense so far, we are faced with two rather puzzling phenomena. On the one hand,

insular mothers behave as if their coercive interchanges with other adults were discriminative for aversive interactions with their children. Such inconsistent responding, presumably, leads them to interact with their children in ways which, far from teaching them more prosocial behaviors, help them maintain the very coercive, antisocial behaviors they as mothers wish they could change. On the other hand, insular children respond to maternal inconsistency and aversiveness by increasing their own level of aversiveness. This increase in aversiveness, far from putting an early end to their confrontations with their mothers, appears instead to insure that they will be subjected to longer and more intense aversive stimulation. Briefly stated, the insular dyad appears "locked" in a coercive system in which both partners engage in behaviors which seem to insure that they will remain sources of aversive stimulation for one another! In other words, aversive stimuli appear to act as reinforcers in such a system by increasing the aversive behavior of both partners above its baserate. We briefly consider this puzzling situation.

Although entirely gathered with animals, there is considerable evidence to indicate that such apparently "self-defeating" behaviors can be experimentally produced. For example, Sidman, Herrnstein, and Conrad (1957) trained a rhesus monkey to respond under a schedule of electric shock

postponement. Once responding was reliably established, they superimposed a fixed-time schedule of electric shock delivery over which the animal had no control. Not only did this new schedule markedly increase responding under the first schedule but, once this first schedule was terminated, responding persisted under the fixed-time schedule and became positively accelerated as "the animal lever-pressed right 'into' the shock" (p. 53). This and comparable experiments have been reviewed in detail by Morse and Kelleher (1977). These authors suggest that their results will remain puzzling as long as one considers that certain stimuli have inherently reinforcing or punishing properties. While it is true that, generally, electric shocks are aversive, there are circumstances in which, as we have just seen, electric shocks will serve to maintain ongoing behavior, that is, act as reinforcers. To recognize this is to acknowledge that circumstances, history or schedules play a major role in the control of behavior; in the language used above, it is to acknowledge the importance of setting events. In other words, as soon as it develops, a person's behavior acquires a history which may later affect other behaviors, even though the circumstances which originally gave rise to this history may have long since ceased to exist and may bear no contingent relationship to such future behavior.

If this analysis is correct, it has one major implication for workers seeking to understand and help families who function in high-density coercive environments (practical implications for therapeutic intervention with such families have been presented elsewhere and will not be discussed here; see Dumas and Wahler, in press; Wahler and Dumas, in press a). This analysis implies that research should go beyond the narrow limits of the immediate dyadic interactions generally studied in the literature and consider these interactions within the social setting in which they take place, using this setting to account for their outcome. In other words, it implies that research should considerably broaden its unit of analysis. While concepts such as setting event, history, or schedule may seem vague and be unfamiliar to many, we believe that they will prove more valid and useful than traditional formulations which rely on isolated stimulus - response arrangements. However, until these concepts are better understood and supported by empirical data, it is likely that the seemingly self-defeating coercive behaviors of insular mothers and their children will remain puzzling or, at best, poorly accounted for.

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