Long-term consequences of premature birth on a mother-child relationship and the child's psychosocial functioning

The purpose of this study is to examine the long-term consequences of premature birth on a mother-child relationship and the child's psychosocial functioning in middle childhood. Low weight (1,500 gr>) and extremely low weight (gr 1000>) preterm babies are considered to be a high-risk population. Most studies which examined long-term consequences of premature birth on the mother-preemie relationship, examined babies and infants. This present study examined the contribution of maternal variables to the mother-child relationship and the child's functioning in middle childhood, a subject for which there is very little research in the context of prematurity.

Previous studies found that the mother-preemie relationship is less favorable than ordinary mother-child relationship (child born at expected time), which is reflected in lower levels of positive feelings and perceptions among mothers of premature infants in relation to their babies and a less than optimal interaction with the baby in a similar way. The psychosocial functioning of premature infants was found to be less favorable compared to that of children born on time at the same age, which is expressed by more emotional, social and behavioral difficulties.

Most researchers attributed these difficulties to two factors: low birth weight, which is associated with neurological and physical problems and low socio-economic background which is associated with poor performance of mothers and children. In order to rule out the possible implications of health problems and risks related with poverty, this study focuses on low risk preterm infants, completely healthy and from a medium-high socio-economic background, in order to allow the examination of factors related to the mother that could have implications on the mother-child relationship and the child's functioning.

The experience of premature birth can be especially traumatic for the mother. This experience is often accompanied by a concern for the child's life, a separation of mother and child after birth due to NICU hospitalization and loss of the mother's hopes and wishes regarding her baby, since usually a premature baby does not resemble the baby of her dreams at all. These circumstances can trigger severe reactions in the mother such as mourning, anxiety, anger and PTSD symptoms which processing is essential.

In the present study, the processing (resolution) of difficult experiences is examined from the perspective of the attachment theory. Bowlby (1980), drew a distinction between a 'healthy' mourning process and a disordered mourning process. A 'healthy' mourning process is seen as a successful effort of the individual to accept both the fact that a change occurred in her external world, as well as the fact that she is required to rearrange her inner world accordingly. A disordered mourning process may be expressed in two ways: the first was designated Chronic Mourning, and it involves emotional reactions with extraordinary intensity and duration for loss or trauma. In this situation, the individual lacks the ability to

reorganize his life. The second way was designated Prolonged Absence of Conscious Grieving in which the bereaved person's life continues to be organized, but he\she may suffer physiological symptoms and interpersonal difficulties stemming from the grief. The similarity between the two modes of disordered mourning is that in both, the grieving person believes, consciously or unconsciously, that the loss (or trauma) is reversible.

From the perspective of the attachment theory, researchers have tried to examine how parents respond to their children's diagnostic as suffering from various problems, such as cerebral palsy, neurological or physical disabilities and psychiatric disorders. These studies found that parents who acknowledged the change in their child since the diagnosis, were characterized by a successful coping with the situation in the present and a good attitude towards the future. These parents managed to organize their lives and their emotional world in light of the reality of raising a child with difficulties. However, it seems that parents who did not process the ordeal of hearing their child's diagnosis, were "stuck" with negative feelings like grief, anger and other strong emotions, indicating that in fact they did not go through the initial crisis. These parents have demonstrated inadequate coping strategies such as looking for someone to blame, unrealistic beliefs about the child's condition or completely ignoring his condition.

When the severe parental experience is unresolved, the parent's difficulty of dealing with the child's situation may lead to negative consequences such as anxiety, depression and isolation which may impede parental functioning. For example, it was found that among parents who resolved their child's diagnosis as suffering from a chronic illness, there was a greater incidence of children characterized by insecure attachment compared with parents who resolved the diagnosis. The lack of resolution of the child's diagnosis was associated with maternal distress and a sense that the child's care is a burden. However, a positive correlation was found between the resolution of the diagnosis experience and the parent's positive feelings in relation to the child, acceptance of the child, better interaction with the child and feeling of parental efficacy.

There are similarities between parental reactions to the child's diagnosis as suffering from a chronic illness, and reactions to a premature birth, since in both cases the parents have to deal with the negative emotions and difficulties related to the child's health condition. Few studies have examined the resolution of a difficult experience among mothers of premature babies and the resolution's implications on the relationship with the child and his functioning. A resolved experience of premature birth was associated with better parental functioning in infancy and higher levels of parental capacity about three months after birth. Similarly, is was found that mothers of premature infants who coped well with difficult life events (such as loss of a loved one, diagnosis of disease, early traumas, natural disasters, etc.) and were characterized by higher levels of maternal resilience, had children who functioned better physically , behaviorally and cognitively. It was found that the mother's functioning mediates the relationship between the mother's coping with

negative events and the child's functioning. Mothers who struggle to cope and are characterized by high levels of distress, reflect less warmth, care, support and ineffectively discipline their child, which in turn reflects negatively on the child's functioning.

One of the factors that may have implications on the mother's ability to cope with difficult experiences are her personality characteristics that could have implications on her parental functioning, both directly and indirectly. Neuroticism has been associated with the use of Least Effective Coping Mechanisms in situations involving traumatic experiences such as loss \ threatening event. These coping strategies include hostile reaction, escapist fantasy, self-blame, passivity, withdrawal, sedation and indecisiveness. Interestingly, these reactions are similar to reactions found among parents characterized by the absence of resolution of difficult experiences or grief. However, a mother with strong psychological resources (stable personality), functioned in a competent manner, even if she has a "difficult" child.

Highly neurotic mothers of high risk children, may have difficulty in coping, specifically with the child. It was found that mothers of premature infants with high levels of neuroticism, prone to less optimal interaction with the baby, higher levels of negative maternal emotion, difficulties adjusting to parenthood, provide less maternal contact and found that their children may develop insecure attachment.

Raising a child who was born premature might be stressful and may strain the parents' resources. This might be especially challenging in middle childhood when children are expected to better regulate their emotions and to gradually function autonomously with a greater separateness from their parents. Letting go might be difficult for parents with higher levels of neuroticism and for parents who perceive their children as vulnerable.

Mother-child relationship.

Parents perceive, understand and interpret their children's personality and behaviors through a perspective of parenting representations, which also guides their choice and implementation of parenting practices. These representations include the parents' views, emotions, and internal worlds regarding their parenting and relations with their children. Parenting representations are influenced by the parents` own past experiences and in particular by the history and the current quality of the parents' relationship with their children. This is especially true when parents and children have a shared history as in the case of middle childhood children.

The few studies that examined representations of parenting among mothers of premature infants focused mainly on parenting during infancy and early childhood, and most of them point to more negative maternal representations in mothers of premature infants, which are expressed by lower levels of acceptance and sensitivity to the child, lower levels of openness to change and a sense of joy and pride, and higher levels of anxiety, anger and disappointment, compared to mothers of infants born on the expected date. Perceptions of mothers of premature babies have also been studied beyond early childhood, although

much less. For example, it was found that mothers of preterm children are characterized by higher levels of concern about their child's social acceptance by peers and concern about their future at ages 11 and 14, as well as harsher feelings of anger because of the burden they felt in relation to the need to supervise the child. They have also demonstrated a higher level of enmeshment between the ages of 5-8, more feelings of insecurity and anxiety regarding the relationship with the child, preoccupation with themes of separation between mother and child, and a higher level of emotional ambivalence with regards to these separations at age 9 and age 19, compared with mothers of children born at term. It has been proposed that these mothers' feelings of insecurity and anxiety may be due to the doubts and concerns about their child's chances of survival at the time when he/she was hospitalized in the NICU and their protraction.

The perception of infant vulnerability and fears for his safety even in the later stages, may have an impact on maternal practices. It is possible that the child's health status in early life, the separations and the will to protect him/her may also affect the child's acceptance and provision of autonomy. In studies examining parenting practices among mothers of premature babies at a young age it was found that mothers of premature infants demonstrated higher levels of control, directivity and intrusiveness when interacting with the child, as well as overprotective behavior, compared with mothers of children born at term. Overprotection towards prematurely born children, was found to be positively related to the extent to which the parent perceives the child as being vulnerable. Mothers of young preterm babies were additionally characterized by lower levels of sensitivity and acceptance, compared with mothers of babies and infants born at term.

In conclusion, it appears that factors related to the parent rather than prematurity, can affect the parent-child relationship and the child's functioning. Therefore, the main objective of this study is to examine the possible implications of the difficulties in resolution of a premature birth experience on the relationship with the child and his/her psychosocial functioning, and to examine individual differences between mothers who have experienced premature birth. Another goal is to examine the contribution of the mother's neuroticism to the manner in which she resolves difficult experiences. The study also examined the differences between mothers of premature children and their children (study group) and mothers of children born at term and their children (control group). This comparison can help understand the relative contribution of prematurity itself and the mother's difficulties in resolving the premature birth experience to the mother-preterm child relationship and the child's psychosocial functioning. We hypothesized that

1. Mothers characterized by the successful resolution of difficult experiences will be characterized by a better relationship with their child, and the child's psychosocial functioning will be better, compared to mothers who are characterized by the absence of resolution of difficult experiences;

2. A negative correlation will be found between neuroticism and successful resolution of difficult experiences.

Method

Seventy five (75) middle class mothers and their 75 children, aged 9-11 years, participated in the study. 45 mothers of preterm children and their children, who were born at very low birth weights (1000 – 1500 grams) and who did not suffer from any neuro-biological or physical disabilities, and 30 mothers and their children born at full term from similar socio-demographic background.

The health status and risk level of premature babies in the study were examined with the help of the director of the neonatal ward at the hospital who examined their medical history. The study comprised of preterm babies weighing 1000 to 1500 g, who did not undergo difficult treatments after birth and did not have any of the following: severe birth defects such as heart defects, pneumothorax, abdominal surgery, brain bleeding above level 2, blood infection with clinical symptoms, ventilated for more than three days, vision problems above level 2. All children are healthy children who do not have neurobiological or physical impairments.

Background Information Questionnaire: This questionnaire includes background information of the subject: age, education, marital status, employment, child care history, relation to the Holocaust and background of additional difficult life experiences. The questionnaire also included questions relating to the child such as academic achievements, social status and his/her health history.

Mothers' Measures

Mothers' personal characteristics

The *Berkeley-Leiden Adult Attachment Questionnaire for Unresolved Loss or Trauma* consists of 58 Likert-type items rated on a 7-point scale ranging from strongly disagree to strongly agree. In the current study we used the 41 items Unresolved State of Mind (USM) scale referring to responsibility for death and other tragedy, possession, confusion/disorientation, shame, memories lost, uncontrollable memories, and frightened. High scores reflect higher levels of unresolved loss. The BLAAQ–U was found to be internally consistent (alphas ranging from .79 to .89), to be test–retest reliable (correlations ranging from .74 to .92). It also discriminated between holocaust survivors and people who did not experience the holocaust. In the current study alpha was .91.

The *NEO Five-Factor Inventory* was used to assess mothers' personality. We used 48 items answered on a 5-point Likert scale ranging from 1 = “strongly disagree” to 5 = “strongly agree”. In the current study we focused on Neuroticism: Anxiety, Angry hostility, Depression, and Impulsiveness. The internal consistency of the NEO is high (Neuroticism = .92). Additional evidence of the reliability, retest-stability, and factor structure of the NEO has been presented in previous research. Neuroticism predicted self-

criticism, dependency and ability to form close relationships. Alpha in the current study is .89.

Parental Locus of Control – Parental Efficacy Scale (PLOC; Campis, Lyman, & Prentice-Dunn, 1986) was used to examine mothers' beliefs and perceptions regarding the degree to which failures and successes in raising their children can be attributed to internal versus external causes. Mothers responded to 10 items on a 5-point Likert type scale ranging from 1 = strongly disagree to 5 = strongly agree. High scores indicate a low sense of parental efficacy and external locus of control. The scale showed good predictive and construct validity, and predicted undesirable behaviors among children of clinic referred families.

Mothers' parenting

*Parenting Representations Interview – Childhood (*PRI-C *:* Scharf & Mayseless, 2000; Scharf, Mayseless & Kivenson-Baron, 2015). This is a semi-structured interview designed to arouse memories and emotions regarding parenting experiences with children. Mothers were requested to give a general description of their relationships with their children and to support this description with specific incidents. The interview included questions regarding experiences of closeness, pain, guilt, anger, worry, discipline, children's increasing autonomy, and the way parents deal with these and other stressful and enjoyable situations. In addition, the parents were requested to describe how they saw their child in the future and to describe their imagined future relationship with him/her. Interviews are audiotaped and then transcribed verbatim.

Based on the transcripts several scales were coded using a 1-5 Likert Scale: (1) *representations of the parent,* consisting of three scales: *parental competence*, the extent to which the parent has realistic confidence with regard to his/her capacity to handle effectively various parenting situations including general difficulties and daily demands and activities; and *self understanding*, the extent to which attributions of the causes to self-actions, thoughts, and feelings are logical, accurate, complex, and reflective. (2) *Representations of the child*, consisting of four scales: *Trust/confidence in child's capacities,* the extent to which the parent has realistic confidence with regard to the child's coping capabilities in different contexts; *Child's understanding,* which measures the extent to which attributions of the causes of the child's actions, thoughts, and feelings are logical, accurate, complex, and reflective; *Richness of child's description* and *Perception of the child in the future,* which assess the richness of the description of the child as reflecting the parent's thoroughly knowing his/her child. (3) *Negative emotionality*, including feelings such as *Pain, Anger, Guilt*, and *Worry*, as well as *positive emotions* regarding the child*,* and parental *monitoring*.

Inter-judge reliability of the scales (intra-class correlations) is high, from .78 to .96 as well as its validity. In the current study, reliability between coders was .82-.96 based on 30 Interviews.

Resolution of pre-term birth experience interview (only mothers of preterm children). The mothers were asked questions regarding the experience of the birth and coping with the premature child. They were asked to describe their emotions when they realized that their child is preterm, whether these feelings and emotions changed over the time, and whether the experience influenced their parenting and their relationship with the child. The second author (a reliable coder of the AAI and blind to the mothers' backgrounds) coded, on a 5 point Likert scale, the coherence of the interview, acknowledgement of changes in perceptions and experiences over time, and awareness regarding the influence of the pre-term birth on their parenting and relations with the child. The intercorellations among the three scales were high (r= .81 -.88), and therefore we computed a composite scale reflecting the resolution of the pre-term birth experience.

Mother-Father-Peer Scale (MFP). Mothers completed 2 scales from the modified mother–father– peer scale (MFP; Epstein, 1983) referring to relationships with their children. They rated their agreement with 22 statements using 5-point Likert scales (1 = strongly disagree and 5 = strongly agree). The Encouragement of Independence versus Overprotection subscale assesses the extent to which the mother accepted and supported the child's independence, self-reliance, and development of social skills. The Acceptance versus Rejection subscale assesses how well the mother communicated love, acceptance, and appreciation. The MFP Scale has been related to self-esteem, and a wide range of personality variables. Cronbach alpha in the current study were .70 for acceptance and .73 for encouragement of autonomy.

The *Limit Setting* scale from the *Parent-Child Relationship Inventory* (*PCRI*; Gerard, 1994), was used to assess mothers' perceptions regarding the effectiveness of their discipline practices towards their child. Mothers rated 12 statements on a four-point Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree)*. "Sometimes it is not easy to discipline my child ". High score reflects high levels of limit setting. Internal consistencies ranged from .76 to .88. In a longitudinal study acceptable internal consistency and moderate to high 1-year stability for all scales was found. Parents' PCRI scores correlated with their perceptions of family climate, and strong concordance between mothers' PCRI scores and adolescents' perceptions of the parent-child relationship and family climate was found. In the current study alpha was .88

The *Parent–Child Interaction Questionnaire* (PCIQ; Wood, 2006). Mothers rated eight items referring to mother's intrusions to children's personal space (lying with child on his/her bed at night). They rated the frequency of each behavior on 1 (This never or almost never occurred [0–1 days this week]), 2 (This sometimes occurred [2–5 days this week]), or 3 (This almost always occurred [6–7 days this week]). The reliability in the development study was .70 and the scale was associated with children's separation anxiety and children's reports regarding parent's intrusiveness. Alpha in the current study was .64

Mothers also completed the *Strengths and Difficulties Questionnaire* (*SDQ*; Goodman, 1997) to assess children's emotional and social adjustment. Mothers rated on a 3-point Likert scale their children's functioning in five domains: conduct problems (e.g., "Often loses temper"), hyperactivity (e.g., "Restless, overactive"), emotional symptoms (e.g., "Often complains of headaches, stomach-aches or sickness"), peer problems (e.g., "Rather solitary, prefers to be alone") and pro-social behaviors (e.g., "Considerate of other people's feelings"). The SDQ was highly correlated with the longer Child Behavior Checklist and discerned between adolescents with developmental problems. Alphas in the current study were .67 for conduct problems, .72 for hyperactivity, .74 for emotional symptoms, .75 for peer problems and .63 for pro-social behaviors.

Children's measures

The *Emotion Control Questionnaire* (ECQ2; Roger & Nesshoever, 1987) has 56-items measure for examining affective control: Affective Rehearsal (ruminating over emotional activating events), Emotional Inhibition (the tendency to suppress expression of emotions), Aggression Control (inhibition of aggression), and Benign Control. Each item is scored if it presents or not. Alpha ranged between .77-.86. The measure was associated with personality, hostile aggression and trait anxiety. In the current study alphas are .67 for Affective Rehearsal, .70 for Emotional Inhibition, .76 for Aggression Control and .70 for Benign Control.

The *Security Scale* (Kerns et al., 2001) is a 15 items questionnaire used to assess children's perceptions of mother-child attachment. Each item is represented by two different descriptions and children are asked which child is more similar to them, and whether it was "really true" or "sort of true" for them. Each item is measured on a 4-point scale, with higher scores reflecting greater security. e.g., "Some kids do not really like telling their mom what they are thinking or feeling but other kids do like telling their mom what they are thinking or feeling". The measure was found reliable and valid. In the present study alpha was .79.

Results

[ב1] עם הערות: In correlation with

Differences among mothers and children according to unresolved loss

To examine the impact of mothers' unresolved loss on their parenting and their children's socio-emotional functioning, we first examined the level of unresolved loss in the sample (*Mean* = 1.80, *SD*=.60). Scores higher than 1 SD above the Mean were considered as reflecting high levels of unresolved loss. Based on mothers' scores we divided the sample into three groups. 27 of the 30 mothers with non-preterm child showed low levels of unresolved loss. Only 3 mothers from the control group showed relatively high levels of unresolved loss and therefore were excluded from the analyses that focused on group differences. Among the 45 mothers with preterm child we found 2 groups: 26 mothers with low levels of unresolved loss, and 19 mothers with relatively high levels of unresolved loss. As can be seen in table 1, mothers with unresolved loss showed higher levels than mothers from the other two groups.

When examining resolution of the prematurity experience base on the interview (only among mothers of preterm children) we found that the unresolved mothers group had lower levels of resolution of the prematurity experience than their counterparts. We also examined the association between the level of unresolved loss and the level of resolved prematurity (*r*=-.50). Additionally, we conducted a Two Step Cluster and identified two clusters (*BIC* = 22.81) with regard to the prematurity experience. To examine the correspondence between unresolved loss or trauma (in the BLAAQ-U questionnaire) and resolution of prematurity (in the interview) we performed an $\chi 2$ test ($\chi 2$=31.45, p <.001), and found fit in 41 of 45 of the cases (*kappa*=.82). Thus, there is a high match between mothers' unresolved loss and mothers' unresolved prematurity experience. We used mothers' scores on the BLAAQ-U questionnaires to examine the difference between the groups.

[ב2] עם הערות: A correlation

Next, we examined the differences between mothers and children from three groups: mothers of preterm children with low levels of unresolved loss; mothers of preterm children with high levels of unresolved loss, and mothers from the control group (low levels of unresolved loss).

[ב3] עם הערות: An ANOVA test

To examine the differences in neuroticism we conducted Anova that revealed that the unresolved group showed higher levels of neuroticism than the other groups; similarly they showed lower levels of maternal locus of control compared to their counterparts.

[ב4] עם הערות: A MANOVA test

To examine the differences in parenting representations we conducted Manova with group serving as the independent variable and the parenting interview variables serving as the dependent variables. The MANOVA was significant F (5,66)= 4.77, p< .001, η^2=.17. Mothers' levels of self-representations, child's representations, positive relations and

monitoring were lower among the unresolved mothers group, and their negative emotionality was higher than their counterparts (see table 1).

A similar picture emerged with regard to parenting practices F (2,69) = 6.90, p<.001, η^2=.27. Unresolved mothers showed lower levels of acceptance and lower levels of encouraging independence toward their children compared to the mothers in the two other groups. Unresolved mothers also reported lower levels of limit setting compared to their counterparts, and their level of intrusiveness was higher than of mothers from the control group.

When examining differences in psychosocial functioning of their children, we did not find differences in mothers' perception regarding their children's adjustment (F (5, 66) = 1.15, n.s., η^2=.08. However, there were differences in children's reports regarding their emotional regulation F (4, 67)= 4.40, p<.01, η^2=.21. As can be seen in table 1, children of unresolved mothers reported lower levels of benign control than children whose mothers were resolved. Finally, there were no differences among the groups in children's security of attachment.

The contribution of unresolved loss or trauma and neurotic personality to mothers' parenting and to children's psychosocial functioning

We first tried to reduce the number of predictions by constructing aggregated scales when correlations among the dependent variables were high. We constructed positive representations scale (mother's representations, child's representations, relationships' representations and monitoring, r = .86- .95), and positive practices (acceptance, autonomy, and limit setting, r = .45-.50).

All the predicting variables were first centered. To explore the possible moderation of neuroticism and unresolved loss or trauma, hierarchical regression analyses were conducted. In the first step gender (boys=0; girls=1) was entered. In the second step unresolvedness and neuroticism were entered. In the third step the interaction between unresolvedness and neuroticism was entered. We also examined the moderation of gender, but did not find moderation. Consequently, moderation of neuroticism and unresolved loss was found in predicting three variables: maternal efficacy, maternal intrusiveness and children's aggression control as it presented in table 2. Neuroticism, unresolved loss and the interaction between them predicted mothers' locus of control (30% explained variance). Mothers with low levels of unresolved loss and low levels of neuroticism have higher levels of maternal locus of control. Similarly, gender, neuroticism and the interaction between neuroticism and unresolved loss predicted 16% of explained variance of mothers' intrusiveness. Mothers with high levels of unresolved loss and high level of neuroticism showed higher levels of intrusiveness. Finally, gender and the interaction between

neuroticism and unresolved loss predicted 16% explained variance. Boys demonstrated lower levels of aggression control, and mothers with high levels of unresolved loss and low levels of neuroticism had children with high levels of aggression control.

In all other cases we did not find moderation. Positive representations were predicted by unresolved loss or trauma (β=- .38, 15% explained variance, F (3,71)= 4.11, p <.01). Positive practices were predicted by neuroticism (β=- .39, 27% explained variance, F (3,71)= 8.57, p <.001). Emotional symptoms of children were predicted by neuroticism (β=*.29*, 11% explained variance, F (3,71)= 2.87, p <.05), and attachment security was predicted by neuroticism (β= -*.37*, 12% explained variance, F (3,71)= 3.04, p <.05).

Discussion

The aim of this study was to examine the long-term implications of prematurity on the mother-child relationship and psycho-social functioning of children in middle childhood.

The findings emphasize the importance of resolution of difficult motherhood experiences. Most of the mothers in the study group resolved difficult experiences well, similarly to the vast majority of mothers in the control group. Thus, the interesting finding refers to differences between the mothers in the study group in the relationship with the child and the child's functioning.

Mothers in the study group, who have difficulties in resolving difficult experiences, are characterized by a less favorable relationship with their children, compared to mothers who better resolved difficult experiences. This finding is reflected in both the mother questionnaires (parental efficacy, lower encouragement of autonomy and acceptance), and the parenthood interview (mother and child representations and representations of less positive relationships, lower levels of control and higher levels of negative emotionality). These mothers are also characterized by higher levels of neuroticism compared to mothers who are characterized by successful resolution of difficult experiences.

Most mothers in the study group were able to develop and maintain a good relationship with their child despite the difficult experience of premature birth. Mothers who have trouble resolving difficult experiences are also experiencing difficulties in the relationship with their child, which strengthens the hypothesis that it is not the specific experience of giving birth to a premature baby which has implications on the mother and child relationship, but the way in which the mother resolves difficult experiences which probably reflects her fragile personality. These findings are consistent with findings of other studies which found an association between unresolved trauma among mothers, such as the experience of their child's diagnosis with a chronic illness, and lower levels of parental efficacy and maternal distress. The findings also reinforce the findings of studies conducted among mothers of premature babies and infants and found an association between a successful resolution of premature birth and the security of mother-preterm attachment and a sense of parental competence.

It is likely that the ability of mothers characterized by a successful resolution of difficult experiences (such as premature birth), to adjust to the new reality, accept and acquiesce it, reflects a 'healthy' process of mourning and coping (Bowlby, 1980) and allows them to be more available in their daily interactions with their child.

The differences between mothers in the relationship with the child and the resolution of difficult experiences may arise from their neurotic personality characteristics. The personality of mothers, who are characterized by unresolved difficult experiences, is characterized by higher levels of neuroticism compared to that of mothers characterized by

resolved difficult experiences. It is likely, that a mother with a less neurotic personality perceives herself and her child more positively and feels greater confidence in her relationship with the child, compared with a mother characterized by a neurotic personality. Supporting this, are studies conducted among mothers of premature infants and their children, which found a positive association between the mother's stable personality and positive parenting (hugs, maternal support and acceptance, positive maternal feelings), and a positive correlation between a mother's neurotic personality and problematic parenting (negative maternal feelings, difficulties adapting to parenting and insecure attachment between mother and infant).

Importantly, it is not known whether the mother's neurotic personality is the one that leads to difficulties in resolving grief, or is it the difficult experiences that "enhance" her neurotic personality. Many researchers have focused on the neurotic personality that existed before the traumatic experience as an explanation for the differences reactions to serious distress. In contrast, other researchers adhered to the possibility that a stable personality could be undermined as a result of a traumatic event.

The mothers in this study which are characterized by unresolved difficult experiences and a neurotic personality are also those who are less encouraging their children to autonomy, which is consistent with the findings of studies which showed that anxious or worried parents have a greater tendency to protect their children compared with parents who are not anxious or worried. It is possible that the neuroticism in personalities of mothers who have difficulties in resolving difficult experiences, contributes to the enhancement of negative emotions such as anxiety and loss of control that accompany these experiences, while overprotectiveness of the child is an attempt to regain a sense of control and reduce feelings of anxiety in all that concerns the child.

The differences between mothers in the way they encourage their child to autonomy may also stem from the children's age period in this study (middle childhood) and the developmental changes that characterize it. These changes and especially the beginning of the process of distancing from the parent and drawing closer to peers, may increase the anxiety from loss of control regarding the child among mothers who have difficulties with resolution, resulting in overprotectiveness. It is probable that the greater negative emotionality among these mothers in relation to the child, makes it difficult for them to discern between their need to control him/her and his/her developmental needs, which manifests as a difficulty to encourage him/her to autonomy. Perhaps the mother's difficulty to release the child is caused by a continuous anxiety regarding his/her wellbeing, based on her less adjusted and accurate perception of the child's current health condition. This perception may reflect the mother's doubts and fears regarding the child's chances of survival during his initial hospitalization in the NICU.

As opposed to differences in parenting and relationship with the child in correlation with for the resolution of loss, there were no differences in the way children from both groups perceived their relationship with their mother, as well as their psychosocial functioning (except for the aspect of discretion). An explanation for this may lie in the good socio-economic background of the families who participated in the study. It is probable that mothers in the sample do not experience parental distress associated with poverty and economic difficulties and may use various factors to support them and their children, which could contribute positively to both the relationship with the child and his/her functioning and success, even when it comes to children 'at risk'.

The children's medical risk level (relatively low), the time elapsed since birth and the children's current health condition may also contribute to the children's good functioning. Many studies which found difficulties in the mother-preterm baby relationship and the functioning of premature babies, were conducted among high-risk premature babies, weighing less than 1 kg, a fact that is associated with a variety of neurological and physical medical problems. In contrast, the premature babies in the current study are relatively low-risk premature infants, born weighing between 1000-1500 g, which have not undergone harsh treatment and have not suffered from congenital or special medical problems at birth. As time passed, their condition has improved, and they are now completely healthy, which probably contributes positively to their ability to cope with the difficulties in the relationship with their mother as well as a proper psychosocial functioning.

It is also possible that the children of mothers who have difficulties in resolving difficult experiences experience close and supporting relationships with other significant figures such as fathers, grandfathers and so on. This 'corrective' experience may help them deal with their mother's negative emotionality in the relationship, and contribute positively to their psycho-social functioning. This explanation is consistent with studies which revealed that subjects who had difficult experiences with their parents in childhood such as physical and sexual abuse, or lack of warmth and love in their relationships with their parents, managed to "break the cycle of abuse" and to overcome negative experiences with their parents following a close relationship and support with other significant figures.

Methodological limitations associated with the research tools may also explain the lack of differences between children. For example, it may be that items in the children's questionnaires which had been intended to examine parenting practices of lack of encouragement of autonomy and of intrusion, were perceived by Israeli children in this study as indicating closeness to the mother. The use of more 'sensitive' research tools might have revealed differences that were not found in this study such as vulnerability and difficulties in the relationship with the mother as well as differences in the psychosocial functioning of children.

The lower levels of discretion among children whose mothers have difficulty with resolution, may be related to their overprotectiveness of their children. It is likely that this parental behavior allows less opportunity for their children to cope independently (involving inter alia discretion), compared to children of mothers who encourage their child towards greater autonomy. Support for this may be found in studies which revealed that parental overprotection is negatively associated with the child's independent functioning and his/her ability to make decisions in the pre-adolescent period. In addition, mothers who have difficulty resolving in the current study, perceive their child as struggling with problems solving, which can in turn negatively project on the perception of the child in relation with his/her capability to exercise discretion and to solve problems or make decisions independently.

Strengths and Limitations

The importance of this study is in identifying the contribution of resolution of difficult experiences to the mother-preterm baby relationship and the psychosocial functioning of the preterm-infant in the long run. According to the findings, mothers who struggle with resolving difficult experiences, may experience more difficulties in terms of parenting, compared to mothers who properly resolve difficult experiences, even when it comes to low-risk preterm infants. It therefore seems that the manner in which the mother resolves difficult experiences may have implications on her parental functioning in the long term, and not necessarily the prematurity itself.

This study's methodology has significant contribution to strengthening its findings, but also some limitations. For example, the focus on a population of low-risk perfectly healthy premature infants, from families with a high-medium socio-economic background allows the examination of a homogeneous population and "isolates" the risk factor of prematurity, but also creates limitations regarding the ability of generalization. The use of various research tools (interviews and questionnaires) to collect the information from mothers, from different perspectives (mothers and children) and the control group, strengthen the validity of the findings. However the information collected from the children regarding the relationship with the mother and psychosocial functioning, was based on self-report questionnaires only. Using additional research tools such as interviews or observation of mother-child interaction, might have shed light on aspects that were not dealt with in the children's questionnaires.

Locating mothers who have difficulty with resolution of difficult experiences and treating them right after giving birth, as well as supporting them through parenting periods which are expected to be 'challenging' (for example, middle childhood), may help them better cope with the various parenting tasks.

In future research it would be interesting to further examine mothers of premature babies and their children later in life, such as when children leave home for military service, to include fathers and examine the implications of the child's gender on relationships while comparing the four dyadic variances (mother-daughter, mother-son, father-daughter,

father-son). In addition, it will be interesting to examine the implications of experiencing premature births among additional samples from different cultures and different socioeconomic classes, make use of additional research tools (observations; interviews with children) in order to deepen our understanding, and finally, examine the resolution of the experience of premature birth from the perspective of preterm children. How is this experience perceived in the minds of preterm children? What are their feelings and emotions in regards with their premature birth, and does this have any implications on any areas of their lives?

Table 1.

The differences between mothers and children according to unresolved loss groups

	Preterm resolved group (*n*=26)		Preterm Unresolved (n=19)		Control (n=27)		*F* group	η^2	Post-hoc
	M	*SD*	*M*	*SD*	*M*	*SD*			
Unresolved loss or trauma	1.48	.29	2.60	.36	1.49	.28	80.22***	.70	1,3<2
#Resolution of the pre-term birth	4.27	1.37	2.76	.90	-	-	17.52***	.29	2<1
Neurotic personality	1.46	.46	2.02	.39	1.47	.32	13.96***	.29	1,3<2
Parental efficacy	4.37	.33	3.92	.33	4.22	.37	9.08***	.21	2<1,3
Parenting representations									
Self' representations	2.91	.92	2.05	.57	2.73	.82	6.65**	.16	2<1,3
Child' representations	2.82	.89	2.09	.90	2.85	.81	6.25**	.15	2<1,3
Negative emotionality	2.39	.78	2.99	.61	2.48	.76	7.14**	.17	1,3<2
Positive relations	3.18	.97	2.39	.68	3.17	.94	5.46**	.14	2<1,3

	Preterm resolved group (*n*=26)		Preterm Unresolved (n=19)		Control (n=27)		*F* group	η^2	Post-hoc
Monitoring	3.31	.91	2.67	.64	3.50	.69	6.90**	.17	2<1,3
Resolution of the pre-term birth	4.27	1.37	2.76	.90	-	-	17.52***	.29	2<1
Parenting practices									
Autonomy granting	4.09	.46	3.69	.47	4.05	.41	5.18**	.13	2<1,3
Acceptance	4.53	.34	4.21	.37	4.47	.40	4.71**	.12	2<1,3
intrusiveness	2.19	.42	2.35	.54	2.06	.43	2.34	.06	3<2
Limits setting	3.12	.47	2.79	.50	3.22	.45	4.64**	.12	2<1,3
Children's psychosocial functioning									
Mothers' reports									
Emotional symptoms	1.45	.49	1.44	.38	1.36	.41	.38	.01	
Behavior	1.32	.40	1.38	.41	1.17	.23	2.23	.06	
Hyperactivity	1.59	.51	1.63	.48	1.43	.37	1.29	.04	
Social	1.31	.43	1.34	.49	1.22	.34	.52	.02	

	Preterm resolved group (*n*=26)		Preterm Unresolved (n=19)		Control (n=27)		*F* group	η^2	Post-hoc
Prosocial	2.65	.28	2.63	.40	2.68	.35	.12	.00	
Children's reports									
Level of Security	3.28	.37	3.28	.33	3.41	.38	1.10	.03	
Rehearsal	1.53	.21	1.46	.29	1.52	.23	.43	.01	
Inhibit	1.68	.22	1.60	.21	1.68	.22	.87	.03	
Aggression control	1.57	.21	1.68	.20	1.62	.19	1.62	.05	
Benign control	1.63	.21	1.46	.25	1.58	.21	3.27*	.09	2<1

only mothers of preterm babies were interviewed

Table 2.

Regression analyses – the contribution unresolved and personality to parenting and children's psychosocial functioning

	Locus of control M		Intrusiveness M		Aggression control – child	
Step and predictors	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1		.01		.04		.13
Gender	-.08		.21+		-.36**	
Step 2		.24		.05		.00
Gender	-.15		.24*		-.37**	
Unresolved	.21		.01		-.03	
Neuroticism	.35**		-.23		.05	
Step 3		.05		.07		.07
Gender	-.15		.23*		-.38**	
Unresolved	.33*		.16		.11	
Neuroticism	.30*		-.29*		-.01	
Interaction unresolved*neuroticism	.24*		.29*		.28*	
Total R^2		.30		.16		.20
F final model	$F(4,70) = 7.36$***		$F(4,70) = 3.36$*		F (4,70)= 4.26**	

* p <.05; ** p <.01; *** p<.001