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Graduate Program in Sociology
A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of
Philosophy
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**CHILDREN'S MENTAL HEALTH: THE ROLE AND
CONTRIBUTION OF A SOCIOLOGICAL PERSPECTIVE**

(Integrated Article)

by

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Graduate Program in Sociology

**A thesis submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy**

**The School of Graduate and Postdoctoral Studies
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Abstract

The study of children's mental health has largely been the domain of developmental psychologists and psychiatrists. These studies focus on parental mental health, and examine its direct and indirect effects, through a family's psychosocial environment. Relatively little attention is given to socio-structural factors. By contrast, the sociology of mental health focuses on such structural factors as poverty and income, examining the extent to which stressors and strains may pattern the effects of these factors on children's psychopathology. Adding to the divergence in research is the use of maternal reports in the assessment of children's mental health. These reports often reflect mothers' own mental health status and are inherently biased. Using data collected from 560 couples in London, Ontario, the current study moves beyond the scope of these disciplines to assess the effects of parental socio-structural and stress characteristics in relation to parental psychopathology. It addresses the issue of bias by using both maternal and paternal reports of their children's mental health. In a final set of analyses, the results that are obtained using both parents' reports are reconciled through an assessment of possible factors that may predispose either parent to overreport their children's psychopathology. Findings indicate a moderate association between social structural characteristics and children's mental health. This association is mediated by parental stress, which by itself is a direct and independent predictor of children's mental health. The effect of parental distress, however, appeared to be a function of the parental report that was utilized. When mothers' reports were used, their distress correlated with children's psychopathology. Similarly, fathers' distress mattered only when their own reports were used. Parental distress, independently and in relation to social structural, stress and family relationships, also contributes very little to the discrepancies in mothers' and fathers' reports of their children's mental health. The findings of this study support the need for children's mental health studies and intervention that transcends a focus on parental psychopathology to include an improvement in the social conditions of children.

Keywords: Children, Mental Health, Discrepancy, CBCL, Socio-Demographic Characteristics, Marital Relationship, Parenting, Stress, Sociology, Developmental Psychology

Dedication

To Joel and Nathan

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CHAPTER ONE

1 CHILDREN'S MENTAL HEALTH: THE ROLE AND CONTRIBUTION OF A SOCIOLOGICAL PERSPECTIVE.

1.1 Introduction

Aneshensel, Rutter and Lachenbruch (1991) distinguish between two conceptual and analytic models, the sociological and sociomedical models. Sociological models focus on the mental health consequences of patterns of social organization. The starting point of analysis here is social structure and its potential consequences for varying social and psychological outcomes. It posits the existence of a broad spectrum and non-specific manifestation, of stress. Stress, in this paradigm, is conceptualized as a consequence of social structural arrangements. It is perceived as a mediator/intervening variable in the social position-disorder relationship. Sociomedical models, on the other hand, emphasize the social antecedents of mental disorders. These begin with a disorder and, then, map out a wide range of potential precursors. Stress and social factors are treated as independent variables and confounding or background factors, respectively. Focused on disorder-specific stressors and the antecedents of disorder, much of the work that draws from this conceptual and analytic paradigm either leaves social structural characteristics unexamined or treats them as confounding influences. These analytical and conceptual models are extremely important when you think about research on children's mental health.

A vast majority of studies on children's mental health, conducted by psychologists, developmentalists and psychiatrists, embrace a sociomedical model and identify parental psychopathology and families' psychosocial environment as the most important predictors of children's mental health. Much of this research leaves social structural characteristics – i.e. an individual's location in society as defined by their statuses and roles – of the family unexamined or treats them as confounding influences. By contrast, relatively little sociological research has focused on children's mental health. The literature that does exist in the sociology of mental health focuses on structural factors

such as poverty and income. Parental mental health is either treated as a mediator or omitted from such studies.

What came out of a consideration of these issues – i.e. the lack of attention to both structural characteristics and mental health in psychological and in sociological studies on children’s mental health – was a preliminary investigation of the way in which parental social structural characteristics and parental mental health might independently and concurrently influence children’s mental health. In my first paper, I assess the relative impact of parental sociodemographic characteristics and parental psychopathology on children’s mental health. One difficulty that arose in studying the effect of parental social structural characteristics and parental psychopathology is the fact that most studies of children’s mental health tend to rely on maternal reports (Boyle and Pickles 1997). To address the bias/distortion often inherent in these reports, I examined both mothers’ and fathers’ reports, using both as dependent variables in my analyses.

The second paper originates from the idea that if structural factors affect children’s mental health, then it may be possible to conceptualize this in a stress process model. Hence, I examine children’s mental health, focusing on one aspect; the development of a stress universe for children’s mental health. Primarily, the paper focuses on stress in the home environment, identifying the differences in the impact of various stressors, as well as the trans-generational effect of parental stress.

The final paper emerges out of an attempt to reconcile the results that emerge from using maternal and paternal reports. Drawing on a combination of studies that address the connection between parental psychopathology, depression distortion and discrepant reports, I investigate the issue of divergence in mothers’ and fathers’ reports of their children’s mental health. This paper goes beyond the sole focus on the predictive effect of parental psychopathology and the treatment of inter-parental report discrepancies as methodological nuisances to examine whether there might be social and psychosocial factors that influence the discrepancies in mothers’ and fathers’ reports of their children’s mental health. Four potential factors – social structural factors, parental mental health,

marital relationships and parenting styles, and social stressors – are examined, and their independent, comprehensive and relative effects examined.

Primarily, this thesis explores the relative impact of parental mental health and parental social and stress characteristics on children's mental health outcomes. It proposes the need for, and suggests that there is value in considering, a sociological perspective on children's mental health. It also calls for research that considers the simultaneous examination of the effects of parental mental health and structural characteristics.

1.2 References

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CHAPTER 2

2 PARENTAL MENTAL HEALTH AND SOCIAL CHARACTERISTICS: AN EVALUATION OF THEIR IMPACT ON CHILD MENTAL HEALTH

2.1 Introduction

The study of children's mental health has largely been the domain of developmental psychologists and psychiatrists. A major theme that emerges from this research is the importance of parental mental health on the family's psychosocial environment and children's mental health. Relatively little attention is given to social structural factors by psychiatric or developmental researchers. By contrast, relatively little sociological research has focused on children's mental health. The literature that does exist in the sociology of mental health, focuses on structural factors such as poverty and income, but gives little or no consideration to parental mental health. This is reminiscent of Aneshensel, Rutter and Lachenbruch's (1991) characterization of sociomedical versus sociological paradigms.

Aneshensel *et al.* (1991) argue that the sociomedical and sociological models are the two dominant conceptual and analytic models in the study of mental health. Despite their use of stress in the explanation of the association between social status and mental disorder, these models draw from different theoretical and intellectual paradigms and offer divergent perspectives on the role of stress in the association between social status and disorder. Sociomedical models emphasize the social antecedents of mental disorders and focus on disorder-specific stressors. Analysis begins with a disorder and then maps out a wide range of potential precursors. Stress is treated as an independent variable and social structural factors are largely neglected or treated as confounding factors. Sociological models focus on the consequences of patterns of social organization for mental health. The starting point of analysis here is social structure and its potential consequences for various psychological outcomes. The model posits the existence of a broad spectrum and non-specific manifestations of stress. Stressors, in this paradigm, are conceptualized as

the consequences of social structural arrangements. They are conceived as mediators or intervening variables in the social position and disorder relationship.

A notable gap in research to date is the comparative lack of studies in developmental psychology and the sociology of mental health that measure the extent to which structural factors and parental mental health independently contribute to children's mental health outcomes. This paper seeks to address this gap by assessing the relative effects of socio-structural determinants of mental health and parental mental health on children's mental health and behavioral symptomatology. Socio-structural determinants considered in this study are parental age and education, household income, and the child's age and gender.

2.2 Review of Literature and Research Context

2.2.1 Children's Mental Health: The Developmentalist Viewpoint

There is a large body of research which suggests that parental psychopathology contributes significantly to children's mental health problems. Children of depressed parents are more likely than children with non-depressed parents to experience depression or depressive symptoms and behavioral problems (e.g. Kouros and Garber 2010; Kouros, Merrilees, and Cummings 2008; Shelton and Harold 2008; Lewinsohn, Olino, and Klein 2005; Olfson, Marcus, Druss, Pincus, and Weissman 2003; Harter 2000; Weissman, Wolk, Goldstein *et al.* 1999; Kramer, Warner, Olfson, Ebanks, Chaput, and Weissman 1998; Beardslee, Versage, and Cladstone 1998; Leadbeater, and Bishop 1994).

Mothers' mental health status has been particularly important because of their role as primary caregivers. The impact of mothers' mental health during and after pregnancy has been well documented. Maternal problems that have been identified as predictors of child mental health problems include stress, depression, anxiety and drug use (Sohr-Preston and Scaramella 2006; Kouros and Garber 2010; Goodman and Gotlib 1999; Hay, Pawlby, Angold, Harold, and Sharp 2003; Hammen and Brennan 2003; Hammen 2003; Lyons-Ruth, Wolfe and Lyubchik 2000). Studies indicate that maternal anxiety, depressive symptomatology consistently increase the rate of child attention and health problems, and depressive symptomatology and behavioral problems (Clavarino *et. al* 2010).

A number of studies also suggest a link between paternal mental and behavioral problems and children's psychopathology (Fluori 2010; Reeb and Conger 2009; Osborne and Berger 2009; Ramchandani and Stein, 2008; Boegels and Phares 2008; Kane and Garber 2004; Christoffersen and Soothill 2003). Fathers' experience of psychiatric disorders in childhood, as well as their past and present antisocial behavior, substance abuse and depressive moods are associated with their offspring's mental health and behavioral problems (Kelley and Fals-Stewart 2004; Cummings, Keller, and Davies 2005; Connell and Goodman 2002). The negative impact of father's mental health persists independent of the father's social status and family structure/arrangements. Osborne and Berger (2009) analyzed the links between parental drug problems and children's mental health and developmental outcomes and found that children with substance-abusing fathers are at a potentially higher risk of health and behavior problems. This association holds strong and remains significant whether fathers are resident or non-resident. Also, whilst living with a step father increased a child's likelihood of externalizing problems, living with a single father led to increases in internalizing problems (Luoma *et al.* 1999).

Largely, the importance of social structural factors has received only little or no attention in psychological studies of children's mental health. In most of these studies, structural factors are either omitted or treated as confounding factors.

2.2.2 Children's Mental Health: The Sociological Perspective

Generally, sociological perspectives on mental health and illness proceed from the observation that social experiences, interaction and inequality contributes to variations in mental health and wellbeing.

Parental Education and Children's Mental Health

Parents' education, especially mothers' schooling, is associated with favorable mental health outcomes for children at all ages (Lindeboom, Llena-Nozal, and Klaauw 2009; Maitra, Peng, and Zhuang 2006; Flores, Bauchner, Feinstein, and Nguyen 1999; Wickrama, Conger and Lorenz 1998; Desai and Alva 1998). The impact of parental education is particularly important in adulthood. Quesnel-Vallee and Taylor (2012) found

that both mothers' and fathers' education was directly associated with depressive symptoms in adulthood. Maternal education was more pronounced in its impact than paternal education. Mother's education is particularly protective for children in wealthy, rather than in poor, homes. Further, improvements in economic status reduced health risks more for children whose mothers are better educated (Hatt and Waters, 2006). Paternal education also has significant impacts on the mental health of offspring. In contrast to maternal education, the protective effect of fathers' education operates independently of economic status.

The consequences of parental education for children's mental health are both direct and indirect. Education's direct impact on children's mental health has been explained by its ability to enhance the acquisition and processing of knowledge and information, improve the adoption and continuation of health producing behaviors, and increase mastery and effective agency (Lindeboom, Llena-Nozal, and Klaauw 2008; Mirowsky and Ross 1998). Much of this enables parents to enhance their own health investments and encourages a healthy lifestyle in parents and, subsequently, their children. Some research identifies factors that mediate the relationship between parental education and children's mental health. These include distress, low income and poor parental lifestyles (Wickrama, Lorenz, Conger, and Elder 1998; Capaldi and Patterson 1991).

Income and Children's Mental Health

Studies have documented the impact of parental income on children's mental health. Studies of the mental health consequences of families' economic stress on children, have indicated that children who experience financial or economic strain are more likely to express and manifest such emotional and behavioral problems as depressive symptoms, impulsive behavior or antisocial behavior (e.g. Takeuchi, Williams, and Adair 1991). Strohschein (2005) evaluated the influence of household income histories on childhood depression and antisocial behavior overtime, and outlined three main findings. First, low household income is a strong predictor of higher levels of depression and antisocial behavior amongst children. Second, subsequent improvements in household income reduce children's mental health problems. Last, whilst the effect of initial household

income on the rate of change in child depression attenuate over the years, the effect of initial household income for antisocial behavior becomes stronger.

A study by McLeod and Shanahan (1996) also outlines the dynamic relationship between families' histories of poverty and children's mental health trajectories. Results from this study indicate that children who are poor or have prior and subsequent histories of poverty manifest higher levels of depression and antisocial behavior. The number of years that children are poor is also significantly associated with changes in children's anti-social behavior. Furthermore, compared to children with histories of transient poverty, children with persistent poverty were found to have higher rates of antisocial behavior during those years.

Parental Age, Gender and Children's Mental Health

Most studies on the effects of parental age and gender on child health focus on parental age at first birth. Findings from these studies have often focused on maternal age, outlining biological and psychosocial reasons such as why children born to teenage and older mothers tend to have more psychological and behavioral problems such as fighting, truancy and early sexual activity (Levine, Pollack, and Comfort 2001). Mikko Myrskylä and Fenelon (2011), for example, found that compared with teen mothers, children of older mothers had declining risks of juvenile crime, substance misuse and mental health problems.

Contrary to the long standing belief that early birth disadvantages the young mother and her child, there are some studies that show that this is not always the case. One study that took into account period effects and time trends demonstrated that changing social trends have to a considerable extent reduced the negative effects of early child bearing. Children of mothers who began child bearing early, when time trends were considered, tended to score significantly lower on the behavior problem index, than those born to mothers who began child bearing later (Hofferth and Reid 2002).

A number of studies have also shown that parental gender moderates the relationship between parental mental health and offspring psychopathology. Osborne (2009) found

children to be at an increased risk of behavioral problems when they have substance abusing fathers or depressed mothers. Connell and Goodman (2002) also found that whilst children's internalizing problems were more closely associated with maternal psychopathology, their externalizing behavioral problems appeared to be linked in comparable ways to maternal and paternal mental health problems. Studies also show that parental gender affects reports of children's mental health. Compared to fathers, mothers were more likely to report poorer child mental health, particularly, if they had a poor perception of their own mental health (Waters *et al.*2000).

Together, these studies underscore the importance of social structural factors in understanding children's mental health. An important step would be the assessment of the relative effects of these structural factors on children's mental health.

2.2.3 Developmentalist versus Sociological Viewpoint

From the above, it is obvious that both developmental psychology and sociology of mental health have a substantial amount of evidence to ground their claims and are important to our understanding of children's mental health. Regardless, research continues to be tailored along the lines of either tradition. Much of the research in developmental psychology on children's mental health continues to focus on the significance of parental psychopathology and examines the psychosocial factors that link it to children's mental health and behavioral symptomatology. The direct impact of structural factors on children's mental health and its potential impact through parental mental health are ignored. Rather than being an independent or main predictor, parental mental health may be a significant pathway through which structural factors affect children's emotional health and behavioral outcomes.

Similarly, most of the sociological studies on children's mental health continue to focus mainly on the mental health consequences of the child's socio-structural circumstances for a wide array of psychological problems. Thus, there remains a divergence, with both disciplines failing to more closely consider both sets of factors in their analyses of the antecedents of children's mental health. The general trend outside of both disciplines,

however, has been to tread the path of the developmentalists and focus on parental mental health.

Psychological studies of child mental health limit an understanding of the wide range of factors that could contribute to variations in children's mental health. This is partly due to the focus on disorder and disorder-specific stressors, as well as the inadequate attention to structural factors and/or structural analysis in these studies. In most of these studies, the role of structural factors such as parental education, income and age are either ignored or treated as confounding variables. This may result in: (1) an overestimation of the direct effects of parental psychopathology on children's mental health and behavioral problems; (2) an underestimation of the role that families' structural characteristics play in shaping the mental health outcomes of parents and/or their children; or (3) a neglect of the external factors shaping the relationships between parent and child psychopathology. Also problematic in developmental studies of children's mental health is the common practice of using parental reports as proxy for children's mental health status. A well-known criticism of this approach is that parental reports may be more reflective of their own mental health than objective assessments of their children's emotional or behavioral problems. Bias in such reports could over-estimate the impact of parental mental health on children's emotional well-being.

There is convincing evidence that socio-structural factors play an important role in influencing children's mental health outcomes. These factors may be more important and pervasive in their impact than parental mental health. Further, there is a lack of studies in both developmental psychology and sociology on the comparative significance of parental mental illness and social disadvantage on children's emotional and behavioral problems. This paper examines the impact of socio-structural determinants and parental mental health through a sociological lens, evaluating their relative impact on children's mental health. In doing so, it examines four propositions: 1) social structural factors play a more important role in children's mental health than has been suggested; 2) the effects of socio-structural determinants are stronger than parental mental health in predicting children's mental health; 3) structural factors directly affect both parental and children's

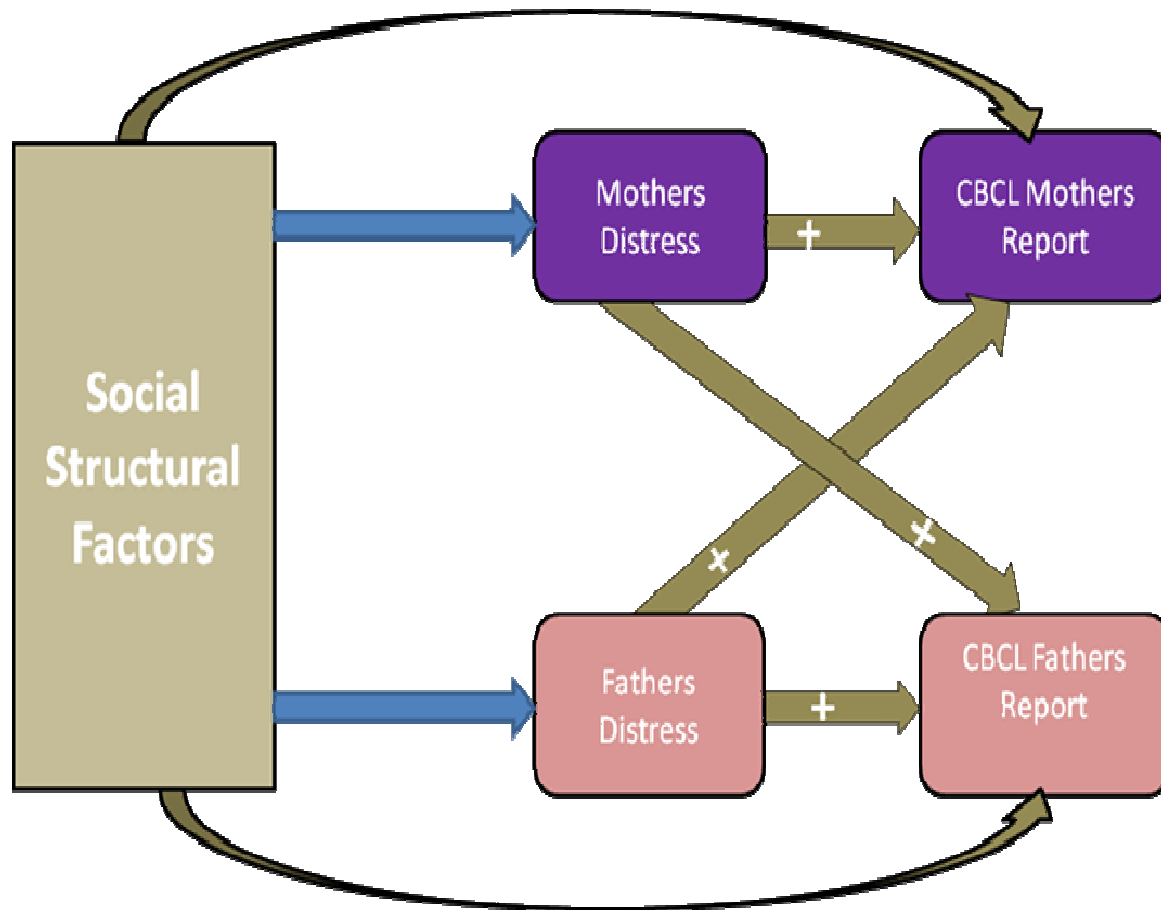
mental health; and 4) parental mental health mediate the impact of social structure on children's mental health.

Any attempt to estimate the effect of parental mental health on children's mental health presents a methodological challenge. This is mainly because most studies rely on maternal reports of their children's mental health. Evidence suggests that such reports often reflect mothers' own mental health status and are distorted. One such evidence is provided by Boyle and Pickles (1997) who found a correlation between maternal depressive symptoms and their rating errors, reports of childhood behavior and conduct disorder. In this paper, I address the issue of bias by using both mothers' and fathers' reports of their children's emotional and behavioral problems

In this paper, I evaluate a conceptual model that tries to estimate the impact of structural factors and parental mental health on children's mental health taking into account the possibility that parent's judgments of their child's mental health may be distorted by their own depression. In the absence of any such distortion/bias, it is expected that a parent's distress will similarly predict their own reports of children's mental health, as well as their spouse's report. In other words, mother's distress is expected to predict distress in their children, irrespective of which parents' report is utilized. Similarly, fathers' distress must predict children's mental health irrespective of which parents' report is utilized. It is also expected that social structural factors will predict children's mental health irrespective of which parental report is utilized and this relationship will be mediated by parental mental health (see figure 1).

A sociological study and analysis of the predictors of psychopathology in children will provide a broader scope to identify the complex interrelationships between social structure, parental mental health and children's mental health outcomes.

Figure 1: Conceptual Model



2.3 Data and Methods

Data for this study were drawn from a longitudinal survey that originally focused on the mental health consequences of unemployment for individuals and their families (Avison, 2001). Interviews were collected over a 14 month period between 1999 and 2001. A stratified sampling pool of married or co-habiting couples with at least one child under age 18 living at home was identified through a random digit dial (RDD) screening survey conducted in London, Ontario. Area-specific three digit prefixes were used to ensure that all areas of the city were represented in the initial screening. This sample was further stratified on employment criteria. Individuals were selected if they fell into one of three categories: currently unemployed (CU), previously unemployed within the past 24 months (PU) or stably employed (SE). Respondents were classified as currently and previously unemployed, if they had involuntarily lost a steady job where they worked more than 25 hours per week. This episode of involuntary job loss must have occurred at least four weeks before the screening survey. An individual qualified as stably employed if s/he had a steady employment in a 25+ hours per week job, and had less than four weeks of unemployment over the preceding four years. The screening survey generated approximately 1,000 families who met the criteria for CU or PU and another 9,000 families who met criteria for SE. Of these, a sample of 1,166 families, stratified across the three employment groups were sent contact letters. Each spouse was invited to participate in a face-to-face interview and to complete a self-report questionnaire. In the face-to-face interviews, respondents were asked about their age, education, income, a wide range of questions about their work histories and job conditions, and their mental health status. The self-report questionnaire included items about children's internalizing and externalizing behavioral symptomatology as well as a wide array of psychosocial measures. Spouses and their children were interviewed separately to ensure that responses reflected only the respondents' views. In families where both spouses did not complete both the interview and the self report, their records were deleted from the study.

The final sample consisted of 897 two-parent families with at least one child under the age of 18 living at home. These were the families who agreed to receive more

information and to be a part of the study. Among these 897 families, there were instances in which husbands or wives refused to participate or did not complete either or both the face-to-face interview and the self-report questionnaire. For this study, such cases were deleted. This reduced the sample to 533 cases, a reduction of about 40.2% (n=364). The final sample used in this paper (n=533) consisted of two-parent families with children between the ages of 1 and 20.

2.3.1 Measures

The measures used in this study derived from both the self-report and in-depth face-to-face interviews used in the survey.

2.3.1.1 Parents' Characteristics

Parental Age: The age range for mothers and fathers in this data was 19 to 64 years and 22 to 73 years, respectively.

Parental Education: Parental education is measured by mothers' and fathers' years of education. Respondents were asked to indicate the length of time they have been in school. For women, the length of schooling ranged from no education (only one respondent) to 20 years. For men, the range was from 5 years to 20 years.

Parental Income: Income in this study was measured by mothers' and fathers' report of annual household income. Household income categories provided in the questionnaire ranged from under \$5000 to \$90,000 or more. A single household income variable was created based on an average of household income reported by each couple. In cases where only one spouse provided an income amount, this was substituted for both spouses in the analysis.

Parental Mental Health: The Center for Epidemiologic Studies Depression Scale (CES-D) measured distress in this study. The scale was developed for use in studies of epidemiology of depressive symptomatology in the general population (Radloff 1977). The CES-D measures the current level of depressive symptomatology, with emphasis on the affective component, depressed mood. The scale is a short, structured self-report with a 20-item scale that describe depressed symptoms such as "I felt that everything I did was

an effort’, ‘I did not feel like eating; my appetite was poor’, ‘I thought my life had been a failure’, I felt that I could not shake off the blues even with help from my family and friends’, and ‘I felt depressed’. Each item included a four-point response scale to assess the occurrence of depressive symptoms over the past week. The CES-D was used as a continuous measure. It had a scale that ranged from 0 “rarely or none of the time” (less than one day) to 3 “most or all of the time (5 to 7 days)”. Scores on the CES-D scale ranged from 0 to 60, with higher scores indicating higher levels of depressive symptomatology. For this sample the score ranged from 0 to 57 for women and 0 to 52 for men.

The CES-D has been reported to have strong correlations with other depression measurement scales and distinguishes well between the general population and clinical samples (Radloff 1977). In this sample, Cronbach’s alpha for men was .89 and .92 for women.

2.3.1.2 Children’s Characteristics

Children’s Age and Gender: The age range for children in the study was 2 – 19 years. 54.50% of these children were boys and 45.50%, girls.

Children’s Mental Health: Children’s emotional and behavioral problems were rated using the Child Behavior Checklist (CBCL) developed by Achenbach and Edelbrock (1983). The CBCL is a parent-report questionnaire in which parents rate their child’s internalizing (i.e., anxious, depressive) and externalizing (i.e., aggressive, hyperactive, noncompliant) behaviors over the past six months (Achenbach, 1991). It consists of 113 questions and has a 3-point response scale, ranging from 0=not true to 2= very true or often true.

The CBCL has substantial concurrent validity and inter-rater reliability. Achenbach and Edelbrock (1983) argue that parental reports are reliable for a number of reasons. Parents are generally available, are the primary caregivers and the most aware of their children’s behavior and behavioral changes over time. Further, despite the likelihood of bias in these reports, the researchers believe that parents’ views are important as they are key to

determining what is done about the child's behavior. Parent's reports have been found to be highly consistent with reports provided by others; teachers, observers and mental health professionals. Correlations among these informants averaged .60.

Following Achenbach's recommendation, all scores greater than 63 were treated as clinical cases. The cutoff point for non-clinical cases was 63. Given the strong correlation between children's CBCL internalizing and externalizing scores (over 0.80), we created a single children's mental health variable for mothers and for fathers. For mothers' we combined mothers' reports of internalizing and externalizing behavior scores. The same was done with fathers' reports of internalizing and externalizing behavior. For each of these children's mental health measures, scores were coded so that higher scores indicate higher levels of emotional and behavioral problems.

2.3.2 Non-Response Biases

In the sample selection and interviewing process, there were cases of non-response; some respondents did not consent or refused to complete the self-report. Because the vast majority of the none-response occurred in the self-report questionnaire, I still retained data on parents' psychological distress. I was then able to compare data on the 533 families with complete data with the remaining non-respondents on a variety of measures.

Extensive analyses are performed to verify whether those who did not participate differ significantly from those who participated. Comparing first the 364 families who were eligible, but did not complete the structured interviews and/or self report with the 533 who completed both it is evident that those who refused were somewhat less educated and had younger children and families. There was no non-response bias due to CESD or behavioral problem scores. Compared to mothers who completed the self-report, mothers who did not complete were slightly younger ($p < .001$), had less education ($p < .05$), and younger children ($p < .001$). These mothers were no less depressed than those in the sample. For fathers, those who did not complete the self-report were younger ($p < .001$) and had younger children ($p < .001$). No significant difference was found in terms of CESD or children's behavioral symptomatology.

2.4 Results

The means and standard deviations of the variables included in the analyses are presented in Table 1. Mothers and fathers in this sample, on average, appeared to be similar in terms of age and education. The mean age for mothers and for fathers was slightly over 38 and 40 years, respectively. In our analyses, only mothers' age is used as it is highly correlated with that of fathers' age at .83. On average, mothers had 14.21 years of education; fathers had slightly higher levels of education, 14.33. The mean household income in this sample was a coded value of 12.13 which translates into a mean income range of \$45,000 to \$49,000. The mean age for children in the sample was 9.26 years.

On average, mothers score somewhat higher on the CES-D than fathers; 11.99 compared to 8.98. The means and standard deviations of parental reports of children's behavior differed only slightly from each other. The mean and standard deviation for mothers' reports of behavioral problems was 100.56 and 20.06 respectively. For fathers' reports, it was 101.58 and 19.96.

2.4.1 Parental Mental Health versus Parental Social Characteristics

The multivariate analyses examine the relative effects of mothers' and fathers' sociodemographic characteristics and their distress/mental health on children's mental health. A series of parallel regression equations was computed for mothers and fathers. The first set of analyses assesses the effects of social structural influences (parental age, parental education, household income, child's age and child's gender) on mothers' and fathers' reports of children's emotional and behavioral problems. In this paper, mothers' age is used as a proxy for parental age because it is highly correlated with fathers' age at 0.83.

Table 2.1: Characteristics of the Sample: Means and Standard Deviations of Respondents Social and Health Status

Variables	\bar{x}	s.d
Age _{Mothers}	38.14	6.71
Age _{Fathers}	40.14	7.19
Education _{Mothers} ^a	14.21	2.69
Education _{Fathers} ^b	14.33	3.02
Income _{Household} ^c	12.13	4.26
Age _{Child}	9.26	4.85
Gender _{Child} ^d		54.50%
CESD _{Mothers}	11.99	10.51
CESD _{Fathers}	8.98	8.30
CBCL _{Mothers}	100.56	20.06
CBCL _{Fathers}	101.58	19.96
N		533

^{a,b} Years of Education

^c Coded value corresponds to \$45000 – \$49,000

^d Percent Male

Using ordinary least squares (OLS) regression estimation procedures, analyses were computed separately for mothers' and fathers' reports. Parents' reports of their children's mental health problems were regressed on their own social, family, and mental health characteristics.

In Model 1 of Table 2.2, mothers' reports of children's behavioral problems were regressed on both mothers' and fathers' sociodemographic characteristics. In this model, no association is found between parental social structural characteristics and their children's mental health problems. Given that education and household income are typically correlated, a second model was estimated using household income as a proxy for socioeconomic status. The results of this analysis are displayed in Model 2. In this model, household income is significantly associated with children's mental health problems. When the significant effects of child's age and gender are controlled in Model 3, a negative correlation is found for maternal age, with younger mothers being more likely to report problematic behavior among their children. Mothers were also more likely to report internalizing and externalizing symptoms in older children and for boys. Taken together, these sociodemographic factors account for 7.2 percent of the variance in mothers' reports of their children's emotional and behavioral problems.

In Model 4, controlling for maternal distress eliminates the significant effects of household income. The coefficient of parental age is also reduced. This suggests that the effects of parental age and household income on parents' report of children's mental health are somewhat conditional on their own mental health status. Mothers' psychological distress is a significant predictor of children's mental health problems and accounts for an additional 3.5 percent of the variance. By contrast in Model 5, fathers' psychological distress is unrelated to mothers' reports of their children's mental health and the effect of household income persists. When both maternal and paternal distress are included in Model 6 the household income effects is once again mediated. All coefficients in Model 6 remain virtually identical to those estimated in Model 4. Comparatively, parental sociodemographic or structural characteristics account for a greater proportion of the explained variance than does parental psychological distress.

Table 2.2 and 2.3: Regressions of Mothers' and Fathers' Report of Children's Mental Health Problems on Structural Variables and Parental Distress

Table 2.2: Mothers' Report of Children's Emotional and Behavioral Problems

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b	β	b	β	b	β	b	β	b	β	b	β
Education _{Mothers}	-.534	-.072										
Education _{Fathers}	-.588	-.089										
Age _{Mothers}	.238	.080	.208	.069	-.437*	-.146	-.381*	-.127	-.426*	-.143	-.337*	-.126
Income _{Household} ^a	-.435	-.092	-.699**	-.148	-.562**	-.119	-.345	-.073	-.535*	-.114	-.337	-.072
Age _{Child}					1.13***	.274	1.12***	.300	1.20***	.291	1.20***	.290
Gender _{Child}					-3.70*	-.113	-3.60*	-.089	-3.42*	-.085	-3.43*	-.085
CESD _{Mothers}							.376***	.197			.373***	.195
CESD _{Fathers}									.083	.034	.030	.012
R²	.029***		.016**		.072***		.107***		.072***		.105	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

Table 2.3 Fathers' Report of Children's Mental Health

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b	β	b	β	b	β	b	β	b	β	b	β
Education _{Mothers}	-.352	-.047										
Education _{Fathers}	-.671	-.102										
Age _{Mothers}	.183	.062	.156	.053	-.471**	-.158	-.455*	-.153	-.405*	-.136	-.397*	-.133
Income _{Household} ^a	-.302	-.065	-.543*	-.116	-.415	-.089	-.353	-.075	-.256	-.055	-.223	-.048
Age _{Child}					1.20***	.292	1.19***	.289	1.16***	.281	1.15***	.280
Gender _{Child}					-4.38*	-.109	-4.33*	-.108	-4.42**	-.111	-4.39**	-.110
CESD _{Mothers}							.106	.056			.062	.033
CESD _{Fathers}									.494***	.205	.485***	.202
R²	.020***		.008*		.066***		.067***		.105***		.104***	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

Table 2.3 presents the results of a parallel set of regressions of fathers' reports of children's behavioral problems. Similar to patterns found in Table 2, no association is found between parental social characteristics and children's mental health when both education and household income are controlled in Model 1. In Model 2, household income is negatively correlated with children's internalizing and externalizing behavior. In Model 3, when the significant effects of child age and gender are included in the analyses, the effect of household income disappears. The child's age and gender appear to be more important in predicting children's mental health when paternal reports are utilized. The effect of parental age (as captured by the mothers' age coefficient), however, becomes significant, with younger parents reporting more emotional and behavioral problems among their children. Again, problematic behavior is most evident among older children and boys. When combined, parents' and sociodemographic characteristics explained 6.6 percent of the variance in paternal reports of children's behavioral problems.

In model 4, mothers' distress is not associated with fathers' assessments of their children's mental health problems and accounts for only 0.10 percent of the variance over and above socio-structural factors. Fathers' distress, on the other hand, is an important correlate of their reports of their children's emotional behavioral problems (Model 5), accounting for an additional 3.9 percent of variance. Paternal distress significantly reduces the coefficient of household income by about 16 percent, although household income is not a significant predictor of children's mental health in paternal reports. Paternal distress appears to mediate the effects of household income on children's mental health

In Model 6, there is no substantial change in the regression coefficients or variance explained with the inclusion of both maternal and paternal distress. With all predictors in the model, 10.4 percent of the variance in paternal reports of children's behavioral problems is explained. Again, socio-structural factors account for more than half of that explained variance. Together, maternal and paternal distress account for only 3.7 percent. Nearly all of this is attributable to fathers' CES-D scores.

2.4.2 Parental Distress as Mediator

Additional analyses were conducted to confirm our initial finding that parental distress mediates the association between parental socio-structural characteristics and their reports of their children's mental health problems. Two sets of analyses were conducted using maternal distress and paternal distress. These are presented in Table 2. The first two models presents results obtained from a regression of maternal distress on sociodemographic characteristics. The last two models are results obtained from a regression of fathers' distress on sociodemographic characteristics.

When mothers' distress is regressed on parental sociodemographic characteristics, a significant association is found for mothers' education and household income. Mothers with higher education are less likely to be distressed than those with less schooling (Model 1). Mothers' from low income households were more predisposed to distress. The significant effects of mothers' education and household income persist with the addition of child's age and gender (Model 2).

When paternal distress is regressed on parental sociodemographic characteristics, only household income is correlated with fathers' distress (Model 1). A unit increase in household income reduced the likelihood of distress. This association remains the same when child age and gender are included (Model 2). Overall, these results validate the patterns of results in Tables 2.2 and 2.3. The significant associations between parent's social characteristics and their own mental health suggest that parental mental health may mediate the effects of social structural characteristics on children's emotional and behavioral problems.

Drawing on research which suggests gender variations in social exposure and experiences of stress and distress, an additional set of analyses was computed to determine whether these patterns varied systematically with the child's gender. An inspection of the results revealed no systematic gender difference with the exception of fathers' education. Fathers' education is more strongly negatively associated with their reports of mental health problems for girls than for boys.

Table 2.4: Regressions of Mothers' and Fathers' Distress on Structural Variables

Variables	Model 1		Model 2		Model 3		Model 4	
	b	β	b	β	b	β	b	β
Education _{Mothers}	-.619**	-.159	-.610**	-.156	.130	.042	.148	.042
Education _{Fathers}	.063	.018	.064	.018	-.041	-.015	-.023	-.029
Age _{Mothers}	-.079	-.050	-.097	-.062	-.093	-.075	-.145	-.075
Income _{Household} ^a	-.457***	-.185	-.458***	-.186	-.355***	-.182	-.350***	-.179
Age _{Child}			.033	.015			.102	.060
Gender _{Child}			-.436	-.021			.080	.005
R²	.089***		.090***		.037**		.035**	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

2.5 Discussion

Consistent with expectations, results indicate a modest relationship between structural factors and children's emotional and behavioral problems. When mothers' reports and fathers' reports were analyzed, mothers' age, household income, child's age and gender have significant effects on children's mental health problems. There is some evidence suggesting that parental distress mediates the relationship between parental socio-structural characteristics and children's mental health for mothers and for fathers. Mothers' distress mediates the effects of household income in maternal reports. In paternal reports, similar patterns are evident with paternal distress significantly reducing the coefficient of household income.

Comparatively, the social characteristics of the family – as defined by education, household income, age and gender - seem to have an equally important role in explaining the effects of social structure for mothers and for fathers. These social and demographic factors account for more variance in parental reports of children's mental health than do either maternal or paternal distress. Further, the association between parental distress and children's emotional and behavioral problems seems to be dependent on the source of these ratings. The association of mothers' distress and children's mental health is only significant when mothers' reports of their children's mental health are considered. Similarly, fathers' distress is only significantly associated with fathers', but not mothers', reports of their children's mental health. These results question the findings of studies, which find a strong association between parental distress and children's mental health. In general, these patterns suggest that the association between parental mental health and children's mental health may be more modest than developmentalists have led us to believe. Indeed, it may be that parental symptoms of depression and parental reports of children's mental health may be confounded due to present state bias as some studies suggest (see Najman, *et al.* 2000; Youngstrom *et al.* 2000; De Los Reyes and Prinstein 2004).

Recent research in developmental psychology has been consistent in finding a strong correlation between parental psychopathology and child mental health. These studies

often focus on adolescents and utilize children's self-report, but sometimes combine these with parents' reports (Lewinsohn, Olino, and Klein 2005; Hammen and Brennan, 2003; Beardslee *et al.* 1998). Characteristic of developmental research is the focus on diagnosed disorder among parents and/or children and a generalization from these findings (Kouros and Garber 2010; Olfson *et al.* 2003; Hammen and Brennan 2003). In contrast, community-based studies typically have relatively low prevalence rates of severe mental health problems among parents or children. Accordingly, it may be that the community sample that is utilized in this study provides relative estimates of the magnitude of association of social factors, on the one hand, and parental distress, on the other, that are more typical of the general population. In this situation, the relative effects of social structure, as measured by parental age, education, and household income, on children's emotional and behavior problems appear to be greater than those of parental distress.

These results are consistent with one of the core principles of the stress process model – the idea that individuals' locations in the social structure of society have consequences for their psychological distress – in this case, children's mental health. This has several implications. First and foremost, the results suggest that a stress process model of children's mental health might be a viable research paradigm. If it is, then we ought to be able to identify various stressors and psychosocial resources within the family that would mediate the social structure and children's mental health relationship. Further, the results suggest that there must be some value in taking a more sociological perspective on children's mental health; i.e. a perspective that looks at and emphasizes the effects of structural factors. Last, but not the least, these results challenge some work in developmental psychology that views parental psychopathology as the primary risk factor for children's emotional and behavioral problems. Policy making and implementation must go beyond the focus on parental mental health to consider the contribution of structural factors and processes to children's mental health problems. This will ensure that the root cause of children's emotional and behavioral problems are more effectively addressed.

There are, of course, limitations to our analysis. Most notably, the sample is restricted to parents and children in London, Ontario. The findings from this study can therefore not

be generalized without caution. A nationally representative sample of spouses and their children would improve the generalizability of these results. Further, the cross-sectional nature of the study also makes it quite difficult to discern causal ordering. The impact and direction of the association between family social characteristics and parental distress on children's mental health would have been more evident if longitudinal data and analyses were used. However, theoretical perspectives and a large number of studies using the stress process paradigm make it reasonable to assume that socio-structural determinants are the causal factors (e.g. Avison 2010; Strohschein 2005; McLeod and Shanahan 1996). In addition to these, the range of structural factors included in the analyses is very narrow. Including such structural characteristics as race and ethnicity, and employment status may have increased understanding of the pervasive impact of social structure. Despite these limitations, these results suggest at the very least that an investigation of children's mental health within the context of the stress process model is warranted.

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CHAPTER 3

3 STRESS AND CHILDREN'S MENTAL HEALTH: THE NEED FOR A STRESS UNIVERSE

3.1 Introduction

The impact of Pearlin's (1981) stress process paradigm on the sociology of mental health has been substantial. Drawing on this theory, an extensive body of research has emerged that identifies several social structural factors and psychosocial mediators that underlie the onset and duration of mental health problems. More recent studies have also considered the importance of strains other than major life events, the inclusion and analyses of multiple dimensions of strains, and the cumulative effects of these various strains on mental health (Wheaton 1994; Turner, Wheaton, and Lloyd 1995; Turner and Avison 2003).

There has also been a surge in research oriented toward the analyses of the lifetime effects of stressful experiences. A large number of these studies, however, focus on mental health in later life (Avison, 2010). By contrast, research on stress and children's mental health remains in its formative phase in the sociology of stress. What research exists on the topic focuses predominantly on the association between specific chronic strains and socioeconomic disadvantage, especially poverty (McLeod and Shanahan 1996; McLeod and Edwards 1995; Wheaton and Clarke 2003; Aneshensel and Sucoff 1996; Strohschein 2005).

The study of the effects of stress on children's emotional and behavioral outcomes has been largely the domain of developmental and child psychologists. Studies within these disciplines focus on life events and find that children who experience these stressors often manifest problematic behaviors (Meyerson, Grant, Carter, and Kilmer 2011; Carleton, Esparza, Thaxter, and Grant 2008; Grant, Compas, Stuhlmacher, Thurm, McMahon, and Halpert 2003; McMahon, Grant, Compas, Thurm, and Ey 2003). One of the key principles of the stress process paradigm has been the idea that there exists a stress universe that includes not only eventful, but also chronic and traumatic stressors and strains (Turner, Wheaton, and Lloyd 1993; Turner and Avison 2003). These stressors

and strains are associated with individuals' day-to-day lives. For children, eventful and chronic stressors and strains are most likely to be embedded in the family and school environments (Avison 2010).

This paper draws on the stress process paradigm to examine how stressors in the family environment have consequences for children's mental health. Consistent with Pearlin's formulations of the stress process and with previous research on the "stress universe" (Wheaton 1994) and the cumulative burden of stress (Turner and Avison 2003; Turner, Wheaton, and Lloyd 1995), this paper examines various dimensions of stress in the family – chronic strain, traumatic events, caregiving strains, life events, and work strains – and how they may account for structural differences in children's emotional and behavioral problems. The paper will also assess the relative impact of these various dimensions of stress on children's mental health. A stress process model of children's mental health provides an opportunity to identify and understand the stressors and strains that matter most for children's mental health.

3.2 Review of Literature and Research Context

3.2.1 Stress and Children's Mental Health

There is a wealth of evidence which suggests that stressors have mental health consequences that go beyond individual experience to include persons in the individual's social network or persons who share the same social environments (Pearlin *et al.*, 2005; Yuan 2008; Olfson, Marcus, Druss, Pincus, and Weissman 2003; Xiaojia, Rand, Conger, Lorenz, and Simons 1994). Stress may be transmitted to other family members through proliferation, i.e. the process through which stressors generate additional stressors or strains (Pearlin *et al.*, 2005). This evidence is very important in understanding children's mental health. A significant part of children's exposure to stress is in the family. These findings are consistent with Pearlin's (1981) argument that stress arises out of the social experiences of everyday life.

The stress process has been very influential in understanding the social conditions that give rise to stressful experiences and the ways in which stressors manifest themselves in psychological distress and disorder. The model rests on the assumption that social

statuses and roles play critical roles in patterning health outcomes. The stress process paradigm encompasses three main components: stressors (stress causing stimulus), mediators (the pathways/variables through which social factors translate into mental illness) and stress outcomes (symptomatic manifestations of stress) (Pearlin, Menaghan, Lieberman, and Mullan 1981). Over the years, the model has been elaborated with the inclusion of a wider definition of conceptual perspectives and of stressors and strains. More recent studies suggest the existence of a stress universe and identify multiple dimensions of stress. The assessment of stress now goes beyond eventful and chronic stressors to include lifetime trauma, ambient stressors and daily hassles (Thoits 2010). Attention has also shifted to a more comprehensive measurement of stress. Researchers now consider the operant burden of stress, i.e. the effects of events, strains and lifetime trauma taken together. Prominent among such studies are the works of Wheaton (1994), Turner, Wheaton, and Lloyd (1995) and Turner and Avison (2003). Results from studies that use a comprehensive measurement of stress suggest that the effects of stress exposure are more substantial than researchers originally believed.

The stress process model is equally useful for studying stress and children's mental health. Many of the stressors experienced by children are those that occur in their families or are reported by parents. In the past, studies have focused only on the effects of specific stressors and/or strains in the family environment on children's mental health. Takeuchi, Williams and Adair (1991), for instance, examined the health consequences of families' economic stress on children, and found that children who experience financial or economic strain are more likely to manifest such emotional and behavioral problems as depressive symptoms, impulsive and antisocial behaviors. Similarly, McLeod and Shanahan (1996) found that children who are poor or have prior and subsequent histories of poverty manifest higher levels of depression and antisocial behavior. Evidence suggests that economic hardship is particularly problematic when it is of long duration or when it occurs during adolescence (Sobolewski and Amato 2005; Seccombe 2000). Chronic strains arising out of neighborhood contexts, health and from social relationships also have negative effects on children's mental health. Children in these situations are the most likely to feel threatened, anxious and depressed (Kouros, Merrilees and Cummings

2008; Harold, Aitken and Shelton 2007; Wheaton and Clarke 2003; Aneshensel and Sucoff, 1996).

Studies on life events such as parental divorce and parental death also suggest strong links with problematic behaviors and relationships among children, in the long and short term (Amato 2000; Glenn 2001; Popenoe 1993, 2003; Wallerstein, Lewis, and Blakeslee 2000). The effects of caregiving and work strains have also received attention, though minimally. Lecavalier, Leone and Wiltz (2005) found a “transactional” relationship between emotional and behavioral problems and caregiver strain. Caregiver strain and children’s mental health problems mutually influenced each other. Adjustment problems have also been found among children whose parents experience high job strain and poor psychosocial work conditions (Maggi *et al.* 2008; Ostry *et al.* 2006; Steward and Barling 1996).

The studies above suggest a direct association between parental stress and their children’s distress. However, the effect of stress on children’s mental health may also be mediational. In sociological studies that examine the effects or relationship between social structure, stress and adult mental health, for instance, stress is often deemed the pathway through which social status translates into distress (Thoits 2010; Meyer, Schwartz and Frost 2008; Turner and Avison 2003; Turner and Lloyd 1999; Turner, Wheaton and Lloyd 1995). There is a possibility, that stress plays a similar role when it comes to the association between parental social characteristics and their children’s mental health.

Together, the evidence suggests the need for studies on children’s mental health that go beyond a focus on a few, specific stressors to develop a stress universe for children and to measure the effects of stressors more comprehensively. It also suggests the need to consider the extent to which stress may pattern the effect of social conditions on children’s mental health outcomes. This paper examines whether the different forms of stress reported by parents affect children’s mental health, taking into account the potential for reporting bias, and assesses the extent to which stress mediates the effects of parental social characteristics on children’s internalizing and externalizing behaviors.

3.2.2 Children's Mental Health: Constructing a Stress Universe

Studies on stress and children's mental health remain largely atheoretical. The few studies that apply any theory rarely utilize the stress process paradigm, despite its import on the study of mental health. The question remains whether the stress process paradigm is applicable to children's mental health and if so, why the lack of a stress process analyses of children's mental health? There is some evidence which suggests that a stress process analysis of children's mental health is viable. A core principle of the stress process model stipulates that an individual's mental health is patterned by their location in the social structure. Results from the few studies in the sociology of mental health that consider children's mental health often align with this principle. In view of this, and the enormous contribution of the stress process paradigm to the study of mental health, it is important to consider a stress process analysis of children's mental health.

It is important for an examination of children's mental health in a stress process framework to begin with the construction of a stress universe for children. The need for a stress universe that is specific to children is motivated by the recognition that the stressors that impact mental health may differ for adults and for children. As Avison (2010) points out, strains emerging from school experiences, sibling and parent-child relationships may be more relevant to children's mental health problems than other role-related strains, e.g. the caregiving and work roles. The first comprehensive attempt to construct and empirically assess a stress universe is found in Turner, Wheaton and Lloyd's (1995) "Epidemiology of Social Stress." In this study, Turner and his colleagues employ stressors other than chronic strains and life events to estimate the social distribution of stress exposure, and find that differences in stress exposure account for substantially more variability in depressive symptoms and disorders than previous reports have suggested. This study, like most others, focused on adults' mental health.

When it comes to constructing a stress universe for children and identifying the stressors that affect children's mental health, the home environment is very important and must be a primary domain of focus. Research has established that stress and strain often arise from ongoing social relationships and that an individual's life experiences and outcomes are often patterned by the family of origin. A wide array of studies has also shown time

and again that the family's psychosocial environment may be a source of stress to children. Poor inter-parental and parent-child relationships, e.g. conflicts, divorce, low parental warmth and abuse have all been found to act as primary sources of stress and strain on children and their mental health (e.g. Kouros, Merrilees, and Cummings 2008; Harold, Aitken, and Shelton 2007; Rivett, Howarth and Harold 2006; Low and Stocker 2005; Kane and Garber 2004). Thus, a critical analysis of childhood stressors must first consider the home environment.

A reasonable way to gather information on stress in the family, especially for younger children, is by means of parental reports. Young children are least likely to understand, recollect or provide any reliable/objective assessment of their own behavior. Further, the use of parental reports provides an opportunity to capture the extent to which stress in the family environment and among parents influence children's emotional and behavioral problems. This is consistent with the concept of linked lives as stipulated in the life course perspective, which suggests that people in important relationships with each other, such as children and parents, occupy mutually interconnecting trajectories that extend over the life course (Black, Holditch-Davies and Miles, 2009)

Research shows that experiences of stress and strain may predispose an individual to distress (see Avison, Ali, and Walters 2007; Avison and Turner 1988). An important consideration for analyses that examine the consequences of parental stress is how to take into account parental distress. Parental distress may influence outcomes in one of two ways. On the one hand, parental distress may mediate the relationship between parents' stress and their children's mental health. On the other hand, parental reports of stressors and strains may be biased by their own mental health. Hence, controlling for parental distress may adjust for any biases due to parental psychological distress.

Taking these considerations into account, this paper focuses on the home environment in an attempt to construct one component of a stress universe for children. It utilizes Turner, Wheaton and Lloyd's (1995) work as a blue print and identifies a wide array of stressors in the family milieu that may affect children's mental health. Specifically, we examine how stressors experienced by parents – life events, traumatic events, chronic strains, caregiving strains and work strains – account for differences in children's emotional and

behavioral problems. It also assesses the relative impact of the various dimensions of stress and examines the extent to which they mediate the effect of socio-structural determinants. Both parental stress and children's mental health are assessed by parental reports. To address the issue of bias, both mothers' and fathers' reports are used and parental distress is controlled.

This study tests two major hypotheses: 1) stressors reported by parents are associated with children's mental health; and 2) stressors mediate the effects of social structure on children's mental health.

3.3 Data and Methods

Data for this study were drawn from a longitudinal survey that originally focused on the mental health consequences of unemployment for individuals and their families (Avison, 2001). Interviews were collected over a 14 month period between 1999 and 2001. A stratified sampling pool of married or co-habiting couples with at least one child under age 18 living at home was identified through a random digit dial (RDD) screening survey conducted in London, Ontario. Area-specific three digit prefixes were used to ensure that all areas of the city were represented in the initial screening. This sample was further stratified on employment criteria. Individuals were selected if they fell into one of three categories: currently unemployed (CU), previously unemployed within the past 24 months (PU) or stably employed (SE). Respondents were classified as currently and previously unemployed, if they had involuntarily lost a steady job where they worked more than 25 hours per week. This episode of involuntary job loss must have occurred at least four weeks before the screening survey. An individual qualified as stably employed if s/he had a steady employment in a 25+ hours per week job, and had less than four weeks of unemployment over the preceding four years. The screening survey generated approximately 1,000 families who met the criteria for CU or PU and another 9,000 families who met criteria for SE. Of these, a sample of 1,166 families, stratified across the three employment groups were sent contact letters. The final sample consisted of 897 two-parent families with at least one child under the age of 18 living at home. These were the families who agreed to receive more information and to be a part of the study.

Each spouse was invited to participate in a face-to-face interview and to complete a self-report questionnaire. In the face-to-face interviews, respondents were asked about their age, education, income, a wide range of questions about their work histories and job conditions, and their mental health status. The self-report questionnaire included items about children's internalizing and externalizing behavioral symptomatology as well as a wide array of psychosocial measures. Spouses and their children were interviewed separately to ensure that responses reflected only the respondents' views. In cases where both spouses refused to complete both the interview and the self report, their records were deleted from the study.

Among the 897 families, there were instances in which husbands or wives refused to participate or did not complete either or both the face-to-face interview and the self-report questionnaire. For this study, such cases (treated here as missing cases) were deleted using the listwise deletion approach. In other words, individuals who had missing scores or one or more variables were omitted from the analyses. This further reduced the sample to 537 cases, a reduction of about 40% (n=524). The final sample used in this paper (n=524) consisted of two-parent families with children between the ages of 1 and 20.

3.3.1 Measures

The measures used in this study derived from both the self-report and in-depth face-to-face interviews used in the survey.

3.3.1.1 Parents' Characteristics

Parental Age: The age range for mothers and fathers in this data was 19 to 64 years and 22 to 73 years, respectively.

Parental Education: Parental education is measured by mothers' and fathers' years of education. Respondents were asked to indicate the length of time they have been in school. For women, the length of schooling ranged from no education (only one respondent) to 20 years. For men, the range was from 5 years to 20 years.

Parental Employment: Employment in this paper represents parents' current employment status. All respondents who worked for pay were classified as Employed. Unemployed persons, persons who identified as homemakers, disabled persons and students were all categorized as unemployed. For the purposes of this paper, a dummy variable was created that compared employed to unemployed parents.

Parental Income: Income in this study is measured by mothers' and fathers' report of household income. Household income categories provided in the questionnaire ranged from under \$5000 to \$90,000 or more. A single household income variable was created based on an average of household income reported by each couple. In cases where only one spouse provided an income amount, this was substituted for both spouses in the analysis.

Parental Mental Health: The Center for Epidemiologic Studies Depression Scale (CES-D) measured distress in this study. The scale was developed for use in studies of epidemiology of depressive symptomatology in the general population (Radloff 1977). The CES-D measures the current level of depressive symptomatology, with emphasis on the affective component, depressed mood. The scale is a short, structured self-report with a 20-item scale that describe depressed symptoms such as "I felt that everything I did was an effort", "I did not feel like eating; my appetite was poor", "I thought my life had been a failure", "I felt that I could not shake off the blues even with help from my family and friends", and "I felt depressed". Each item included a four-point response scale to assess the length of time that respondents had been experiencing depressive symptomatology. The CES-D was used as a continuous measure. It had a scale that ranged from 0 "rarely or none of the time" (less than one day) to 3 "most or all of the time (5 to 7 days)". Scores on the CES-D scale ranged from 0 to 60, with higher scores indicating higher levels of depressive symptomatology. For this sample the score ranged from 0 to 57 for women and 0 to 52 for men.

The CES-D has been reported to have strong correlations with other depression measurement scales and distinguishes well between the general population and clinical samples (Radloff 1977). In this sample, Cronbach's alpha for men was .89 and .92 for women.

3.3.1.2 Stress and Strains

In this survey, mothers and fathers independently reported on a wide array of various stressors that they had experienced. These measures include measures of chronic strains, counts of stressful life events, and reports of lifetime adversities and traumatic experiences.

Traumatic Events: adapted from the work of Davies, Avison and McAlpine (1997), traumatic events are measured by 23 questions (see Appendix A). Respondents were asked to indicate any major events that happened to them in their lives from childhood onward. To help respondents remember when some of the events happened, a timeline was created and used by the interviewers. The first eight questions focused on traumatic events that occurred before the age of 18 (i.e. while the respondent was a child or a teenager, before he/she moved out). The next 15 questions addressed traumatic events that happened from age 18. For this study, separate scales were created for traumatic events per age of occurrence, i.e. trauma before age 18 and trauma from age 18. For each measure of traumatic events, questions were summed into a composite score.

Chronic Strains: this is assessed using a 39-item inventory developed by Wheaton (1994; see Appendix A.) The inventory covers eight major areas of strain: financial, children, health, partner, time pressures, neighbor and mobility, and employment. For the purposes of this paper, only the first 34 of these items were utilized. The five remaining items, which focused on strains pertaining to employment, were excluded as some of the respondents were non-workers (homemakers, students and disabled persons). Respondents were asked to indicate how true certain situations were for them using a three-point scale ranging from “1 - not true” to “3 very true”. For each positive response, respondents were requested to indicate how long the situation has persisted. The items on this scale were added together into a composite score. Scores were coded so that higher scores indicate higher levels of chronic strains.

Stressful Life Events: adapted from Avison and Turner (1988), stressful life events are measured using a 40-item checklist (items are presented in Appendix A). Respondents were asked to identify experiences that happened over the past year. The first nine items

required respondents to indicate incidents that happened to them or someone in their social network (i.e. their husband/partner, children, family, relatives or close friends) over the past year. For the next 13 items, respondents were asked to identify events that happened to them, their spouses and/or children. The last 19 items asked questions specific to the respondents. Respondents were expected to indicate which of the events they personally experienced over the past year. To ensure that events reported occurred within the defined time space a calendar was used during the interview and interviewers were required to note the month that each event started and ended. For our analyses, the items on this scale are summed into a composite variable.

Work Strain: In this paper both working and non-working respondents are included in the analyses. A conditionally relevant variable is therefore created to capture the stresses and strains of respondents who were working for pay. Avison (1995) and Ross and Mirowski (1992) outline the procedure for creating a work strain variable that is conditional on employment. When using conditionally relevant variables to estimate the effects of mothers' work strain (WS) on children's mental health (CMH), for instance, the regression equation would be computed as follows

$$CMH = a + b_1 + b_2 + E_m + b_3 (WS - \overline{WS}) E$$

For this equation children's mental health (CMH) is regressed on: (1) mothers' employment status, a dummy variable where employed equals 1 and unemployed equals 0, and (2) the product of employment status (E) and the mean deviate of the work strain variable ($WS - \overline{WS}$). In the case where mothers are not employed ($E = 0$), the equation is reduced to:

$$CMH = a + b_1 K_i$$

In the case where mothers are employed ($E = 1$), the equation is as follows

$$CMH = a + b_1 K_i + b_2 + b_3 (WS - \overline{WS})$$

$$CMH = (a + b_2) + b_1 K_i + b_3 (WS - \overline{WS})$$

Cumulative Stress: Following procedures described by Turner, Wheaton, and Lloyd (1995), a cumulative stress variable was constructed. This variable represents the sum total of the various stressors, on children's mental health. For four of the five dimensions of stress—traumatic events in childhood, traumatic events in adulthood, chronic stress, and life events—raw scores were transformed into standard scores and then added together. In all of these computations, the work strain measure was excluded because it was a conditionally relevant variable.

3.3.1.3 Children's Characteristics

Children's Age and Gender: The age range for children in the study was 2 – 19 years. Of these, 54.5% were boys and 45.5%, girls.

Children's Mental Health: Children's emotional and behavioral problems were rated using the Child Behavior Checklist (CBCL) developed by Achenbach and Edelbrock (1983). The CBCL is a parent-report questionnaire in which parents rate their child's internalizing (i.e., anxious, depressive) and externalizing (i.e., aggressive, hyperactive, noncompliant) behaviors over the past six months (Achenbach, 1991). It consists of 113 questions and has a 3-point response scale, ranging from 0=not true to 2= very true or often true.

The CBCL has substantial concurrent validity and inter-rater reliability. Achenbach and Edelbrock (1983) argue that parental reports are reliable for a number of reasons. Parents are generally available, are the primary caregivers and the most aware of their children's behavior and behavioral changes over time. Further, despite the likelihood of bias in these reports, the researchers believe that parents' views are important as they are key to determining what is done about the child's behavior. Parent's reports have been found to be highly consistent with reports provided by others; teachers, observers and mental health professionals. Correlations among these informants averaged .60.

Following Achenbach's recommendation, all scores greater than 63 were treated as clinical cases. The cutoff point for non-clinical cases was 63. Given the strong correlation between children's CBCL internalizing and externalizing scores (over 0.80), we created a single children's mental health variable for mothers and for fathers. For mothers' we

combined mothers' reports of internalizing and externalizing behavior scores. The same was done with fathers' reports of internalizing and externalizing behavior. For each of these children's mental health measures, scores were coded so that higher scores indicate higher levels of emotional and behavioral problems.

3.4 Results

The means and standard deviations of the variables included in the analyses are presented in Table 1. Mothers and fathers in this sample, on average, are similar in terms of age and education. The mean age for mothers and for fathers in this sample was slightly over 38 and 40 years, respectively. On average, mothers had 14.20 years of education; fathers had slightly higher levels of education; 14.36. The mean household income in this sample was a coded value of 12.14 which translate into an income range of \$45,000 to \$49,000. The mean age for children in the sample was 9.27 years.

On average mothers scored somewhat higher on CES-D than fathers; 12.04 compared to 9.03. They also had slightly elevated levels of stress with the exception of work strain (see Table 1). The means and standard deviations of parental reports of children's behavior differed only slightly from each other. The mean and standard deviation for mothers' reports of behavioral problems was 100.62 and 20.13 respectively. For fathers' reports, it was 101.76 and 19.89.

Table 3.1: Characteristics of the Sample: Means and Standard Deviations of Respondents' Social, Health and Stress Status

Variables	\bar{x}	s.d
Age _{Mothers}	38.18	6.71
Age _{Fathers}	40.17	7.20
Education _{Mothers} ^a	14.22	2.69
Education _{Fathers} ^b	14.36	3.00
Income _{Household} ^{c,d}	12.14	4.23
Age _{Child}	9.27	4.85
Gender _{Child} ^d		54.50% ^e
CESD _{Mothers}	12.04	10.55
CESD _{Fathers}	9.03	8.32
CBCL _{Mothers}	100.62	20.13
CBCL _{Fathers}	101.76	19.89
Trauma _{Mothers} <18	0.72	1.07
Trauma _{Fathers} <18	0.67	1.09
Trauma _{Mothers} >=18	2.80	2.35
Trauma _{Fathers} >=8	2.58	2.28
Chronic Strain _{Mothers}	43.30	6.79
Chronic Strain _{Fathers}	42.20	6.58
Life Events _{Mothers}	2.92	2.19
Life Events _{Fathers}	2.45	2.02
Work Strain _{Mothers}	-0.13	6.90
Work Strain _{Fathers}	.084	7.38
N		524

^{a,b} Years of Education

^c Coded value corresponds to \$45,000 - \$49,000

^d Income scale ranges from "1 – Under \$5,000" to "18 - \$90,000 or more"

^e Percent Male

3.4.1 Social Characteristics, Stress and Children's Mental Health: a Multivariate Analysis

Using ordinary least squares (OLS) regression estimation procedures, a series of parallel regression equations were estimated separately for mothers' and fathers' reports. Each parent's reports of their children's mental health problems were regressed on their own social and family characteristics and their stressful experiences. The first set of analyses evaluated the effects of social structural influences (parental age, parental education, household income, child's age, child's gender, mothers' employment and fathers' employment) on mothers' and fathers' reports. In subsequent analyses the effects of parental stressors were estimated. Prior to examining the independent effects of the various stressors, the cumulative burden of stress on children's mental health was assessed to provide a general idea and to enhance a more accurate assessment of the comprehensive impact of stress.

3.4.2 Assessing the Impact of the Cumulative Burden of Stress

Following procedures described by Turner, Wheaton, and Lloyd (1995), analyses were conducted to examine the impact of the cumulative burden of stress, the sum total of the various stressors, on children's mental health. For four of the five dimensions of stress-traumatic events in childhood, traumatic events in adulthood, chronic stress and life events—raw scores were transformed into standard scores and then added together. In computing the cumulative stress variable, the work strain measure was excluded because it was a conditionally relevant variable. Two sets of analyses were estimated using maternal reports and paternal reports of children's emotional and behavioral problems.

Model 1 of Table 3.2, shows status differences in children's psychopathology from mothers' reports. Mothers' age, household income, child's age and gender are significant when all the sociodemographic variables are controlled. In Model 2, parental education is excluded from the analyses because it appears to suppress the effect of household income. It appears from a comparison of the results in Model 1 and Model 2 that that this is the case. Hence in subsequent analyses, household income is used as a proxy for socioeconomic status. Results in Model 2 are, however, similar to those found in Model 1, with all the structural characteristics except parental employment correlated with

children's mental health. When both maternal and paternal cumulative stresses are controlled in Model 3, maternal cumulative stress is correlated with mothers' reports of their child's mental health. Cumulative stress appears to partially mediate the effects of maternal age and mediate the effect of household income on children's mental health. When included in the model, the significant effects of household income disappear. Maternal age remains significantly related to children's mental health, but its coefficient is reduced by almost 9 percent. These patterns suggest that the amount of problematic behavior mothers report and the effects of household income on children's mental health are somewhat dependent on the level of stress within the family environment. In Model 4, parental distress is included in the analyses to examine whether it mediates the effects of parental cumulative stress. Mothers' distress directly affects children's mental health, but does not mediate or the relationship between cumulative stress and children's mental health.

When paternal reports are regressed on parental sociodemographic characteristics in Model 1 of Table 3.3, mothers' age, fathers' education, household income, fathers' employment, child's age and child's gender are significantly related to children's mental health. In Model 2, these associations persist when household income is used as a proxy for socioeconomic status. Fathers' cumulative stress is associated with their reports of children's mental health in Model 3. The inclusion of both mothers' and fathers' cumulative stress eliminates the effects of parental age and household income. Cumulative stress mediates the effects of parental age and household income on children's mental health.

In Model 4 of Table 3.3, mothers' and fathers' distress are controlled. The results indicate that paternal distress is correlated with their children's mental health, but does not have any influence on the association between cumulative stress and children's mental health.

Overall, these results suggest that stressors experienced by parents do have an impact on their children's mental health outcomes. In subsequent analyses, the various stress measures – trauma, chronic strains, life events and work strain – are assessed to estimate their independent and relative effects and to identify which stressors most impact children's mental health.

Table 3.2 and 3.3: Regressions of Mothers' and Fathers' Report of Children's Mental Health Problems on Structural Variables, Stress and Parental Distress

Table 3.2: Mothers' Report of Children's Mental Health

Variables	Model 1		Model 2		Model 3		Model 4	
	b	β	b	β	b	β	b	β
Education _{Mothers}	-.285	-.038						
Education _{Fathers}	-.392	-.059						
Age _{Mothers}	-.382*	-.127	-.450*	-.150	-.363*	-.121	-.348*	-.116
Income _{Household} ^a	-.601*	-.126	-.759**	-.159	-.261	-.055	-.213	-.045
Age _{Child}	1.16***	.278	1.25***	.301	1.06***	.256	1.07***	.256
Gender _{Child}	-3.43*	-.085	-3.33	-.083	-3.82*	-.095	-3.62*	-.090
Employment _{Mothers}	1.34	.030	1.51	.034	1.69	.039	1.70	.039
Employment _{Fathers}	3.49	.066	3.59	.068	3.98	.075	4.03	.076
CumStress _{Mothers}					.274	2.18***	1.84***	.232
CumStress _{Fathers}					.515	.066	.628	.081
CESD _{Mothers}							.213*	.112
CESD _{Fathers}							-.081	-.034
	.075***		.073**		.151***		.159***	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

Table 3.3 Fathers' Report of Children's Mental Health

Variables	Model 1		Model 2		Model 3		Model 4	
	b	β	b	β	b	β	b	β
Education _{Mothers}	-.097*	-.013						
Education _{Fathers}	-.647	-.098						
Age _{Mothers}	-.370*	-.125	-.450*	-.150	-.363*	-.121	-.348*	-.116
Income _{Household} ^a	-.623*	-.132	-.759**	-.159	-.261	-.055	-.213	-.045
Age _{Child}	1.04***	.253	1.15***	.280	.924***	.225	.928***	.226
Gender _{Child}	-4.65*	-.117	-4.48**	-.112	-4.33**	-.108	-4.39**	-.110
Employment _{Mothers}	3.04	.070	3.32	.076	2.54	.059	2.29	.053
Employment _{Fathers}	5.01*	.096	5.09*	.097	7.36*	.141	7.64**	.146
CumStress _{Mothers}					.447	.057	.485	.062
CumStress _{Fathers}					2.58***	.335	2.29***	.297
CESD _{Mothers}							-.025	-.013
CESD _{Fathers}							.227*	.095
	.082***		.076***		.187***		.191***	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

3.4.3 Assessing the Independent Effects of Stress

In Table 3.4, the structural correlates of children's mental health are simply replicated from Table 3.2. Mothers' age, household income, child's age and gender are significant when all the sociodemographic variables are entered in the regression analysis (Model 1). In Model 2, similar effects are evident when parental education is excluded from the analyses. Younger mothers and parents in low income households report more children's mental health problems for their offspring. Reports of emotional and behavior problems are more pronounced for older children and for boys. Taken together, sociodemographic factors account for 8.5 percent of the variance in children's emotional and behavioral problems.

Models 3 through 7 provide evidence of the contribution of various dimensions of stressors experienced by parents. Each dimension of stress, with the exception of mothers' and fathers' work strain, has a positive correlation with children's mental health. For example, mothers' who experienced trauma in childhood and/or in adulthood were more likely to report problematic behavior among their children. Mothers' chronic strains explain the most variance in this set of analyses. It accounts for an additional 10.4% of the variance in children's mental health problems over and above the variance explained in Model 2. In Model 8, when all the measures of stress are included simultaneously in the analyses, only the effects of chronic strains remain. The persistent effect of chronic strains may derive from the enduring pressures mothers experience juggling the roles of wife, mother, and/or employee. Taken together, stressors reported by parents account for an additional 10.6 percent of the explained variance beyond that accounted by the structural variables.

Some evidence of mediation is found in this set of results. Traumatic events experienced by mothers during childhood explain away the effects of parental age in Model 2. When parental chronic strains are controlled in Model 5, the effects of maternal age are partially mediated: the unstandardized coefficient of $-.450$ is reduced by 25% to $-.360$ in Model 5. The significant effects of household income, is completely lost. In Model 8, the inclusion of all the dimensions of stress eliminates the direct effects of both maternal age and household income.

Table 3.4 : Regressions of Mothers' Report of Children's Mental Health Problems on Structural Variables and Stress Measures

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7		Model 8	
	b	β	b	β	b	β	b	β	b	β	b	β	b	B	b	β
Education _{Mothers}	-.285	-.038														
Education _{Fathers'}	-.392	-.059														
Age _{Mothers}	-.382*	-.127	-.450*	-.150	-.340	.113	-.529**	-.176	-.360*	-.120	-.440*	-.147	-.410*	-.137	-.324	-.108
Income _{Household} ^a	-.601*	-.126	-.759**	-.159	-.683**	-.144	-.646*	-.136	-.143	-.030	-.535*	-.112	-.664*	-.139	-.075	-.016
Employment _{Mothers}	1.34	.030	1.51	.034	1.34	.030	2.06	.047	.508	.012	1.76	.040	1.13	.026	-.464	.011
Employment _{Fathers}	3.49	.066	3.50	.068	3.81	.072	3.79	.072	3.75	.071	3.55	.067	3.34	.064	3.82	.072
Age _{Child}	1.16**	.278	1.25***	.301	1.17***	.282	1.18***	.283	1.03***	.248	1.25***	.301	1.25***	.300	.977***	.235
Gender _{Child} ^b	-3.43*	-.085	-3.33	-.083	-3.55*	-.088	-3.46*	-.086	-3.46*	-.086	-3.54*	-.088	-3.29	-.081	-3.55*	-.088
Trauma _{Mother} <18					2.07*	.110									.920	.049
Trauma _{Father} <18					1.19	.065									.902	.049
Trauma _{Mother} >=18							1.36**	.158							.606	.071
Trauma _{Father} >=18							.357	.040							.065	.007
Chronic Strain _{Mother}									.968***	.327					.858**	.290
Chronic Strain _{Father}									.157	.051					.153	.050
Life Events _{Mother}											1.37**	.149			-.048	-.005
Life Event _{Father}											.028	.003			-.052	-.005
Work Strain _{Mother}													.236	.081	.157	.054
Work Strain _{Father}													.109	.040	.053	.019
R²	.075***		.073***		.086***		.100***		.177***		.090***		.078***		.179***	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable^bDummy coded with males = 0 and female

Table 3.5 presents results on a regression of fathers' reports of children's behavioral problems. Of the social characteristics included in Model 1, mothers' age, household income, fathers' employment, child age and child gender have significant effects on children's mental health. In Model 2, these effects are replicated with the exclusion of parental education. In Models 3 through 7, each of the stress dimensions is independently included in the analyses. All of the stress dimensions, with the exception of parental work strain, are correlated significantly with children's mental health. In Model 8, all the dimensions of stress are concurrently controlled; the effects of chronic strains and life events remain significant. Taken together, all seven dimensions of stress explain an additional 13.5 percent of the variance in paternal reports of children's behavioral problems over and above the variance account for by structural factors in Model 2.

There is also evidence of mediation in this table. In Model 5, fathers' chronic strains mediate the effects of both parental age and household income. Fathers' stressful life events explain away the significant effects of parental age and substantially reduces the coefficient of household income in Model 6. In Model 7, parental work strain appears to mediate the effects of paternal employment, though it has no direct effects on children's mental health. In Model 8, the simultaneous inclusion of all the stress dimensions explains away the effects of both parental age and household income.

3.4.4 Assessing the Effects of Parental Distress on Stress: A Mediation Model

Supplementary analyses were conducted to assess the mediating effect of parental distress on the association of each of the stress dimensions with parental reports of their child's emotional and behavioral problems. The results of these analyses are found in Tables 3.6 and 3.7.

Maternal distress is a predictor of children's mental health problems in most of the models. However, it appears to have little or no influence on the association between stress and children's mental health. In some cases, it reduces the effects of the various stress dimensions seen earlier in Table 3.4. For example, in Model 6 of Table 3.6, maternal distress reduces the coefficient of maternal stressful life events. When all the stress dimensions and parental distress are controlled in Model 8, there is no substantial

change in and the regression coefficients. The effects of maternal chronic strains in Model 8 of Table 3.6 are very similar to those in Model 8 of Table 3.4. Thus, there is no strong evidence that maternal distress mediates the relationship between maternal stressors and children's mental health problems. An alternative interpretation is that the effects of maternal stressors on children's mental health problems are not confounded with or biased by mothers' levels of psychological distress.

Table 3.5 : Regressions of Fathers' Report of Children's Mental Health Problems on Structural Variables and Stress Measures

Variables	Model1		Model 2		Model3		Model4		Model5		Model6		Model 7		Model 8	
	b	B	b	β	b	β	b	β	b	β	b	β	b	β	b	β
Education _{Mothers}	-.097	-.013														
Education _{Fathers'}	-.647	-.098														
Age _{Mothers}	-.370*	-.125	-.447*	-.151	-.400*	-.135	-.509**	-.172	-.318	-.107	-.322	-.109	-.432*	-.146	-.283	-.095
Income _{Household} ^a	-.623*	-.132	-.799**	-.170	-.747**	-.159	-.678**	-.144	-.266	-.057	-.555*	-.118	-.756**	-.161	-.188	-.040
Employment _{Mothers}	3.04	.070	3.32	.076	2.95	.068	3.69	.085	1.87	.043	3.41	.079	3.12	.072	2.03	.047
Employment _{Fathers}	5.01*	.096	5.09*	.097	5.41*	.104	5.85*	.112	6.83**	.131	6.12*	.117	4.86	.093	7.32**	.140
Age _{Child}	1.04***	.253	1.15***	.280	1.10***	.269	1.05***	.256	.947***	.231	1.11***	.270	1.15***	.281	.900***	.219
Gender _{Child} ^b	-4.65**	-.117	-4.48**	-.112	-4.43**	-.111	-4.53**	-.114	-4.17**	-.104	-4.45**	-.112	-4.48**	-.112	-4.14**	-.104
Trauma _{Mother} <18					.249	.013									-.129	-.007
Trauma _{Father} <18					1.83*	.101									.740	.041
Trauma _{Mother} >=18							.698	.083							.515	.061
Trauma _{Father} >=18							1.27**	.145							.357	.041
Chronic Strain _{Mother}									.209	.071					.221	.075
Chronic Strain _{Father}									1.01***	.333					.800***	.265
Life Events _{Mother}											.058	.006			-.521	-.057
Life Event _{Father}											2.54***	.257			1.56**	.155
Work Strain _{Mother}													-.006	-.002	-.008	-.003
Work Strain _{Father}													.121	.045	.072	.027
R²	.082***		076***		.083***		.108***		.193***		.148***		.075***		.211***	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

A similar pattern of results can be observed for the effects of fathers' psychological distress in Table 3.7. In Models 3 through 7, the effects of fathers stressors on their reports of their children's mental health are largely unaffected by controlling for their levels of psychological distress. In Model 8, the two significant effects of paternal chronic strain and caregiving strain are virtually unchanged when fathers' CES-D scores are controlled. Parental distress has no effect on the significance of fathers' chronic strain (Model 5). In this set of analyses also, controlling for parental distress has only little impact on the coefficients and effects of stress (Model 8). Effect sizes and coefficients are comparable to those found in Model 8 of Table 3.3.

Table 6 – 7: Regressions of mothers' Report of Children's Mental Health Problems on Structural Variables Stress Measures, and Distress

Table 3.6: Mothers' Report of Children's Mental Health

Variables	Model1		Model 2		Model3		Model4		Model5		Model6		Model7		Model8	
	b	β	b	β	b	β	b	β	b	β	b	β	b	β	b	β
Education _{Mothers}	-.285	-.038														
Education _{Fathers'}	-.392	-.059														
Age _{Mothers}	-.382*	-.127	-.450*	-.150	-.302	-.101	-.467**	-.156	-.362*	-.121	-.387*	-.129	-.368*	-.123	-.328	-.108
Income _{Household} ^a	-.601*	-.126	-.759**	-.159	-.488	-.103	-.466*	-.098	-.134	-.028	-.416	-.087	-.490	-.103	-.062	-.016
Employment _{Mothers}	1.34	.030	1.51	.034	1.22	.030	1.92	.044	.671	.015	1.61	.037	1.15	.026	-.614	-.014
Employment _{Fathers}	3.49	.066	3.50	.068	4.11	.072	4.00	.070	3.64	.069	3.85	.073	3.73	.070	3.63	.069
Age _{Child}	1.16**	.278	1.25***	.301	1.15***	.282	1.15***	.277	1.03***	.249	1.22***	.293	1.21***	.292	.980***	.236
Gender _{Child} ^b	-3.43*	-.085	-3.33	-.083	-3.34*	-.088	-3.29*	-.082	-3.36*	-.083	-3.31*	-.082	-3.15	-.078	-3.45*	-.086
Trauma _{Mother<18}					1.64*	.110									.848	.045
Trauma _{Father<18}					1.10	.065									.919	.050
Trauma _{Mother>=18}							1.19**	.140							.617	.072
Trauma _{Father>=18}							.290	.033							.089	.010
Chronic Strain _{Mother}									.895***	.302					.809***	.273
Chronic Strain _{Father}									.240	.078					.225	.074
Life Events _{Mother}											.885**	.096			-.098	-.011
Life Event _{Father}											.141	.014			-.074	-.007
Work Strain _{Mother}													.128	.044	.131	.045
Work Strain _{Father}													.084	.031	.084	.031
CESD _{Mothers}					.354***	.186	.344	.180	.100	.052	.332***	.174	.358***	.188	.081	.043
CESD _{Fathers}					.036	.015	.012	.005	-.142	-.059	.010	.044	.033	.014	-.159	-.066
R ²	.075***		.073***		.115***		.127***		.177***		.113***		.107***		.180***	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

Table 3.7: Fathers' Report of Children's Mental Health

Variables	Model1		Model 2		Model3		Model4		Model5		Model6		Model7		Model8	
	b	β	b	β	b	β	b	β	b	β	b	β	b	β	B	β
Education _{Mothers}	-.097	-.013														
Education _{Fathers'}	-.647	-.098														
Age _{Mothers}	-.370*	-.125	-.447*	-.151	-.327	-.110	-.433*	-.146	-.312	-.105	-.282	-.095	-.365*	-.123	-.282	-.095
Income _{Household} ^a	-.623*	-.132	-.799**	-.170	-.592*	-.126	-.555*	-.118	-.272	-.058	-.480*	-.102	-.626*	-.133	-.195	-.042
Employment _{Mothers}	3.04	.070	3.32	.076	2.25	.052	2.96	.068	1.70	.039	2.81*	.065	2.52	.058	1.94	.045
Employment _{Fathers}	5.01*	.096	5.09*	.097	6.56**	.125	6.78**	.130	7.01**	.134	6.85**	.131	6.32*	.121	7.40**	.142
Age _{Child}	1.04***	.253	1.15***	.280	1.07***	.260	1.03***	.251	.945***	.230	1.08***	.263	1.11***	.270	.897***	.219
Gender _{Child} ^b	-4.65**	-.117	-4.48**	-.112	-4.46**	-.112	-4.55**	-.114	-4.26**	-.107	-4.44**	-.111	-4.49**	-.113	-4.21**	-.106
Trauma _{Mother} <18					.261	.014									-.082	.045
Trauma _{Father} <18					1.50*	.083									.735	.040
Trauma _{Mother} >=18							.686	.081							.501	.059
Trauma _{Father} >=18							.985**	.113							.347	.040
Chronic Strain _{Mother}									.267	.091					.266	.091
Chronic Strain _{Father}									.911***	.301					.760***	.252
Life Events _{Mother}											-.005	-.478			-.048	.005
Life Event _{Father}											2.14***	.217			1.49**	.151
Work Strain _{Mother}													-.004	-.001	.013	.004
Work Strain _{Father}													.007	.003	.055	.021
CESD _{Mothers}					.052	.027	.029	.015	-.083	-.044	.056	.030	.059	.188	-.071	-.038
CESD _{Fathers}					.482***	.201	.443***	.185	-.167	-.070	.351**	.147	.496	.207	.086	.036
R²	.082***		.076***		.012***		.137***		.195***		.152***		.113***		.210***	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

3.5 Discussion

The purposes of this paper were: 1) to take the first steps in constructing a stress universe for children's mental health by relying on parental reports of stressors in the family; and 2) to examine whether these parental reports of stressors mediate the association between socio-structural characteristics and children's mental health. To enhance an assessment and understanding of the role of stress and to capture its effects more accurately, analyses considered both the cumulative and independent effects of stress.

For both mothers' and fathers' reports, there is evidence that stressors in the family context are significantly associated with children's mental health. Many of the dimensions of stress, whether measured independently and/or cumulatively, were significantly associated with children's psychopathology. These effects persist even after controlling for measures of parental mental health, which we know are correlated with both their reports of stress and their evaluations of their children's mental health. These findings lend support to the notion that it is possible to construct a stress universe for children's mental health, and suggest that a stress process model and analysis of children's mental health has considerable explanatory potential.

There is also evidence of the mediational roles of various dimensions of stress. Some dimensions of stress mediate the effects of social structure on children's mental health. Chronic strains mediated the effects of parental age and household income. The mediational effects of this strain were consistent, regardless of which parental report was utilized. This finding that parents' stressful experiences may act as pathways through which social structural factors may affect or translate into children's mental health problems is aligned with the core ideas of the stress process model, and supports the plausibility of a stress process analysis of children's mental health.

Further, attempts were made to assess whether parental mental health might mediate the relationship between stress and children's mental health. There was, however, no such evidence in our results, and the effects of parental mental health on stress were generally modest. What was clear from the results was the fact that nearly all of the dimensions of stress remained significantly correlated with children's mental health even when parental

mental health was controlled. This is a key finding which suggests that the correlation of the stressors with children's mental health is not confounded or biased substantially by parental mental health.

Our results, which indicate a correlation between stress and children's mental health, are consistent with the idea of developing a stress universe for children's mental health and suggest the need for a stress process model and analyses of children's psychopathology. This is a call to researchers in the field of developmental psychology to look beyond the consequences of eventful stressors. To researchers in the sociology of mental health, it suggests the need to consider more broadly the effects of family stressors on children's mental health. So far, the major focus has been on adult mental health and only a few sociological studies pay any attention to children's mental health (E.g. Wheaton 1994; Turner, Wheaton and Lloyd 1995; Turner and Avison 2003). Those that examine children's mental health focus on the consequences of socioeconomic disadvantage, specifically on poverty (McLeod and Shanahan 1996; Strohschein 2005). There have been remarkable advances in stress research and how stress is measured. Of particular significance is the shift towards the assessment of the comprehensive effects of stress. The results of this study suggest that any improvements in the study of stress and children's mental health will require sociologists of mental health to incorporate these shifts and advancements.

The present study and most other sociological investigations of children's stress and mental health focus on the effects of stressors and strains experienced by parents in the family environment. Future studies might profitably consider stressors in other domains, especially those within the school environment. The school plays a vital role in the socialization process and is crucial for children's optimal development. Stressors and strains embedded within this domain are therefore crucial and may play a critical role in our understanding and identification of processes outside the home that contribute to children's emotional and behavioral outcomes.

There are limitations to this study. First, the data were collected from couples and, therefore, there is no variation in family structure, arguably one of the most important structural factors to be considered when studying children's mental health (Avison 2002).

Studies that consider the effects of family structure reveal that single parents experience considerably more stress than married parents (Avison, Ali, and Walters 2007). Thus, had there been an opportunity to include a measure of family structure in this analysis, the mediating roles of social stress might have been even more pronounced.

Second, the survey that generated these data took place in London, Ontario, in the early 1990s when there was not much ethnic/racial diversity. Again, given what we know about the importance of these structural characteristics and their associations with stress exposure and mental health (Williams, Spencer, and Jackson 1999; Ulbrich, Warheit, and Zimmerman 1989), it seems likely that the results reported here underestimate the mediating effects of the stress universe for children. The relationships observed in this study might be different if more recent or nationally representative data were used.

Further, there is clearly evidence of mono-methods bias. The dimensions of maternal stressors are only significantly associated with maternal reports of children's mental health. Similarly, paternal reports of stressful experiences predict their own reports of children's psychopathology. This may be due in part to the focus on stressors experienced and reported by parents. In the future, research must consider multiple methods of measuring stress and/or children's mental health. This may capture the constructs and their effects more accurately. Overall, these results suggest at the very least that it is possible to construct a stress universe for children and that an investigation of children's mental health within the context of the stress process model is plausible.

3.6 References

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CHAPTER 4:

4 DISCREPANCIES IN MOTHERS' AND FATHERS' REPORTS OF THEIR CHILDREN'S MENTAL HEALTH: AN EXPLORATION OF THE UNDERLYING FACTORS

4.1 Introduction

A substantial body of research in children's mental health has frequently documented discrepancies between mothers' and fathers' reports of their children's mental health problems. Many of these studies treat these discrepancies as methodological nuisances or differences in perceptions, or as measurement errors (De Los Reyes, Henry, Tolan, and Wakschlag 2009; De Los Reyes and Kazdin 2004; Kraemer, Measelle, Ablow, Essex, Boyce, and Kupfer 2003; Youngstrom, Loeber, and Stouthamer-Loeber 2000). In more recent research, factors such as characteristics of informants and their health status have been considered, with parental psychopathology being the most frequently examined. Although there is some evidence to support these conclusions, it may also be the case that these discrepancies are associated with social or psychosocial characteristics of parents and/or their children. This paper investigates the possibility that differences between maternal and paternal ratings of their children's mental health and behavioral problems may be patterned by any of four potential factors: social structural factors, parental mental health, marital relationships and parenting styles, and social stressors.

4.2 Review of Literature and Research Context

4.2.1 Parental Psychopathology and Discrepancies in Parental Reports

Parental psychopathology, in particular parental depression and/or anxiety, is the most widely cited explanation for parental discrepancies in reports of children's mental health (Van der Toorn *et al.* 2010; De Los Reyes, Goodman, Kliewer, and Reid-Quiñones 2008; Treutler and Epkins 2003; Chi and Hinshaw 2002; Krain and Kendall 2000; Najman *et al.* 2000; Briggs-Gowan, Carter and Schwab-Stone 1996; Frick, Silverthorn, and Evans

1994). This pattern of differential reporting of symptoms is referred to as the depression distortion hypothesis. The literature suggests an increased likelihood of a parent's over-reporting symptoms of children's mental health problems when the parent is depressed. This association between parental psychopathology and discrepancies in reports appears to be more pronounced for mothers than fathers (Treutler and Epkins 2003; Youngstrom, Izard, and Ackerman 1999). There are, however, a few studies that find no support for this hypothesis. Sawyer, Streiner, and Baghurst (1998), for instance, found no association between parental psychological problems and inter-parental discrepancy (see also Bauman, Pelham, Lang, Jacob, and Blumental 2004).

In this paper, the impact of parental psychopathology on inter-parental discrepancy is further explored to determine whether it is as important in discrepancy ratings as most studies suggest. In the past, studies have focused on parental depression and anxiety as proxies for parental psychopathology. Not much is known of the effects of other forms of psychopathology – parental distress, substance abuse, alcohol abuse, drug abuse and dysthymia. In this paper, parental psychopathology is more comprehensively measured and its definition extended to include these other forms of psychopathology. Including these other measures of psychopathology will enable and enhance an assessment of how the various forms of psychopathology contribute to discrepancies between parents in ratings of children's emotional and behavioral problems.

4.2.2 Social Characteristics and Discrepancies in Parental Reports

Unlike parental psychopathology, social structural characteristics have very minimal attention in studies on inter-parental discrepancies. The few studies that consider structural characteristics often treat them as confounders, with results indicating no correlations with discrepancy scores (see De Los Reyes, Goodman, Kliwer, and Reid-Quñones 2008; Treutler and Epkins 2003). There is only one known study that considers socio-structural factors as predictors of discrepancies. This study, conducted by Gupta, Lausten, and Pozoli (2012), also found no correlation between child gender, child age, parental age, education, ethnicity and disagreement in parental ratings.

From a sociological and stress process perspective, social structural factors are key in defining life experiences, relationships and perspectives. It is therefore possible that

social characteristics contribute more – either directly or indirectly – to inter-parental discrepancies than has been captured in earlier studies. In this study, the effects and contribution of social structural characteristics are more systematically examined and their varying effects for mothers’ and fathers’, underscored. The extent to which social structural characteristics matter net of distress, stress and family relationships is also examined. Structural characteristics that will be assessed include household income, child age and gender, parental education and age, as well as employment status. It is expected that increases or decreases in parental education, household income, unemployment, parental age and child age will correspond to increases or decreases in parental report discrepancy. It is also anticipated that parental reports will differ by the gender of the child in question. Theoretically, these patterns are expected because it has been shown that a person’s achieved and ascribed characteristics influence their experiences, relationships and perspectives over the course of their lives. For instance, educated parents may be less likely to disagree about their children’s problematic behaviors because they are more informed. Younger parents may be more likely to disagree on their reports because of the lack of experience in raising older children. Parents may be most discrepant when the child is female because male children are often perceived to be comparably more problematic.

4.2.3 Stress and Discrepancies in Parental Reports

Few studies have assessed the effects of parental or family stress on parental discrepancies. Available evidence, however, suggests a positive association between parents’ reported levels of stress and their ratings of their children’s internalizing and externalizing problems (Youngstrom et. al. 2000, Kolko and Kazdin 1993; Jensen, Xenakis, Davis, and Degroot 1988). Despite this evidence, very little effort has been made to examine the independent effect of parental stress or its impact of these on discrepant parental reports. Moreover, no study has determined whether particular dimensions of stressors (e.g., life events, traumatic experiences, chronic strains) are especially implicated in this process. Studies continue to subsume stress under parental characteristics and consider it only in relation to other characteristics such as parental socioeconomic status and psychopathology. As De Los Reyes and Kazdin (2005) have pointed out, parental stress might decrease the threshold by which parents’ measure a

child's problematic behavior, predisposing parents to rate non-problematic behavior as problematic and requiring treatment. In this paper, these issues are examined systematically. The specific, independent effects of various dimensions of stress as well as their effects in relation to social structural factors are examined. The effects of stress on discrepancies in parental reports may be more important than studies have led us to believe.

4.2.4 Family Relationships and Discrepancies in Parental Reports

The importance of relationships in the family for differences in parents' reports of children's mental health has been widely studied. Evidence indicates strong associations between discrepancies in reporting and parenting practices, the quality of parent-child relationship, child functioning, and parental monitoring (Erlich, Cassidy, and Dykas 2011; De Los Reyes 2011; Berger *et al.* 2005; Treutler and Epkins 2003; Chi and Hinshaw 2002; De Los Reyes and Kazdin 2005; Ferdinand, van der Ende, and Verhulst 2004; Pelton and Forehand 2001; Pelton, Steele, Chance, and Forehand 2001). The extent to which inter-parental/marital relationships and parenting style contributes to discrepancies in mothers' and fathers' ratings of their children's psychopathology has received very little attention.

This paper examines the link between family relationships and inter-parental discrepancies more closely. Parental/marital relationship and parenting style, two key processes in the family will be explored. Although evidence indicates that dissatisfaction with the parenting role and either parent's perception of inter-parental arguments and poor marital adjustment increases the disagreement in their ratings (see Gupta, Lausten, and Pozoli 2012; Stokes, Pogge, Wecksell, and Zaccario 2011; Seiffge-Krenke and Kollmar 1998), there are no studies that estimate the independent or relative effects of these factors. This study addresses this concern by examining the effects of marital satisfaction and conflict, and parenting practices on discrepant reports. The relative effects of these factors compared to socio-structural determinants, stress and distress will also be examined.

4.3 Data and Methods

Data for this study were drawn from a longitudinal survey that originally focused on the mental health consequences of unemployment for couples and their families (Avison 2001). Interviews were collected over a 14 month period between 1999 and 2001. A stratified sampling pool of married or co-habiting couples with at least one child under age 18 living at home was identified through a random digit dial (RDD) screening survey conducted in London, Ontario. Area-specific, three digit prefixes were used to ensure that all areas of the city were represented in the initial screening. This sample was further stratified on employment criteria. Individuals were selected if they fell into one of three categories: currently unemployed (CU), previously unemployed within the past 24 months (PU) or stably employed (SE). Respondents were classified as currently and previously unemployed, if they had involuntarily lost a steady job where they worked more than 25 hours per week. This episode of involuntary job loss must have occurred at least four weeks before the screening survey. An individual qualified as stably employed if s/he had a steady employment in a 25+ hours per week job, and had less than four weeks of unemployment over the preceding four years. The screening survey generated approximately 1,000 families who met criteria for CU or PU and another 9,000 families who met criteria for SE. Of these, a sample of 1,166 families, stratified across the three employment groups were sent contact letters. The final sample consisted of 897 two-parent families with at least one child under the age of 18 living at home. These were the families who agreed to receive more information and to be a part of the study.

Each spouse was invited to participate in a face-to-face interview and to complete a self-report questionnaire. In the face-to-face interviews, respondents were asked about their age, education, income, a wide range of questions about their work histories and job conditions, and their mental health status. The self-report questionnaire included items about children's internalizing and externalizing behavioral symptomatology as well as a wide array of psychosocial measures. Spouses and their children were interviewed separately to ensure that responses reflected only the respondents' views. In cases where both spouses refused to complete both the interview and the self-report, their records were deleted from the study.

Among the 897 families remaining, there were instances in which husbands or wives refused to participate or did not complete either or both the face-to-face interview and the self-report questionnaire. For this study, such cases were deleted. This reduced the sample to 532 cases, a reduction of about 40% (n=361). The final sample used in this paper (n=532) consisted of two-parent families with children between the ages of 1 and 20.

4.3.1 Measures

The measures used in this study derived from both the self-report questionnaire and in-depth face-to-face interviews. These are described in detail in the subsequent paragraphs.

4.3.1.1 Children's Mental Health

To assess children's mental health, each parent's report of their children's psychopathology was obtained. These reports were then converted into discrepancy scores for mothers and for fathers. A description of how children's mental health was measured and an in-depth explanation of the procedure used in generating discrepancy scores are provided below.

Children's Mental Health: Children's emotional and behavioral problems were rated using the Child Behavior Checklist (CBCL) developed by Achenbach and Edelbrock (1983). The CBCL is a parent-report questionnaire in which parents rate their child's internalizing (i.e., anxious, depressive) and externalizing (i.e., aggressive, hyperactive, noncompliant) behaviors over the past six months (Achenbach, 1991). It consists of 113 questions and has a 3-point response scale, ranging from 0=not true to 2= very true or often true.

The CBCL has substantial concurrent validity and inter-rater reliability. Achenbach and Edelbrock (1983) argue that parental reports are reliable for a number of reasons. Parents are generally available, are the primary caregivers and the most aware of their children's behavior and behavioral changes over time. Further, despite the likelihood of bias in these reports, the researchers believe that parents' views are important as they are key to determining what is done about the child's behavior. Parent's reports have been found to

be highly consistent with reports provided by others; teachers, observers and mental health professionals. Correlations among these informants averaged .60.

Following Achenbach's recommendation, all scores greater than 63 were treated as clinical cases. The cutoff point for non-clinical cases was 63. Given the strong correlation between children's CBCL internalizing and externalizing scores (over 0.80), we created a single children's mental health variable for mothers and for fathers. For mothers' we combined mothers' reports of internalizing and externalizing behavior scores. The same was done with fathers' reports of internalizing and externalizing behavior. For each of these children's mental health measures, scores were coded so that higher scores indicate higher levels of emotional and behavioral problems.

Discrepancy Scores: Following methodological procedures suggested by Laird and Weems (2011), and to enhance an understanding and interpretation of how the different factors contribute to discrepancies in mothers' and fathers' reports of their children's behavior, separate scores were created for mothers and for fathers. Until recently, many studies on informant discrepancies focused on the use of residual and difference scores (both raw and standardized difference scores). De Los Reyes and Kazdin (2004) recommended regression models that utilize differences in z-scores (standardized scores) as the most advantageous for studying discrepancies. After comparing regression models using differences in z-scores and models using separate scores for each informant, however, Laird and Weems (2011) find both models to be statistically equivalent. Rather than either model being inherently more informative, each fit the data equally well and generated consistent interpretations of the data.

Computation of separate scores began with the creation of a single child behavior score (CBCL) for mothers and for fathers. This score was obtained by summing each parent's rating of their child's internalizing and externalizing behavior scores. A difference score was then computed using mothers' and fathers' CBCL reports. This raw difference score was then standardized and divided into two sets of scores: values greater than 0 represented instances where mothers' scores were higher than fathers'; negative values indicate instances where fathers reported higher scores than mothers. All negative values (where fathers' scores exceeded mothers') were transformed into absolute scores so that

for each set of scores, higher scores indicate greater discrepancies. Thus, we have two discrepancy scores each expressed as standard scores ranging from 0 to 3.7. The first represents the extent that fathers' reports are higher than mothers (FGM: fathers' scores greater than mothers' scores). The second represents the extent to which mothers' are higher than fathers' (MGF: mothers' scores greater than fathers' scores). We construct two measures because the factors that predict FGM may not be the same that predict MGF. After calculating the differences in scores, there are 272 families where mothers score is greater than fathers' (MGF) and 260 families where fathers' score is greater than mothers (FGM).

4.3.1.2 Social Structural Characteristics

A range of social structural characteristics are considered in this study. These were parental age, parental education, household income, child age and child gender. Detailed descriptions of these measures are provided below.

The age range for mothers and fathers in this data was 19 to 64 years and 22 to 73 years, respectively. Parental education is measured by mothers' and fathers' years of education. Respondents were asked to indicate the length of time they have been in school. For mothers', the length of schooling ranged from 0 (only one respondent) years education to 20 years years of education. For men, the range was from 5 years to 20 years. Household Income in this study was measured by mothers' and fathers' report of household income. Household income categories provided in the questionnaire ranged from under \$5000 to \$90,000 or more. A single household income variable was created based on an average of household income reported by each couple. In cases where only one spouse provided an income amount, this was substituted for both spouses in the analysis. The ages for children included in this analysis ranged from 2 to 19 years; 54.50% of these children were boys and 45.50%, girls.

4.3.1.3 Parental Mental Health

Measures of parental mental health included in this study are distress and anxiety. Each of these measures is described below.

Parental Distress: The Center for Epidemiologic Studies - Depression Scale (CES-D) is used to measure distress in this study. This scale was developed for use in studies of epidemiology of depressive symptomatology in the general population (Radloff 1977). The CES-D measures the frequency of symptoms in the past week, with emphasis on the affective component, depressed mood. The scale is a short, structured self-report with a 20-item scale that describe depressed symptoms such as “I felt that everything I did was an effort”, “I did not feel like eating; my appetite was poor”, “I thought my life had been a failure”, “I felt that I could not shake off the blues even with help from my family and friends”, and “I felt depressed”. Each item included a four-point response scale to assess the length of time that respondents had been experiencing depressive symptomatology ranging from 0 “rarely or none of the time (less than one day)” to 3 “most or all of the time (5 to 7 days)”. Scores on the CES-D ranged from 0 to 57 for women and 0 to 52 for men.

The CES-D has been reported to have strong correlations with other depression measurement scales and distinguishes well between the general population and clinical samples (Radloff 1977). In this sample, Cronbach’s alpha for men was .89 and .92 for women.

Parental Anxiety: This is measured using the State-Trait Anxiety Inventory (STAI) by Spielberger et al. (1980). The inventory consists of twelve (12) statements, each of which asked respondents to describe their feelings on a four-item scale rating from “1 - not at all” to “4 – very much so”. Statements used in assessing respondents’ feelings include “I feel calm”, “I am anxious” “I am presently worrying over possible misfortunes” and “I feel over-excited and “rattled”. The Cronbach’s alpha (raw) for women in this sample was .88. For men, it was .87

4.3.1.4 Family Functioning

Two separate constructs are used to capture family functioning. The first is marital relationship and the second, problem parenting. Details on how these measures were constructed are provided below.

Marital Relationship: This scale is used to measure the extent of marital conflict and satisfaction couples experienced. Originally separate scales were created to represent each construct. The scale for marital conflict, adopted from a study by Turner (1999b), contained six items and required respondents to describe the frequency of marital conflict using a four point scale that ranged from “1 - never” to “4 - often”. Higher scores indicated higher levels of marital conflict. This scale had a Cronbach’s alpha of 0.76 for fathers and 0.79 for mothers. The scale for marital satisfaction contained 8-items and respondents were expected to describe their level of marital satisfaction on a 4-item scale rating from “1- not at all satisfied” to “4 -very satisfied”. The Cronbach’s alpha for the marital satisfaction scale was 0.88 for men and 0.92 for women. For the purposes of this paper, a new variable, marital relationship, was created that statistically combines the two constructs so that higher scores indicate higher levels of marital conflict and lower scores indicate marital satisfaction.

Problem Parenting: Problem parenting is captured using a scale adopted from a study by Avison, Turner and Noh (1986). It consists of 20 statements, 16 of which provide information on parenting attitudes and behaviors that are connected to inadequate and inappropriate parenting. Respondents provided answers to statements such as “no one has ever really listened to me” and “A wise parent will teach a child early just who is the boss” on a five-point scale ranging from “strongly agree” to “strongly disagree”. All negatively worded items were reverse coded so that higher scores reflect a higher risk for problem parenting. The alpha coefficient for this scale was .76 for fathers and .78 for mothers. The other four items were indices of social support. Social support is measured with four sets of vignettes, each of which contained three stories. Using a five-point scale, respondents were requested to indicate the extent to which their feelings were consistent with or similar to a story. Originally developed by Kaplan (1977), the scale was coded so that higher scores indicate higher levels of social support.

4.3.1.5 Stress and Strain

Three major categories of stress and strains are used in this study. They include chronic strains, life events and traumatic strains. The following paragraphs provide a description of each of the measures used.

Chronic Strains: This is assessed using a 39-item inventory developed by Wheaton (1994; see Appendix A). The inventory covers eight major strain areas: financial, children, health, partner, time pressures, neighbor and mobility, and employment. Respondents were asked to indicate how applicable certain situations were to them using a three-point scale ranging from “not true” to “very true”. The items on this scale are reverse coded so that higher scores indicate higher levels of chronic strains.

Life Events: adapted from Avison and Turner (1988), stressful life events are measured using a 40-item checklist (items are presented in Appendix A). Respondents were asked to identify experiences that happened over the past year. The first nine items required respondents to indicate incidents that happened to them or someone in their social network, i.e. their husband/partner, children, family, relatives or close friends, over the past year. For the next 13 items, respondents were asked to identify events that happened to them, their spouses and children. The last 19 items asked questions specific to the respondents. Respondents were expected to indicate which of the events personally happened to them over the past year. To ensure that events reported occurred within the defined time space a calendar was used during the interview and interviewers were required to note the month that each event started and ended.

Traumatic Events: Adapted from the work of Davies, Avison and McAlpine (1997), traumatic events are measured by 23 questions (see Appendix A). Respondents were asked to indicate any major events that happened to them in their lives from childhood onward. To help respondents remember when some of the events happened, a timeline was created and used by the interviewers. The first eight questions focused on traumatic events that occurred before the age of 18 (i.e. while the respondent was a child or a teenager, before he/she moved out). The next 15 questions addressed traumatic events that happened from age 18 onward.

Cumulative Stress: Following procedures described by Turner, Wheaton and Lloyd (1995), a cumulative stress variable was constructed. This variable represents the sum total of the various stressors. For all four dimensions of stress– traumatic events in childhood, traumatic events in adulthood, chronic stress and life events– raw scores were transformed into standard scores and then added together.

4.4 Results

The means and standard deviations of the variables included in the analyses are presented in Table 4.1. Statistics for families in which MGF and families in which FGM are simultaneously presented to enhance comparison. The first two columns report means and standard deviations for families where mothers' reports are greater than fathers' (MGF). The last two columns represent means and standard deviations obtained for families where fathers' scores exceed mothers' (FGM). Generally, results using an independent-sample t test show very little difference in social structural characteristics between the two groups of families. Significant differences were found only for employment status. In MGF households, mothers were more likely to be homemakers, and fathers, unemployed. On average, fathers' who scored greater than mothers were significantly more stressed, distressed and anxious than mothers/wives. Either parent was also likely to have higher scores than his/her partner if he/she experienced marital or parenting problems.

4.4.1 Social Characteristics, Cumulative Stress, Distress, Family Functioning: Independent and Cumulative effects

In examining the different factors that contribute to discrepancies between mothers' and fathers' reports, a series of ordinary least squares (OLS) regression equations were computed separately for MGF and FGM families. Parents' discrepant reports of their children's mental health problems were regressed on their own social and family characteristics, as well as their stressful experiences. The first set of analyses examines the independent effects of the various dimensions of stress on discrepancies in parental reports. In subsequent analyses, the effects of the four sets of factors – social structural determinants, cumulative stress, parental mental health and family functioning – on MGF scores and FGM scores are estimated.

Table 4.1: Characteristics of the Sample: Means and Standard Deviations of Variables

Variables	Mothers' > Fathers'		Fathers' > Mothers'	
	\bar{x}	s.d	\bar{x}	s.d
Age _{Mothers}	37.99	6.64	38.32	6.79
Age _{Fathers}	40.40	7.20	39.87	7.18
Education _{Mothers} ^a	14.25	2.79	14.21	2.44
Education _{Mothers} ^b	14.35	3.12	14.32	2.92
Income _{Household} ^c	12.00	4.30	12.33	4.18
Age _{Child}	9.10	4.86	9.43	4.86
Gender _{Child}		55.40% ^d		53.40% ^d
CESD _{Mothers}	12.67	10.52	11.19	10.42
CESD _{Fathers}	7.80	7.86	10.27	8.58
Anxiety _{Mothers}	0.05	0.22	0.10	0.31
Anxiety _{Fathers}	0.05	0.21	0.65	0.25
Trauma _{Mothers} <18	0.76	1.08	0.66	1.04
Trauma _{Fathers} <18	0.63	1.13	0.71	1.05
Trauma _{Mothers} >=18	2.78	2.25	2.83	2.44
Trauma _{Fathers} >=18	2.43	2.11	2.70	2.35
Chronic Strain _{Mothers}	43.73	7.00	42.83	6.51
Chronic Strain _{Fathers}	41.28	6.40	43.12	6.70
Life Events _{Mothers}	2.98	2.23	2.89	2.18
Life Events _{Fathers}	2.17	1.81	2.74	2.17
Marital Relationship _{Mothers}	16.53	3.10	17.12	3.23
Marital Relationship _{Mothers}	17.33	2.91	16.62	2.87
Parenting _{Mothers}	51.93	49.39	48.88	9.12
Parenting _{Mothers}	49.39	9.75	52.74	10.04
Discrepancy Scores	.073	0.64	0.81	0.63
N		272		260

^{a,b} Years of Education

^c Coded value corresponds to \$45,000 - \$49,000

^d Percent Male

4.4.2 Assessing the Effects of Stress on Discordance

Table 4.2 presents a series of regression estimates in which the dependent variable is the extent to which mothers' reports are higher than fathers' reports. In Model 1, fathers' education is negatively correlated with mothers' overreports MGF differences appear to be less pronounced in families where fathers have higher education. There is also an age and gender interaction with mothers and fathers being more likely to disagree on their reports when the children are younger girls. In Model 2, parents' experience of trauma in their childhood does not contribute to MGF reports of their children's mental health. Traumatic events experienced by mothers in their adult years (Model 3) as well as maternal and paternal chronic strains (Model 4) are significantly associated with MGF reports. Mothers' experiences of adulthood trauma are positively associated with their tendency to report higher levels of children's mental health problems. Mothers were also more likely to report higher levels of problematic when they experienced higher levels of chronic strains. In Model 5, no association is found for either parent's experiences of stressful life events. Comparatively, chronic strains explain the most variance in MGF reports. It accounts for an additional 4.9% of the variance in MGF reports. When all the stress dimensions are simultaneously included in Model 6, mothers' traumatic experiences in adulthood and mothers' chronic strains are significantly related to mothers reporting greater symptoms than fathers. Taken together, stressors reported by parents account for an additional 5.4 percent of the explained variance beyond that accounted by the structural variables (see Model 1).

In Table 4.3, results obtained from the regression of FGM differences in children's mental health problems are presented. In Model 1, FGM differences are more likely to occur when fathers are unemployed. In Models 2 through 5 each of the stress dimensions is independently estimated in the analyses. None of the dimensions of stress, with the exception of stressful life events (Model 4), is related to FGM discrepancies. In Model 6, all the dimensions of stress are concurrently estimated and the effect of stressful life events remains significant. Taken together, all six dimensions of stress explain only 1.4 percent of the variance in FGM differences over and above the variance accounted for by structural factors in Model 1 of Table 4.3.

Table 4.2 and 4.3: Regressions of Mothers' and Fathers' Report of Children's Mental Health Problems on Structural Variables and Parental Social Stress Measures

Table 4.2: Mothers' Greater than Fathers' Score

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b	β	b	β	b	β	b	β	b	β	b	β
Age _{Child}	-.041	-.304	-.037	-.273	-.038	-.283	-.039	-.289	-.039	-.291	-.035	-.259
Gender _{Child}	-.379*	-.291	-.368*	-.283	-.370*	-.284	-.364*	-.279	-.378*	-.290	-.354*	.271
Age*gender	.038*	.478	.035*	.439	.034*	.432	.034*	.426	.037*	.465	.030	.378
Age _{Mother}	-.017	-.168	-.014	-.142	-.019	-.193	-.014	-.143	-.016	-.166	-.014	-.143
Age _{Father}	.002	.026	.001	.008	.005	.056	.001	.013	.002	.024	.002	.026
Education _{Mother}	.002	.009	-.001	-.004	-.001	-.005	.001	.006	.003	.018	-.003	-.013
Education _{Father}	-.032*	-.156	-.031	-.148	-.030	-.145	-.033	-.158	-.051	-.034	-.030	-.145
Household Income	.000	.001	-.001	-.010	-.001	-.008	.006	.041	-.028	.012	.002	.012
Employment _{Mothers} (Vs. Other)	-.049	-.033	-.064	-.043	-.055	-.037	-.039	-.026	-.051	-.034	-.054	-.037
(Vs. Unemployed)	-.009	.004	-.031	-.013	-.020	-.009	-.042	-.018	-.028	-.012	-.050	-.021
Employment _{Fathers} (Vs. Other)	-.168	-.057	-.195	-.066	-.169	-.058	-.187	-.064	-.168	-.057	-.211	-.072
(Vs. Unemployed)	-.045	-.027	-.065	-.039	-.036	-.022	-.015	-.009	-.044	-.026	-.026	-.015
Trauma _{Mother} <18			.063	.104							.051	.084
Trauma _{Father} <18			-.042	-.072							-.045	-.078
Trauma _{Mother} >=18					.055**	.189					.038*	.131
Trauma _{Father} >=18					-.033	-.108					-.031	-.100
Chronic Strain _{Mother}							.025***	.270			.024**	.254
Chronic Strain _{Father}							-.016*	-.154			-.015	-.149
Life Events _{Mother}									.026	.088	-.021	-.073
Life Event _{Father}									-.014	-.038	.021	.060
R²	.015		.022		.037*		.064**		.014		.069	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

Table 4.3: Fathers' Greater than Mothers' Score

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	b	β	b	β	b	β	b	β	b	β	b	β
Age _{Child}	-.045	-.347	-.044	-.340	-.046	-.353	-.046	-.352	-.057*	-.439	-.056*	-.430
Gender _{Child}	-.415*	-.327	-.407*	-.320	-.423*	-.333	-.420*	-.330	-.485**	-.382	-.476**	-.374
Age*gender	.029	.378	.028	.371	.034	.385	.029	.384	.035*	.470	.035*	.463
Age _{Mother}	-.014	-.150	-.014	-.150	-.012	-.127	-.012	-.132	-.005	-.057	-.005	-.050
Age _{Father}	.003	.038	.003	.032	.002	.018	.003	.029	.000	-.009	-.001	-.015
Education _{Mother}	.006	.025	.006	.024	.006	.023	.004	.016	-.002	-.007	-.003	-.010
Education _{Father}	-.031	-.143	-.032	-.146	-.031	-.143	-.029	-.134	-.030	-.137	-.029	-.132
Household Income	.016	.104	.015	.102	.015	.101	.011	.074	.016	.105	.013	.084
Employment _{Mothers}												
(Vs. Other)	-.009	-.006	-.010	-.006	-.007	-.004	-.015	-.009	-.012	-.007	-.025	-.015
(Vs. Unemployed)	.060	.027	.057	.026	.067	.031	.071	.032	.084	.038	.076	.035
Employment _{Fathers}												
(Vs. Other)	.430*	.136	.428*	.136	.421*	.133	.344	.109	.380	.120	.337	.107
(Vs. Unemployed)	.399**	.198	.409**	.137	.392**	.195	.365**	.181	.349**	.173	.351*	.174
Trauma _{Mother} <18			-.012	-.019							.001	.002
Trauma _{Father} <18			-.017	-.028							-.033	-.054
Trauma _{Mother} >=18					-.009	-.036					.003	.013
Trauma _{Father} >=18					.009	.034					-.002	-.008
Chronic Strain _{Mother}							-.012	-.125			-.010	-.105
Chronic Strain _{Father}							.010	.109			.007	.075
Life Events _{Mother}									-.047*	-.160	-.039	-.134
Life Event _{Father}									.060**	.206**	.059*	.200
R²	.070**		.064**		.064**		.078**		.096***		.083**	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable^bDummy coded with males = 0 and females = 1

4.4.3 Assessing the Independent Effects of Structural Factors, Cumulative Stress, Parental Mental Health and Family Functioning

Table 4.4 estimates the effects of structural factors and an array of psychosocial dimensions on MGF discrepancies in their reports of their children's mental health. Model 1 is simply a replication of the regression equation in Table 4.3 where all the structural variables are again included in the model. When the significant effects of mothers' and fathers' cumulative stress are estimated in Model 2, the education and age-gender interaction effects disappear. The burden of stress appears to mediate the effects of education and age-gender interaction on MGF differences. Cumulative exposure to stress is also significantly correlated with MGF reports and accounts for about 4.8 percent of variance in the model over and above the effects of structural factors in Model 1. In Model 3, parental distress is included in the analyses. There is little indication that distress is associated with MGF discrepancies of their children's symptoms. No association is found for distress and for anxiety. By contrast, marital relationships and parenting do have an impact on discrepant reports (Model 4). Mothers in more conflictual marital relationships and those exhibiting higher levels of problem parenting are more likely to report more symptoms in their children's than are fathers. These dimensions of family functioning account for an additional 6.6 percent of variance, over and above the variance of structural factors in Model 1.

In Model 5, when all variables are included in the regression equation, mothers' cumulative stress and problem parenting are the only factors correlated with MGF discrepancies. Mothers under stress and those with more authoritarian parenting styles report more mental health problems among their children than do their husbands. Together all four factors account for 10.4 percent of variance in mothers' over-reports.

In Table 4.5, a parallel series of analyses are replicated for FGM discrepancies. When FGM differences are regressed on the various structural factors, only fathers' employment status is associated with FGM scores (Model 1). Compared to their employed counterparts, unemployed fathers are more likely to report their children's

emotional and behavioral problems than are their wives. Stress is uncorrelated with discrepancies in Model 2. In Model 3, parental distress is unrelated to FGM reports. No relationship is found for family functioning in Model 4.

In Model 5 when all four factors are simultaneously controlled, fathers' unemployment contributes significantly to their ratings of their children's internalizing and externalizing problems. Taken together, all four factors explain 8.1 percent of the variance in paternal reports of children's behavioral problems. This is only about 1.1 percent of variance over and above the variance accounted for by structural factors in Model 1.

As part of the analyses, I replicated these analyses in which I dichotomized the FGM and MGF reports using a standard deviation of 0.5. Overall, results obtained were similar to those obtained using the OLS, hence these are not presented.

Table 4.4: Regression of Structural, Mental Health and Social Stress and Family Functioning on Discrepancy Scores: Mothers > Fathers

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	β	b	β	b	β	b	β	b	β
Age _{Child}	-.041	-.304	-.032	-.241	-.041	-.303	-.042	-.315	-.033	-.244
Gender _{Child}	-.379*	-.291	-.356*	-.273	-.375*	-.288	-.337*	-.258	-.312	-.239
Age*gender	.038*	.478	.030	.383	.037*	.469	.033*	.420	.027	.338
Age _{Mother}	-.017	-.168	-.014	-.148	-.018	-.182	-.011	-.107	-.010	-.107
Age _{Father}	.002	.026	.002	.019	.004	.047	.002	.019	.002	.019
Education _{Mother}	.002	.009	1.18	.000	.008	.035	.016	.067	.013	.057
Education _{Father}	-.032*	-.156	-.030	-.144	-.029	-.141	-.036*	-.175	-.033*	-.159
Household Income	.000	.001	.002	.014	.001	.005	.004	.028	.003	.022
Employment _{Mothers (other)} (Vs. Unemployed)	-.049	-.033	-.063	-.042	-.020	-.013	.000	.000	-.014	-.009
Employment _{Fathers (Other)} (Vs. Unemployed)	-.168	-.057	-.194	-.066	-.178	-.060	-.169	-.058	-.169	-.057
Cumulative Stress _{Mother}			.061***	.254					.044*	.184
Cumulative Stress _{Father}			-.041*	-.154					-.037	-.138
CESD _{Mother}					.004	.071			.000	.002
CESD _{Father}					-.008	-.094			-.005	-.057
Anxiety _{Mother}					.009	.095			.000	-.002
Anxiety _{Father}					.002	.016			.004	.040
Marital Relationship _{Mother}							-.035*	.164	-.025	-.118
Marital Relationship _{Father}							.019	.085	.015	.068
Problem Parenting _{Mother}							.016**	.236	.015**	.218
Problem Parenting _{Father}							-.005	-.073	-.004	-.062
R²	.015***		.063**		.023		.081**		.091**	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable^b

Dummy coded with males = 0 and females = 1

Table 4.5: Regression of Structural, Mental Health and Social Stress and Family Functioning on Discrepancy Scores: Fathers > Mothers

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	β	b	β	b	β	b	β	b	B
Age _{Child}	-.045	-.347	-.050	-.380	-.041	-.312	-.043	-.330	-.044	-.347
Gender _{Child}	-.415*	-.327	-.444*	-.349	-.395*	-.310	-.415*	-.326	-.414*	-.331
Age*gender	.029	.378	.031	.411	.025	.338	.027	.353	.027	.366
Age _{Mother}	.014	-.150	-.010	.106	-.012	-.133	-.014	-.152	-.011	-.140
Age _{Father}	.003	.038	.001	.006	.001	.012	.004	.044	.000	.025
Education _{Mother}	.006	.025	.001	.004	.000	.000	3.57	.000	-.001	-.006
Education _{Father}	-.031	-.143	-.030	-.139	-.031	-.142	-.033*	-.151	-.033	-.143
Household Income	.016	.104	.013	.083	.010	.064	.011	.073	.009	.057
Employment _{Mothers (other)} (Vs. Unemployed)	-.009	-.006	-.003	-.002	-.040	-.024	.000	.000	-.050	-.030
Employment _{fathers (Other)} (Vs. Unemployed)	.430*	.136	.346	.110	.360	.114	.415*	.132	.330	.114
Cumulative Stress _{Mother}			-.031	-.127					-.009	-.039
Cumulative Stress _{Father}			.028	.120					.023	.098
CESD _{Mother}					-.008	-.129			-.007	-.121
CESD _{Father}					-.002	-.023			-.006	-.081
Anxiety _{Mother}					-.006	-.067			-.007	-.075
Anxiety _{Father}					.007	.074			.008	.079
Marital Relationship _{Mother}							.013	.065	.004	.021
Marital Relationship _{Father}							-.028	-.125	-.026	-.120
Problem Parenting _{Mother}							-.007	-.094	.000	.000
Problem Parenting _{Father}							-.002	-.026	-.003	-.040
R²	.070***		.078**		.086**		.078**		.093***	

*p < .05, **p < .01, ***p < .001 (two-tailed tests)

^aCoded using an eighteen-point categorical variable

^bDummy coded with males = 0 and females = 1

4.5 Discussion

The purpose of this study was to examine the possibility that discrepancies between maternal and paternal reports of children's symptoms of mental health problems may be shaped by social structural factors, parental mental health, marital relationships and parenting styles, or social stressors. Results obtained from linear regression analyses indicate that the factors that pattern parental over-reports differ for mothers and fathers. Among families where mothers report higher mental health problems than fathers, these differences do not vary by social structural characteristics. What seems to influence the magnitude of the discrepancy are social stressors and problem parenting. There is a clear indication that the burden of stress is associated with MGF reports. Problems with the parenting role also contribute significantly to women's overreports. Often the primary caregivers, any difficulty in raising or tending children may affect women's perceptions about their children, increase their stress and predispose them to reporting more problematic behavior among their children's

For fathers, there is relatively little indication that their discrepant reports are a function of structural factors, though unemployed fathers consistently report more problematic behaviors than their partners. Perhaps a loss/lack of employment increases the time fathers spend with children and enables a closer observation and assessment of their children's emotions and behaviors. Not much evidence is found for the effect of social stress and family relationships. Generally, the data and results of this study provide only minimal information as to why fathers overreport. It may be that FGM reports are due to discomfort in the parenting role, a construct which was not included and/or measured in this study.

In this study, there is very little evidence that differences in parental reports are a function of parental mental health. First and foremost, the impact of distress and anxiety is not great. Secondly, when the other factors are controlled, the effects of parental distress disappear. This finding deviates from that of the large number of studies in clinical psychology that find strong, positive and persistent associations between parental mental

health and discrepant reports of children's emotional and behavioral problems (Van der Toorn *et al.* 2010; De Los Reyes *et al.* 2008; Treutler and Epkins 2003; Chi and Hinshaw 2002; Krain and Kendall 2000; Najman *et al.* 2000; Briggs-Gowan, Carter, and Schwab-Stone 1996; Frick, Silverthorn and Evans 1994). Considering that a number of these clinical psychology studies also focus on community samples, examine general psychological symptoms, and use the Child Behavioral Checklist (CBCL) (e.g. see Treutler and Epkins 2003; Seiffge-Krenke and Kollmar 1998), these findings question and challenge the consistent emphasis on the predictive role of parental mental health in psychological studies on discrepancies in parental reports. The findings also call for further research on the significance of parental mental health and its relative contribution to parental report discordance.

The present study adds to the sociological literature by showing how various social and psychosocial factors contribute to differences in parent's reports of their children's internalizing and externalizing behavioral symptoms. To date, there has neither been any known sociological study that considers how mothers and fathers differ in their reports of their children's mental health nor has there been any attempt to identify conditions that underlie such discrepancies. Research that follows from this study may consider utilizing clinical samples and conditions, and consider a comparative study of how such samples and conditions differ from the general population in the effects of stress, distress, structural characteristics and family relationships. So far, only a few studies in clinical psychology have considered clinical samples (e.g. Krain and Kendall, 2000). Studying and comparing clinical and non-clinical samples and conditions from a sociological perspective would provide clearer evidence of the relative importance of the various social, psychological and psychosocial factors in defining parental over-reports. In addition, future studies may comparatively examine parents' and children's reports and identify the extent to which each of the four factors assessed in this paper influence discrepancies in such reports.

One limitation to the current study is that only spouses and children in London, Ontario, were studied; this may limit the generalizability of these findings. Future studies should

consider whether other samples, e.g. a nationally representative sample of spouses and their children, reveal patterns similar to those found in this study. Another limitation is the cross-sectional nature of the study. This makes it quite difficult to determine the causal order. In this paper it is assumed that social structure, mental health, family function and social stress are the independent variables. However, we cannot rule out the possibility that factors such as marital conflict, social stress, and psychological distress may be consequences of parental discrepancies. Longitudinal studies are needed for a clearer identification and study of these links and patterns.

Despite these limitations, the findings of this study suggest that the effects of parental mental health on parental discordance are modest. It also indicates that the factors that underlie parental discrepant reports go beyond, and are comparatively more influential, than parental mental health. Sociologists have a key role in identifying and exploring the various social, psychological and psychosocial factors that affect these discrepancies.

4.6 References

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CHAPTER 5

5 CONCLUSIONS

5.1 Overview: Major Findings, Limitations, Conclusions and Future Directions

Primarily, this thesis examined the role and contribution of parents' psychopathology and sociodemographic characteristics on children's emotional and behavioral problems. It began with an investigation of the relative impact of parental structural characteristics and parental mental health, and examined the strength of their association with children's mental health. The second paper details an empirical analysis of children's mental health in the context of the stress process model. The aim was to begin to develop a stress universe that is specific to children. In each of these studies, children's mental health was assessed using both mothers' and fathers' report. The final paper addressed the issue of discrepancy often associated with multiple informant reports. It assessed whether such discrepancies were present in the parental reports utilized in this study and identified four possible factors that may be contributing to mothers' and fathers' report differences.

Overall, the results indicate that social structural factors contribute to children's mental health. Social and demographic factors not only accounted for more variance in parental reports than both measures of parental distress, but continued to contribute significantly to children's mental health, even after parental mental health was accounted for. By contrast, the predictive effect of parental mental health appeared to hinge on whose report was used. Fathers' mental health was significantly associated with children's mental health only when fathers' reports were used. Similarly mothers' distress mattered for children's mental health only when their reports were utilized. These findings made the focus on parental mental health rather questionable. Notwithstanding, there is evidence to imply that parental distress mediates the relationship between parental socio-structural characteristics and children's mental health for mothers and for fathers. Together, the findings of the study suggest that the effects of social structure on children's emotional

and behavior problems are at least commensurate to if not greater than those of parental distress.

Another key finding points to the predictive value of stressors. Many of the dimensions of stress were directly and significantly associated with children's mental health with results showing similar patterns when stress was measured independently or cumulatively. Overall, children in stressful home environments appeared to be the more predisposed to emotional and behavioral problems than their counterparts in less stressful home environments. The consequences of stress were also indirect. In addition to explaining the variations in children's psychopathology, stress operated as a medium through which social structural characteristics translated into children's psychopathology. The effects of stress persisted even after parental mental health was controlled. These findings underscored the plausibility of developing a stress universe and a stress process analysis of children's mental health.

It is also evident from our analysis of inter-parental discrepancies that a wide range of factors contribute to report discrepancies and that such factors differ for mothers and for fathers. For mothers, the burden of stress and difficulties with the parenting role were central to their reporting more problematic behavior than fathers. Mothers' structural characteristics had little to do with their over-reporting. For fathers, there was relatively little evidence to inform why they overreport, though unemployed fathers consistently report more problematic behaviors than their partners. For both mothers and fathers, distress had only little to do with discrepant reports. Not only was the effect of distress not great, it also disappeared when other factors were controlled. Other than suggesting the need to critically assess the concordance and discordance in parents' report of their children's symptomatology, these findings call for any such assessments to look beyond parental distress and to consider mothers' and fathers' separately.

There were a number of limitations associated with these studies. The first limitation points to the use of parental reports of children's psychopathology, instead of children's own report or a combination of both reports. Although it would have been good to include reports by children, this was problematic because self-reports were available only

for children age eleven and above and this severely limited the statistical power of any analysis. Future research may consider including children's report in their assessment of the factors that contribute to their emotional and behavioral problems. Further, the cross-sectional nature of the study also made it quite difficult to discern causal ordering between structural characteristics and/or stress and psychopathology. With a longitudinal analysis, causal ordering would be clearer, nevertheless available theory and a large number of studies using the stress process paradigm make it logical to presume that structural factors that the predictors (e.g. Avison 2010; Strohschein 2005; McLeod and Shanahan 1996).

In addition to these, the range of structural factors included in the analyses is very limited. A wider range of structural factors would have boosted an understanding of the extent to which structural factors matter for children's mental health. Closely associated with this is the focus on stressors in the family environment. Any attempt to understand the effects of stressors on children must also consider the school environment and the neighborhood as these contexts play significant roles in shaping children's life and their mental health outcomes.

The limitation of these studies does little to detract from its major findings, which suggest that structural factors play an important role in children's mental health. A new direction in research would be developing a stress universe for children.

5.2 References

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Appendix A: Social Stress Indicators

TRAUMATIC EVENTS

Two phases of the life course are considered in estimating traumatic events: childhood and adulthood. These events span from childhood to adulthood. Nevertheless, a distinction is made between childhood and lifetime trauma. All occurrences prior to age 18 are counted as the number of childhood traumatic events. Events that occurred from age 18 are counted as adult traumatic events. Each score represents a simple count of these events that last occurred in one or the other life phase.

Now, I would like to know something about some of the major events that may have happened to you in your life from childhood onward. Here is the time that will help you remember when some of these events occurred. We've already put several dates on this.

While you were a child or a teenage, before you moved out:

- a) Did you ever have a major illness or accident that required you to spend a week or more in the hospital?
- b) Did your parents get a divorce?
- c) Did you have to do a year of school over again?
- d) Did your father or mother not have a job for a long time when they wanted to be working?
- e) Did something happen that scared you so much you thought about it for years after?
- f) Were you ever sent away from home because you did something wrong?
- g) Did either of your parents drink or use drugs so often or so regularly that it caused problems for the family?
- h) Were you regularly physically abused by one of your parents?

Anytime in your life:

- i) Have you ever been divorced or had a relationship end with someone you were still in love with?
- j) Did you ever break off an engagement?
- k) Has one of your parents died?
- l) Has a spouse, child or other loved one died?
- m) Have you ever witnessed something violent happen to someone or seen someone killed?
- n) Have you ever been in a major fire, flood, earthquake, or other natural disaster?
- o) Have you ever had a serious accident, injury, or illness that was life threatening or caused long-term disability?
- p) Has one of your children ever had a near fatal accident or life-threatening illness?
- q) Have you ever discovered that your spouse/partner was unfaithful?
- r) Have you ever separated from your partner?
- s) Have you ever been physically abused by your current or previous spouse or partner?
- t) Has your spouse/partner or child been addicted to alcohol or drugs?
- u) Did you ever have a pregnancy that resulted in a miscarriage, still birth, or abortion?
- v) Are there any other important events in your life that you want to tell me about?
- w) Are there any particular important events in your partner's life that you want to put on this time line?

CHRONIC STRAINS

Now I'll describe some situations that sometimes come up in people's lives. I'd like you to tell me how true these things are for you at this time.

1. Not true
2. Somewhat true
3. Very true

Financial

- a) You don't have enough money to buy the things you or your kids need.
- b) Your rent or mortgage is too much.
- c) You don't have enough money to take vacations.
- d) You have major concerns about your current financial commitments or financial future.

Children

- e) One of your children seems very unhappy
- f) You feel your children don't listen to you
- g) A child's behavior is a source of serious concern to you
- h) One or more children do not do well enough at school or work
- i) Your children don't help around the house.
- j) One of your children spends too much time away from the house.
- k) You have regular conflicts with one (or more) of your children.

Health

- l) Someone in your family or a close friend has a long-term illness or handicap.
- m) You have a parent, a child, or a spouse or partner who is in very bad health and may die.
- n) Someone in your family has an alcohol or drug problem.
- o) A long-term health problem prevents you from doing the things you like to do.
- p) You take care of an aging parent almost everyday.

Partner

- q) You have a lot of conflict with your partner.
- r) Your relationship restricts your freedom
- s) Your partner doesn't understand you.
- t) Your partner expects too much of you.
- u) You don't get what you deserve out of your relationship

- v) Your partner doesn't show enough affection.
- w) Your partner is not committed enough to your relationship
- x) Your sexual needs are not fulfilled by this relationship
- y) Your partner is always threatening to leave or end the relationship

Time Pressures

- z) You're trying to take on too many things at once.
- aa) There is too much pressure on you to be like other people.
- bb) Too much is expected of you by others
- cc) You want to live farther away from your family.

Neighbor and mobility

- dd) You would like to move but cannot.
- ee) The area where you live is too noisy or polluted.
- ff) The neighborhood where you live isn't safe for you or for your children.
- gg) You live too far away from your family or a particular family member

STRESSFUL LIFE EVENTS

Each life event index is a simple count from the number of positive responses to the following 38 items. Some of the events were specific to the respondents. Other events were included with reference to individuals in the respondents' social network – spouse or partner, children, and relatives or close friends. The events of interest were those that occurred during the preceding 12 months.

Now I'd like to ask you about experiences that people sometimes have. Some of these things happen to most people at one time or another, while some happen to only a few people. I'd like to know about things that happened over the past year.

First, I'd like to ask you about some things that happened to you, or to anyone close to you, that is your husband/partner, children, family, relatives or close friends. Please tell me which of the following experiences happened to you or someone close to you in the past 12 months.

- a) Was there a serious accident or injury?
- b) Was there a serious illness?
- c) A marital separation or divorce?
- d) Were there continuous financial worries?
- e) Was there a major financial crisis?
- f) Was there trouble with the law?
- g) Did a child die?
- h) Did a spouse/partner die?
- i) Did anyone have some other very serious personal problem or crisis that was not health related?

Now I'd like you to think just about yourself, your spouse/partner and your children. Please tell me which of the following events happened to you, your spouse/partner or your children (if they apply to them).

Has anyone:

- j) Experienced a continuous threat of lay off from work?
- k) Been downgraded, demoted or took a pay cut at work?
- l) Been fired or laid off?
- m) Had troubles or arguments or other difficulties with people at work?
- n) Voluntarily left a job?
- o) Been burglarized, robbed, mugged or assaulted?
- p) Was there an unwanted pregnancy?
- q) Was there an abortion, miscarriage or still birth?
- r) Were there other difficulties with a pregnancy?
- s) Was there a baby born?
- t) Did anyone fail school or a training program?
- u) Did anyone drop out of school?
- v) Was anyone sexually assaulted?

I'd like to ask about some things that happened to you personally. Please tell me which of the following experiences you have had in the past 12 months.

- w) Were there increasing serious arguments with other household members?

- x) Were there serious problems in your relationship with a friend?
- y) Was the behavior of one of your parents, relatives or in-laws a problem for you?
- z) Was the behavior of your partner problem for you?
- aa) Was the behavior of one of your children a problem for you?
- bb) Did you end an engagement or a romantic relationship?
- cc) Were you separated from someone else close to you?
- dd) Did you move to a new neighborhood or to a new town?
- ee) Did you go on welfare or mother's allowance?
- ff) Did a new person move into the household (other than newborn)?
- gg) Did someone move out of the household?
- hh) Were you involved in doing things for others because of their health or other problems?
- ii) Did you learn something upsetting or disappointing about someone you know very well?
- jj) (Did you start menopause)?
- kk) Did anything you were hoping for or expecting not work out?
- ll) Was there any major damage to property or possessions?
- mm) Was any furniture or a car repossessed or a mortgage foreclosed?
- nn) Did a close family member die?
- oo) Did a close friend die?

WORKSTRAIN

Here are some statements that describe people's jobs. For each sentence, please circle the number of the category that best describes how strongly you agree or disagree, when thinking about your current job or your last job, if you are not currently employed.

1. Strongly disagree
2. Somewhat disagree
3. Somewhat agree
4. Strongly agree

- a) I feel lucky because I get paid to do work I like to do anyway (I felt lucky because I got paid to do work I liked to do anyway)
- b) My job is like a hobby to me. (My job was like a hobby to me)
- c) My job gives me a chance to do things I enjoy doing. (my job gave me a chance to do things I enjoyed doing).
- d) On my job, I often make decisions on my own. (On my job, I often made decisions on my own).
- e) My work is a grind. (My work was a grind).
- f) If it wasn't for the pay, I'd never do the things I do at work. (If it hadn't been for the pay, I'd have never done the things I did at work)
- g) My supervisor decides what I do and how I do it. (My supervisor decided what I did and how I did it).
- h) I put a lot more effort into my job than is absolutely required of me. (I put a lot more effort into my job than was absolutely required of me.)
- i) Some of the most important things that happen to me involve my job. (Some of the most important things that happened to me involved my job).
- j) I have a lot of freedom to decide how to do my own work. (I had a lot of freedom to decide how to do my own work.)
- k) My work is a source of great satisfaction for me. (My work was a source of great satisfaction for me
- l) I feel close to the people I work with. (I felt close to the people I worked with).
- m) I have people at work who would always take the time to talk over my problems should I want to. (I had people at work who would have always taken the time to talk over my problems should I have wanted to).
- n) I often feel really appreciated by the people I work with. (I often felt really appreciated by the people I worked with).
- o) I control the speed at which I work. (I controlled the speed at which I worked).
- p) I do the same thing over and over again. (I did the same thing over and over again).

- q) I have more work in my job than I can handle. (I had more work in my job than I could handle).
- r) There is a lot of noise or a lot of dirt on my job (There was a lot of noise or a lot of dirt on my job).
- s) Things going on at home make me tense and irritable at work. (Things that went on at home made me tense and irritable at work).
- t) The demands of my family interfere with my work on the job. (The demands of my family interfered with my work on the job).
- u) The demands of my job interfere with my family life. (The demands of my job interfered with my family life).
- v) When I'm at work I often think about things going on at home. (When I was at work, I often thought about things going on at home).
- w) When I'm at home I often think about things going on at work. (When I was at home, I often thought about things going on at work).
- x) When I'm at work, I often talk to my co-workers about problems that I have at home. (When I was at work, I often talked to my co-workers about problems that I had at home).
- y) When I'm at home, I often talk to my husband/wife about problems that I have at work. (When I was at home, I often talked to my husband/wife about problems that I had at work).

Appendix B: The Child Behavioral Checklist

Below is a list of items that describes children of all ages. While some may apply to children of the same age as (CHILD), others may not. For each item that describes your child now or within the past 12 months, please indicate:

0. If item is not true

1. If item is somewhat or sometimes true

2. If item is very true or often true

1. Acts too young for his/her age
2. Allergy
3. Argues a lot
4. Asthma
5. Behaves like opposite sex
6. Bowel movements outside toilet
7. Bragging, boasting
8. Can't concentrate, can't pay attention for long
9. Can't get his/her mind off certain thoughts; obsessions (**DESCRIBE**):
10. Can't sit still, restless, or hyperactive
11. Clings to adults or too dependent

12. Complains of loneliness
13. Confused or seems to be in a fog
14. Cries a lot
15. Cruel to animals
16. Cruelty, bullying, or meanness to others
17. Day-dreams or gets lost in his/her thoughts
18. Deliberately harms self or attempts suicide
19. Demands a lot of attention
20. Destroys his/her own things
21. Destroys things belonging to his/her family or other children
22. Disobedient at home
23. Disobedient at school
24. Doesn't eat well
25. Doesn't *get along* with other children
26. Doesn't seem to feel guilty after misbehaving
27. Easily jealous
28. Eats or drinks things that are not food :(DESCRIBE):
29. Fears certain animals, situations, or places, other than school (DESCRIBE):
30. Fears going to school

31. Fears he/she might think or do something bad
32. Feels he/she has to be perfect
33. Feels or complains that no one loves him/her
34. Feels others are out to get him/her
35. Feels worthless or inferior
36. Gets hurt a lot, accident-prone
37. Gets in many fights
38. Gets teased a lot
39. Hangs around with children who get in trouble
40. Hears things that aren't there (**DESCRIBE**):
41. Impulsive or acts without thinking
42. Likes to be alone
43. Lying or cheating
44. Bites fingernails
45. Nervous movements or twitching (**DESCRIBE**):
46. Nervous, highstrung, or tense

47. Nightmares
48. Not liked by other children
49. Constipated, doesn't move bowel
50. Too fearful or anxious
51. Feels dizzy
52. Feels too guilty
53. Overeating
54. Overtired
55. Overweight
56. Physically attacks people
57. Picks nose, skin, or other parts of body
58. Plays with own sex parts in public
59. Plays with own sex parts too much
60. Poor school work
61. Poorly coordinated or clumsy
62. Prefers playing with older children
63. Prefers playing with younger children
64. Refuses to talk
65. Physical problems without known medical cause:

- a. Aches or pains
 - b. Headaches
 - c. Nausea, feels sick
 - d. Problems with eyes (**DESCRIBE**):
 - e. Rashes or other skin problems
 - f. Stomachaches or cramps
 - g. Vomiting, throwing up
 - h. Other (**DESCRIBE**):
- 66. Repeats certain acts over and over; compulsions (**DESCRIBE**):
 - 67. Runs away from home
 - 68. Screams a lot
 - 69. Secretive, keeps things to self
 - 70. Sees things that aren't there (**DESCRIBE**):
 - 71. Self-conscious or easily embarrassed
 - 72. Sets fires
 - 73. Sexual problems (**DESCRIBE**):
 - 74. Showing off or clowning
 - 75. Shy or timid
 - 76. Sleeps less than most children

77. Sleeps more than most children during day and/or night (**DESCRIBE**):
78. Smears or plays with bowel movements
79. Speech problem (**DESCRIBE**):
80. Stares blankly
81. Steals at home
82. Steals outside the home
83. Stores up things he/she doesn't need (**DESCRIBE**):
84. Strange behavior(**DESCRIBE**):
85. Strange ideas (**DESCRIBE**):
86. Stubborn, sullen, or irritable
87. Sudden changes in mood or feelings
88. Sulks a lot
89. Suspicious
90. Swearing or obscene language
91. Talks about killing self
92. Talks or walks in sleep (**DESCRIBE**):
93. Talks too much
94. Teases a lot
95. Temper tantrums or hot temper

96. Thinks about sex too much
97. Threatens people
98. Thumb-sucking
99. Too concerned with neatness or cleanliness
100. Trouble sleeping (**DESCRIBE**):
101. Truancy, skips school
102. Underactive, slow moving, or lacks energy
103. Unhappy, sad, or depressed
104. Unusually loud
105. Uses alcohol or drugs (**DESCRIBE**):
106. Vandalism
107. Wets self during the day
108. Wets the bed
109. Whining
110. Wishes to be of opposite sex
111. Withdrawn, doesn't get involved with others
112. Worrying
113. Are there any other problems your child has that I haven't mentioned?

Curriculum Vitae

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