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THE IMPACT OF MATERNAL FACTORS ON FEMALE
JUVENILE DELINQUENCY TRENDS

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ABSTRACT

This study examined the difference between female juvenile delinquents and nondelinquents in relationship to a combination of maternal factors (negative maternal behaviors, occupational stress, perceived social support, and maternal parenting stress). Participants were 128 biological mothers of daughters between the ages of 12 and 18 who were either mothers of clients or were clients themselves of a Midwest community health center in one of several clinics in Martinsville, Mooresville, Bedford, Bloomington, and Spencer, Indiana. Participants completed six questionnaires, including: the Demographics Questionnaire, the Maternal Behavior Index, the Adolescent Behavior Survey, the Occupational Crisis Survey, the Duke Social Support Inventory, and the Maternal Parenting Measure of Stress. A discriminate function analysis was conducted to determine if the maternal factors of negative maternal behaviors, occupational stress, perceived social support, and maternal parenting stress could be used to predict membership in the following groups for female adolescents: delinquents and nondelinquents. Results indicated that mothers who reported more negative behaviors, perceived less social support, and felt more parenting stress were more apt to have daughters who engaged in delinquent acts.

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PUBLICATION READY MANUSCRIPT

PUBLICATION READY MANUSCRIPT

Introduction

As we have taken a turn into a new century, our country has seen an increase in the juvenile population. It is presumed that this population will continue to grow until 2015, showing an overall estimated increase of 8% between 1995 and 2015 (Loper, 2000). This increase appears small compared to increases in other age groups. However, with an increase in the juvenile population, no matter how slight, comes an anticipated increase in juvenile crimes and delinquency. In the past, a majority of the crimes committed by juveniles in the United States have been perpetrated by males. Nonetheless, there is a surprising and growing trend of female juvenile delinquency and female involvement in the juvenile justice system in the past few decades. This rise in female juvenile delinquency has been sudden and severe, with younger females committing more significant crimes (Loper, 2000; Scahill, 2000). Of the 1,755,100 delinquency cases in 1997, nearly one-fourth involved a female offender, an increase of 83% since 1988. Even more surprising are the characteristics of these female offenders. A majority (63%) of the females charged with delinquent acts were under the age of 16, were white (67%), and were most likely to commit property offenses (49%) (Scahill, 2000). When they did commit a person offense (25%) (Scahill, 2000), they tended to be offenses centered on a relational conflict, showing an 82% increase in this category between 1993 and 1997. Moreover, statistics show that females are being arrested for more acts that are considered violent and serious (Loper, 2000; U.S. Department of Justice, 1996), as aggravated assault rates have increased 15% for girls

but decreased 10% for their male counterparts (Loper, 2000). Girls are also showing a dangerous propensity toward substance abuse, as arrests of females for drug abuse violations increased 117% between 1993 and 1997 (U.S. Department of Justice, 1996). Statistics for female juvenile delinquents are even more problematic when considering overall rates for juvenile crimes have decreased an average of 9% (U.S. Department of Justice, 1996).

Statement of the Problem

Current trends implicate a faltering economy and greater rifts between upper and lower classes as two factors in rising delinquent behaviors. Poverty has long been shown to be correlated with many life difficulties including child-related problems and delinquency. Wells and Rankin (1991) found that children who live in single-parent homes, or in homes in which divorce or separation has occurred, are more prone to emotional and behavioral problems (e.g., delinquency) than children from two-parent homes. This is in part due to the influence of poverty in the lives of these families, as many single parents are unable to compensate for the loss of income and additional expenditures associated with living alone. Likewise, there is a decrease in social and parental supportive factors that a spouse can offer. Unfortunately, the extent to which households in the United States have both parents present has declined dramatically since the early 1970's (Thornberry, Smith, Rivera, Huizinga, & Stouthamer-Loeber, 1999). Between 1970 and 1997, there has been a 29% decrease of intact African American households and a 16% decrease of intact Caucasian households. This trend is speculated to continue at staggering rates; some experts believe proportions of divorced, separated or single-parent homes will extend to 75% for some populations (Bray & Hetherington, 1993). Because these single-parent homes are usually headed by mothers, the impact of maternal conditions on female juvenile delinquency is particularly important. Federal policies and cost-of-living increases often push single mothers

into the workforce, yet not much has been done to assess the impact of this on female delinquency rates.

Other family-related factors that have been investigated to establish links with juvenile delinquency include parental conflict (Liu & Situ, 2006) , parental criminality (Lober & Stouthamer-Lober, 1986), parental substances abuse (Hawkins, Catalano, & Miller,1992) parental incarceration (Dannerbeck, 2005), poor family management (Herrenkohl, Hill, Hawkins, Chung, & Nagin, 2006), residential mobility (Dong et al., 2005), adolescent maltreatment (Brezina, 1998), and extensiveness of support networking (Henggeler et al., 1986) . It is believed that because of girls' inclinations to stay closer to home, these factors may affect girls more than boys (Loper, 2000). Some studies indicate that parenting strategies may need to be very different for girls (Pajer et al., 2008). In a study of family interaction styles, it was found that there were different parenting strategies, and degrees to which these strategies were used, that helped predict juvenile delinquency. For girls, it was found that delinquency was correlated with parental acceptance, respect, relationship conflict, and peer acceptance (Loper, 2000). Moreover, research demonstrates the importance of maternal attachment levels in the lives of their daughters (Murray, Halligan, Adamas, Patterson, & Goodyer, 2006), yet little is known about how maternal factors such as negative maternal behaviors, occupational stress, the absence of nonfamilial supports, and maternal parenting stress may contribute to the rise in female juvenile delinquency.

Purpose of the Study

The purpose of this study was to identify how differences in the independent variables of maternal factors (negative maternal behaviors, occupational stress, absence of maternal social support, and maternal parenting stress) relates to the dependent variables of delinquency or non-

delinquency of female juveniles. For the purposes of this study in a relatively unexamined area, alpha was set at $p < .10$. The research questions were the following:

Research Questions

1. Can the combination of increases in negative maternal (parenting) behaviors, occupational stress, decreases or absence of external support networks, and increase in maternal parenting stress predict group membership in delinquent or nondelinquent groups for female juveniles?
2. Which maternal factors (Independent Variables) (negative maternal behaviors, occupational stress, social support networks, and maternal parenting stress) contribute to the discrimination between (Dependent Variables) nondelinquent female juveniles from delinquent female juveniles?

Methods

Participants

Participants were 128 mothers with biological daughters between the ages of 12 and 18 at five community mental health clinics, owned by the same corporation, located in various cities throughout south-central Indiana. In order to preserve participant confidentiality, information was not obtained on whether the participant was a client, staff, or mother of a client at these clinics. The only selection criterion for the participants was that they had an adolescent daughter in the selected age group. The age of participants ranged from 29 to 62 years ($M = 40.5$; $SD = 7.46$). One hundred sixteen (89.9%) of the participants were Caucasian, 7 (5.4%) were Mixed Race, 4 (3.1%) were Hispanic, and 2 (1.6%) were African American. Sixty (46.5%) of the participants were married, 42 (32.6%) were divorced, 11 (8.5%) were single, 8 (6.2%) were separated, 5 (3.9%) were partnered, and 3 (2.3%) were widowed.

Education varied among participants: 39 (30.2%) had high school diplomas, 37 (28.7%) had taken some college courses, 17 (13.2%) did not graduate from high school, 15 (11.6%) had bachelor's degrees, 14 (10.9%) had completed trade school, and 7 (5.4%) had completed graduate school. Participants' annual income ranged from zero to over \$55,000. Forty-three (33.3%) made between zero and \$10,000, 15 (11.6%) made between \$15,000 and \$20,000, 14 (10.9%) made between \$20,001 and \$30,000, 6 (4.7%) made between \$30,001 and \$45,000, 9 (7.0%) made between \$45,001 and \$55,000, and 19 (14.7%) made over \$55,001 annually.

Instrumentation

Participants completed six questionnaires including the Demographics questionnaire, the Maternal Behavior Index (MBI), the Adolescent Behavior Survey (ABS), the Occupational Crisis Inventory (OCI), the Dukes Social Support Index (DSSI) and the Maternal Parenting Measure of Stress (MPMS).

Demographic Questionnaire. The Demographic Questionnaire ascertained information relevant to the participant and includes: gender, age, race, marital status, educational level, employment status, household income level, number of people living in the household, ages of children in the household, and the participant's occupation. Gender was included to rule out errors in surveying that may include male participants.

Maternal Behavior Index. The Maternal Behavior Index (Mbi) was adapted directly from the Adolescent Maltreatment Index (AMI) (Brezina, 1998). The Mbi is a 4-item self-report survey, given to mothers, that assesses for negative behaviors. The Mbi is an adapted version of the four-item Adolescent Maltreatment Index (AMI) (Brezina, 1998) to capture the perspective of the parent, with a change in the original question from "In the past year my parent has..." to "During the last year I have..." The AMI was designed for adolescent reporting of parental

behaviors. The AMI was developed by Brezina (1998) for research on adolescent maltreatment; all behaviors questioned fall within the bounds of legally acceptable parental conduct, which may increase the potential for more honest responses to questions on the AMI. Behaviors such as slapping, threatening, shouting, and being overly critical of daughters' performance were items that were assessed in maternal parenting. Items were derived from factor analysis of certain types of behaviors that had previously been identified as negative treatment by parents. Cronbach's alpha from the original study was .75. For this study, parents, not adolescents, are answering the questions; this necessitated the adaptation of the AMI, performed by the author of the current study (Cronbach's alpha = .67).

Adolescent Behavior Survey. The Adolescent Behavior Survey (ABS) (LaGrange & Silverman, 1999) was used to assess delinquent behaviors of the adolescent daughter of the participant. The ABS was derived from an instrument utilized by the University of Alberta Juvenile and Adolescent Behavior Study in 1994, a cross-sectional survey of secondary school students. The original instrument examined multiple factors including opportunity measures, adult supervision, and self-control as well as delinquency.

LaGrange and Silverman (1999) constructed the Adolescent Behavior Survey to study gender differences in delinquency by the framework of general theory of crime. They included vandalism items which were left as a separate category in the original instrument (coefficient alpha = .86), and excluded the item, "hurting someone to have sex" which improved the scale alpha to .87. They constructed three categories of offending: property offenses (10 items, alpha = .81), violent offenses (5 items, alpha = .69), and drug offenses (4 items, alpha = .71). Construct validity was determined based on the general delinquency items only, not the total instrument.

Items were also ranked in frequency from “never” to “more than three times” and asked for juvenile reporting of these behaviors.

For the purpose of the current study, items were adapted from LaGrange and Silverman’s (1999) instrument to capture the perspective of the parent. The original question, “In the last year I have . . .” has been adapted to say, “In the last year my daughter has, or I suspect she has . . .” Moreover, questions were excluded that were designed to assess for opportunity measures, adult supervision, and self-control, as these factors are not included in the study. Identification of items by categorization was as follows: property (items 1 to 9 and 20), violence (10 to 14), and drugs (15 to 18). Similar to the original formatting, construct validity was determined in this study using the three categories of offending: property ($\alpha = .76$), violence ($\alpha = .63$), and drugs ($\alpha = .72$). Categorization of items was important to assess the types of delinquent acts that are more frequently committed by female juveniles. This categorization of delinquency is supported by Pergamit, Huang, and Lane (2001). They divide delinquent acts into “personal” and “property” foremost, and then break acts down by levels of frequency. This can include an estimate of the number of times an act was committed or ambiguous frequencies such as “never committed” to “committed very often.” This instrument gave information about the type and frequency of the act. For the purpose of this study, delinquency was determined by a response of one or more positive responses to delinquent acts on this instrument. Delinquency was determined at a low threshold for this study as mothers were completing the surveys and were much less likely to be privy to their daughter’s delinquent acts.

Occupational Crisis Scale. Occupational stress was measured using the Occupation Crisis Scale (OCS) (Hutri, 1995). Although the OCS has typically been used to measure occupational crisis and occupational dead end situations (Hutri & Lindeman, 2002), this measure

was used due to its focus on occupational dissatisfaction and occupational stress, rather than general life dissatisfaction (Hutri, 1996). A study conducted by Hutri (2001) found that employees who had the most crisis symptoms were also those who had experienced frustration and social problems in the work environment. The reliability of the measurement was .81 using Cronbach's alpha (Hutri, 1996). This was calculated using the average of the total score of the inventory. Participants were placed in one of two groups: mothers with occupational stress (those scoring 1 to 25) and mothers with no occupational stress (those scoring "0"). Mothers who were unemployed or stay at home moms did not complete this survey and were coded as mothers with no occupational stress (scored a "0"), as stress related to parenting was assessed in another instrument. As this was a pilot study looking at potential maternal occupational stress factors related to the impact juvenile delinquency, the cut-off for stress was kept at any indication of occupational stress, with a score of "1" or greater.

Dukes Social Support Index. The Dukes Social Support Index (DSSI) (Koenig, Westlund, George, Hughes, & Hybels, 1993) is an 11-item survey designed to be a brief measure of social support. Items in this instrument assessed the degree to which mothers felt they had ready access to and emotional support from friends and family members. The first four items of the index supply a social interaction subscale assessing frequency and type of social interaction. Scores range from 4 to 12. The last seven items supply a satisfaction subscale measuring the level of affective satisfaction the participant feels in her social interactions. The scores in this subscale range from 7 to 35. The score range for the total questionnaire is 11 to 47. Items have been shown to have internal reliability for social interaction and social support (Cronbach's alpha of .80, .60, and .80) (Powers, Goodger, & Byles, 2004). Validation for use in the elderly (Byles, Feldman, & Mishra, 1999; Koenig et al., 1993), in Australia (Strodl, Kenardy

& Aroney, 2003), and for women has been established (Powers et al., 2004). Responses are coded on multiple Likert-type scales and range from “none of the time” to “all of the time,” or “none” to “seven or more times.” The instrument was normed on the elderly population in Australia (Koenig et al., 1993).

Maternal Parenting Measure of Stress. The Maternal Parenting Measure of Stress (MPMS) (see Appendix I) was a 20-item survey designed by the author for the purposes of this study to assess for parenting stress of adolescents. Some items for this survey were derived from subscales present in Abidin’s Parenting Stress Index (1990) and Parenting Stress Index Short Form (1990b), which included: incompetence, role restriction, social isolation, and difficult child temperaments. Items in the areas of social support, psychological well being, and use of physical discipline were added to improve the reliability of others the instrument for mother in assessing for overall parenting stress (Jackson, Gyamfi, Brooks-Gunn, & Blake, 1998). Additional items included expressed emotion of the child, as this has been shown to be correlated with increased parenting stress (Baker, Heller, & Henker, 2000). Responses were coded on Likert-type scales and ranged from “agree” to “disagree.”

Items were designed to assess for the expressed emotion of the adolescent as well as temperament included questions 2, 7, and 15. Items 1, 3 to 6, and 10 assessed for parenting incompetence by asking about a mother’s perceived ability to offer corrective punishment, be listened to when offering directions, and ability to manage her daughter. Psychological well-being, in relationship to being a parent was assessed in items 11 to 14 and 18 to 19. Items were designed to assess for psychological well being by asking about how a mother feels when with her daughter, as well as the emotions a mother believes are attributed to her daughter’s behaviors. Two items, 8 and 16, assessed the social support and perceived isolation the mother

feels. Item 9 assessed the use of physical discipline and item 20 assessed perceived role restriction. Validity for this instrument was determined in the current study.

Procedures

Data were collected from mothers with daughters between the ages of 12 and 18 at multiple satellite clinics run by one large mental health corporation. This corporation is a community mental health organization that has clinics in various locations throughout southern Indiana including clinics in Lawrence, Morgan, Monroe, and Owen counties. Questionnaires were made available to all mothers with biological adolescent daughters who were willing to participate. These participants included but were not limited to staff, clients, mothers of clients, and women with adolescent daughters who came into one of the clinics. In an effort to protect participants' confidentiality, questionnaire packets were distributed by office professionals with only a single numerical identifier and in plain manila envelopes. No information was obtained regarding employment status or client status of the participant filling out the form to also protect participant confidentiality. The instructions asked participants to return their completed surveys to the researcher in the same envelope. Participants were invited to participate in a raffle offering numerous prizes including gift certificates to various local retailers. Raffle tickets were handed out, completed, and turned in separately from the questionnaires, in a different envelope. No contact by the principle investigator concerning the study was made to either the adolescents or their mothers prior to, during, or after the study, except for the purpose of relaying raffle awards. It took approximately 30 minutes for participants to complete all six questionnaires.

Results

A discriminant function analysis was conducted to determine if the factors of negative maternal behaviors, occupational stress, absence of maternal social supports, and maternal parenting stress could be used to predict membership in the following groups for female adolescents: delinquents and nondelinquents. Table 1 depicts the results of the tests of equality of group means for the three statistically significant predictors for the discriminant analysis.

Occupational stress was not a significant predictor in the model.

Table 1

Discriminant Analysis Results of Significant Mean Differences

Measure	<i>F</i>	β	<i>df 1</i>	<i>df 2</i>	<i>p</i>
Social Support (DSSITOT)	3.81	.45	1	118	.053
Maternal Behavior Index (MBITOT)	23.40	.85	1	118	.000
Maternal Parenting Measure of Stress (MPMSTOT)	3.12	-.23	1	118	.080

This analysis, using delinquency status as the group variable, generated one significant function, $\Lambda = .835$, $X^2(1, N = 128) = 13.45$, $p = .000$, indicating that the predictors significantly differentiated between juvenile delinquents and nondelinquents. Table 2 describes the function generated by the discriminant analysis and lists the discriminant classification function coefficients.

Results indicate correlations between MPMS and DSSI as well as between MPMS and MBI. Table 3 presents intercorrelations, means, and standard deviations between predictor variables. Overall results indicate that 66.4 % of the original group's cases were correctly classified and 66.4 % of the cross-validated grouped cases were correctly classified (Table 4).

Table 2

Delinquency Classification Function Coefficients

Function	Delinquency	Nondelinquency
Maternal Behavior Index (MBITOT)	3.763	3.321
Social Support (DSSITOT)	.270	.213
Occupational Stress (OCSTOT2)	.291	.296
Maternal Parenting Measure of Stress (MPMSTOT)	2.115	2.165

The squared canonical correlation ($r = .41$; $r^2 = .17$) provides an effect size for the function. This indicates that 17% of the variance is accounted for by the discriminant function. In this analysis, three of the four predictors were significant. Table 4 depicts these classification results. Total female juveniles in each group included 83 in nondelinquent group status and 42 in delinquent group status, with 25 cases in both groups being correctly classified. The generated function accurately classified adolescent females into delinquent and nondelinquent groups.

Table 3

Summary of Intercorrelations, Means and Standard Deviations

Measure	1	2	3	4	<i>M</i>	<i>SD</i>
1. MPMS	--	-.24*	-.05	-.27*	8.72	2.23
2. DSSI	.24*	--	.08	-.02	37.44	8.45
3. OCS	-.05	.08	--	-.06	5.83	6.78
4. MBI	-.27*	-.02	-.02	--	8.72	2.23

Note. * $p < .01$

Examination of the data led to the following findings. Three (maternal behaviors, social support, maternal parenting stress) of the four hypothesized predictors predicted group membership for female juvenile delinquency. Occupational stress was not a predictor of delinquency group status. The discriminant analysis using adolescent delinquent behavior (*ABSTOT*) as the grouping variable generated one significant function, $\Lambda = .835$, $X^2(1, N = 128) = 13.45$, $p = .000$, indicating that the identified predictors (MBI, DSSI, MPMS) significantly differentiated between delinquents and nondelinquents.

Table 4

Delinquency Classification Results

		Is Daughter Delinquent or Nondelinquent?	Predicted Group Membership		Total
			No	Yes	
Original (b)	Count	No	58	25	83
		Yes	17	25	42
		Ungrouped cases	0	2	2
	%	No	69.9	30.1	100
		Yes	40.5	59.5	100
		Ungrouped cases	0.0	100	100
Cross-validated (a)	Count	No	58	25	83
		Yes	17	25	42
	%	No	69.9	30.1	100
		Yes	40.5	59.5	100

Note. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case. *a* = 66.4% of original grouped cases correctly classified; *b* = 66.4% of cross-validated grouped cases correctly classified

In summary, the research questions asked if the combination of increases in negative maternal behaviors, occupational stress, decreases or absence of external support networks, and increases in maternal parenting stress could predict membership in delinquent or nondelinquent groups for female juveniles. This study found that a discriminant function comprised of (increased negative maternal behaviors, decreased or absent social support, and increased maternal parenting stress) accurately predicted membership in delinquent or nondelinquent groups for female juveniles 66.4% of the time. Maternal occupational stress, however, did not contribute to predicting group membership for female juvenile delinquency.

Discussion

Findings from the present study extend previous research on delinquent adolescent behavior and explored a widely untapped segment of this population, the female juvenile (U.S. Department of Justice, 1996). Using the theoretical framework of Role Configuration Theory (Sachs-Ericsson & Ciarlo, 2000), as well as the process of socialization (Akers, 1985) to explain how maternal behaviors affect daughter's delinquency status, this study investigates several factors of maternal behavior. The role that maternal factors such as negative maternal behaviors, occupational stress, social support, and maternal parenting stress, have on their daughter's delinquency status has been identified as an area for exploration because it is currently unaddressed in the delinquency literature. This study's findings in this area give important information that could be of benefit to clinicians and parents alike.

By studying combinations of specific maternal factors that previously have been shown to be significant, such as negative parenting behaviors, social support, occupational stress, and parenting stress, this study gives the existing literature a more comprehensive way to assess

female juvenile delinquency. In this study the maternal parenting behaviors, perceived maternal social support, and maternal parenting stress predicted delinquency in female adolescents.

Clinical Implications

This study's results provide mental health practitioners evidence that maternal factors may relate to delinquency in female adolescents. Mothers' behavior toward their daughters is often correlated with the daughters' delinquency status. For example, mothers who engaged in elevated reports of negative parenting behaviors were more likely to have daughters who have engaged in a delinquent act over the prior year. This enables mental health counselors and school counselors to try reducing female juvenile delinquency by better targeting the mothers' behaviors. Specifically, mothers can be given information on effective parenting strategies. Likewise, it was indicated that maternal social support and parenting stress could predict group membership for delinquency status. This finding suggests that mothers who perceive their social support to be low and their parenting stress to be high were more likely to have delinquent daughters. Professionally, this may encourage practitioners to address the needs of the mother in order to address the overall needs of the daughter. School social workers, mental health professionals, and professionals for preventative strategies can develop and reinforce a mother's social network. This could mean helping mothers develop parenting support groups, schedule "mom's night out" events, and identify and treat barriers to having sufficient support. Understanding these possible contributors to adolescent female delinquency status can assist mental health professionals in determining best treatment options. Professionals may opt to treat delinquency in female adolescents through a systemic framework, assessing mothers' parenting behaviors, social support network, and overall stress level in attempts to prevent or help curtail delinquency in daughters.

With rising divorce rates, mothers' frequent custody of children, and mothers' impact on their daughters, mental health professionals may begin targeting troubled marriages as a preventative method for reducing delinquency.

Limitations and Recommendations

There were several limitations regarding the generalizability of this study's findings. Foremost, this study was conducted using a relatively small number of participants ($n = 128$) from one community health center in four counties. Participants were predominantly Caucasian (90%), leaving women from other racial groups largely unrepresented. Additionally, although roughly half of the participants were married (47%), only a small portion of the participant sample were single (9%) with an underrepresented portion of the sample divorced (33%), when compared to the general population (50%, National Center for Health Statistics, 2006). Likewise, a disproportionate number of participants (56%) reported a significantly low annual income, at or less than \$30,000. In order to generalize these findings, this study needs to be replicated using a larger and more diverse population of mothers.

In addition, participants were not randomly sampled, as participants chose to partake in the survey based upon accessibility and convenience. Results also indicate that the function accounted for 17% of the variance in predicting group membership in delinquency status of female juveniles. This leaves 83% of the variance unidentified. Further research is needed to identify other factors that contribute to female juvenile delinquency status. Recommendations for future studies include using a regression model instead of discriminant function model so that delinquency could be used as a continuous variable instead of a bivariate variable, thereby increasing the ability of examining potential factors of delinquency. Future research could also include adding maternal factors to already known juvenile delinquency factors which may assist

in explaining more variance of female juvenile delinquency. Additionally, as a correlational study, no causal relationships between variables can be established. Therefore additional studies that can determine causal relationships regarding maternal factors and juvenile delinquency would be of great benefit to understanding female juvenile delinquency.

It might also be noted that many mothers might struggle to be straightforward about engaging in the particular behaviors assessed in the maternal behavior questionnaire. Questions that measured the degree to which a mother has ever slapped her daughter or threatened her daughter might be answered less honestly than questions that do not pertain to higher levels of aggression. Likewise, since the participants were drawn from a mental health center, this might also imply that the mothers, the daughters, or both, are likely to have mental health needs. These needs may have greatly attributed to the delinquency status of the adolescent daughters and may account for the correlations found here.

Conclusion

Female juvenile delinquency has been largely surpassed in the delinquency literature. Research on female delinquency is limited in scope and has been historically neglected in the literature to address the larger delinquent population of adolescent males. However, recent trends in delinquency show female adolescents committing more severe and significant crimes than in the past (Loper, 2000; Scahill, 2000), with staggering growth rates when compared to male counterparts. Without adequate information on this population, society is left to grapple with the effects and costs of female juvenile delinquency without recourse. In examining specific factors that may contribute to delinquency status, society may be able to design preventative and treatment strategies that may alter the course of recent trends.

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APPENDIXES

APPENDIX A: THE RESEARCH PROBLEM

Female Juvenile Delinquents as a Separate Entity

Juvenile delinquency has been a long studied phenomenon. However, much of the research has focused predominantly on male juveniles and either neglected female counterparts entirely or generalized from males to female adolescents (Daigle, Cullen, & Wright, 2007; Hoyt & Scherer, 1998). This has led to a decreasing ability to sufficiently address and treat female juvenile delinquency, as evidenced by rising rates of adjudicated females (Loper 2000; Scahill, 2000). Likewise, this has contributed to difficulties in identifying specific factors that may correlate with or contribute to the rising trends of female juvenile delinquency specific to the juvenile's family.

From a community perspective, the inability to address juvenile delinquency is financially deleterious. Victimization costs for the community can range into the millions (Welsh et al., 2008); further costs include drug treatment programs, lost wages from high school drop outs, juvenile justice system costs, and residential treatment costs (Howell, 2003). Additionally, female delinquents are more likely to receive home placement in lieu of more restrictive environments (Smith & Kerpelman, 2002); since the delinquent teen remains in the community, there is a greater need for sufficient treatment, to protect the community. Reports contend that professional court counseling for the offender and the offender's family may decrease the risk of additional and more serious delinquency offenses (Land, McCall, & Williams, 1990). This suggests the need for more comprehensive research aimed at adjudicated females.

Peters (2001) also denotes the importance of relationships in the development of female juvenile delinquency. Relationships are noted as major vehicles for females in the development of positive self-esteem, with negative relationships as major facets in the development of relational aggression. Relational aggression, such as ostracization by a peer, spreading lies about another person, and isolating a peer from the peer group, is increasing in severity for girls, with an 82% growth rate of relational conflicts in delinquency research (Scahill, 2000). This is distinctly different from males' habits of delinquent and offending behaviors, which are more focused on outward forms of aggression towards others. Additionally, Agnew and Brezina (1997) also report that interpersonal problems, specifically problems in peer relationships, are correlates of delinquency in females. These factors outline the importance of relationship-specific interventions that need to be a part of gender-specific programming for females in order to sufficiently address delinquency.

Mothers' Contribution

When examining relationships of delinquent female juveniles, it is important to examine relationships not only of peers, but within the family units. Research results have suggested that families of female juvenile delinquents are more dysfunctional than those of male juvenile delinquents (Henggeler, Edwards, & Borduin, 1987; Kroupa, 1988). Moreover, research indicates the relationship between a mother and her delinquent adolescent is different than mothers with nondelinquent adolescents. Mothers with delinquent adolescents were shown to be less dominant towards their adolescents and husbands than mothers without delinquent adolescents. There was more mother-to-daughter and parental conflict and hostility, and mothers were shown to have less influence over their daughters. They were also more likely to utilize

ineffective parenting strategies (Henggeler et al., 1987; Hetherington, Stouwie, & Ridberg, 1971; Loeber & Dishion, 1983)

Studies examining the mother-daughter relationship and its association with delinquency status have found that a lack of emotional attachment between the dyad (Shoemaker, 1994; Weinmann & Newcombe, 1990), as well as a perceived lack of positive behaviors toward the adolescent female (Bowker & Klein, 1983), are associated with a higher rates of delinquency. However, research on specific factors related to mothers that contribute to daughters' delinquency status, has been sparse, at best. More studies have focused on these relational dynamics and less on specific maternal factors in contributing to the rise in female juvenile delinquency. Yet, maternal factors such as negative maternal behaviors, occupational stress, social support, and maternal parenting stress may also play a large role in delinquency status.

Purpose of the Study

The purpose of this study was to discriminate between female juvenile delinquents and nondelinquents in relationship to a combination of maternal factors to include negative maternal behaviors, occupational stress, absence of maternal social supports, and maternal parenting stress. For the purposes of this study in a relatively unexamined area, alpha was set at $p < .10$.

Research Questions

The research questions for this study were the following:

1. Can the combination of increases in negative maternal (parenting) behaviors, occupational stress, decreases or absence of external support networks, and increase in maternal parenting stress predict group membership in delinquent or nondelinquent groups for female juveniles?

2. Which maternal factors (IV) (negative maternal behaviors, occupational stress, maternal use of external support networks, and maternal parenting stress) contribute to the discrimination between (DV) nondelinquent female juveniles from delinquent female juveniles?

Research Hypotheses

1. It is hypothesized that a positive relationship exists between specific individual maternal factors of behaviors, occupational stress, use of external support networks and parenting stress and delinquency status in female juveniles.
2. It is hypothesized that the combination of increases in negative maternal behaviors, occupational stress, decrease or absence in external support networks, and increases in negative maternal (parenting) behaviors, can predict group membership in delinquent or nondelinquent groups for female juveniles.

Definitions

The following terms are defined below as they were used in this study:

1. *Female juvenile delinquents*. Girls within the age ranges of 12 and 18 will be assessed and the status of “delinquency” will be conferred to a minor if the female has committed one or more “delinquent acts” within the past year, regardless of legal status or arrest rate.
2. *Delinquency*. Behavior that is in violation of the law or against social norms.
Delinquency will be determined by the number of delinquent acts committed over the course of the past 12 months. Females committing one or more delinquent acts will be considered as engaging in delinquent acts.
3. *Delinquent acts*. Delinquent acts are behaviors outlined in the parent reported version of the Adolescent Behavior Survey. These are acts that are in violation of the law or against

social norms and include acts of theft, physical violence, drug use, running away from home, property damage, gang involvement, and fraud.

4. *Maternal parenting stress.* Maternal parenting stress is the emotional tension a mother feels due to her role as parent characterized by feelings such as anxiety and fear. Four subscales (incompetence, role restriction, social isolation, and difficult child temperaments) will be used to measure the degree of emotional tension a mother feels.
5. *Maternal behavior.* A mother's observable response towards her daughter. Maternal behavior will be assessed through indicators of adolescent maltreatment. "Maltreatment includes acts intended to inflict physical or psychological harm, and reflect a lack of concern for the adolescent's well-being...such as hitting, slapping, screaming, verbal insults and ridicule, and overt expression of hostility and dislike" (Brezina, 1998, p. 73).
6. *Maternal social support networks.* Support networks are people or groups of people who the mother favors and who she feels give moral encouragement and child rearing assistance. The networks consist of relationships between friends, family members, and co-workers and the emotional support the mother feels from them.
7. *Maternal occupational stress.* The negative emotional reaction mothers have to demands or pressures associated with responsibilities of their jobs. This reaction may arise when a person attempts to cope with tasks, responsibilities, or other types of pressures associated solely with that individual's job.

Assumptions

1. Participants will answer all questions on self-report questionnaires accurately and candidly.
2. The methodological paradigm is appropriate for the proposed study.

3. Instruments used for the purpose of the study accurately assess those characteristics they were designed to assess.
4. Participants in the study are representative of the general population of mothers with nondelinquent or delinquent adolescent daughters.

APPENDIX B: LITERATURE REVIEW

Factors Relating to Juvenile Delinquency

Parental Conditions

Juvenile delinquency has been studied for decades with a noticeable increase in the number of delinquent juveniles. Increasingly serious crimes are being committed by younger and younger segments of the society. Parenting factors have been widely studied, as parents are often regarded as the ultimate gatekeepers for behaviors of their minor children. Parents have responsibility for supervising their adolescent, a major facet associated with both genders in the prevention of juvenile delinquency (Jang, 1997; Vitaro, 2001). Other preventative conditions for delinquency are parenting self-efficacy (Chesney-Lind, 1997; Wright & Cullen, 2001), parental involvement (Gorman-Smith, Tolan, Loeber, & Henry, 1998; Reynolds, Chang & Temple, 1998), and parental monitoring (Carter, 2001). These factors contribute to the overall well-being of an adolescent and teach the adolescent important life skills such as self-control, self-esteem, and life satisfaction (Carter, 2001). Moreover, the type of attachment and degree of attachment that a parent has with his or her adolescent can greatly influence delinquent behaviors (Karr-Morse & Wiley, 1997; Kierkus & Baer, 2002; see also Shek, 1998). Parents with secure attachments with their offspring build child competencies and a sense of autonomy (Kenny & Gallagher, 2002), an important factor in the development of adolescent self-regulation.

Interestingly, positive attachments with a child of the same sex can also have negative implications when divorce and separation are involved. Adolescents who report higher levels of

satisfaction with the same sex parent before separation are likely to engage in higher levels of delinquent behaviors after a separation (Videon, 2002).

Other risk factors associated with parenting that can lead to higher rates of delinquency are parental overprotection (Mak, 1996), poor parent-adolescent communication (Beyers, Loeber, Wikstrom, & Stouthamer-Loeber, 2001), interparental conflict, and divorce (Finn-Aage, 1999; Forehand, Neighbors, Devine, & Armistead, 1994; Karr-Morse & Wiley, 1997), parental mental illness (Gibbs, 1981; Prochnow & Defronzo, 1997), parent criminality (Gray, 1997), and parental rejection (Gray, 1997). Not surprisingly, poverty is indirectly related to juvenile delinquency (Prochnow & Defronzo, 1997), as there tends to be fewer parental and adolescent opportunities for growth and development and more stress for families living at or below the poverty line.

Child Factors

Although these parental factors have been shown to contribute to child delinquency, there are also several child factors that can lead to increases in delinquency. Children who report positive attitudes towards problem behavior (Beyers, et al., 2001) and children who have delinquent peers (Beyers et al., 2001; Flom, Friedman, Benny, Neaigus, & Curtis, 2001; Mears, Ploeger, & Warr, 1998; Vitaro, 2001) are more likely to engage in delinquent behaviors. However, these characteristics seem mutually reinforcing: having delinquent peers would buttress any previously held delinquent notions, and having positive beliefs about problem behaviors would likely cause a child to search out others who supported his notions. Likewise, children who are born in economic indigence (Karr-Morse & Wiley, 1997), report prior problematic behaviors (Stouthamer-Loeber & Loeber, 2002), and have a history of victimization (Karr-Morse & Wiley; McGee, 2002), maltreatment (Brezina, 1998; Hutchinson & Langlykke,

1997; Taussig & Talmi, 2001), and drug use (Flom et al.) are more likely to engage in delinquent behaviors.

Delinquency-related characteristics that can be considered more internal include children who have difficult temperaments (Windle, 1991) and are impulsive (Vitaro, 2001). Other internally based characteristics pertain to biological and neurological predispositions (Karr-Morse & Wiley, 1997). For example, in a study conducted by Caspi, Lyman, Moffitt, and Silva (1993), the biological changes of puberty are linked to delinquency for a certain segment of girls (in coeducational schools). Corbitt (2000) notes that individual personality types centered on authority conflict can be a pathway to delinquent behavior. Likewise, Moffitt (1993) contends that inborn neurological deficits give rise to difficult temperaments, making the child more susceptible to poor parenting and then later delinquent behaviors. However, all of these externally and internally based factors are not specific to female juvenile delinquents, but to juveniles as a whole. Many of these factors (e.g., difficult temperament, poverty) can be present without the expression of delinquent tendencies, as many children are able to overcome factors that place them at risk of delinquency.

Female Adolescent Factors

Females have presented an interesting dilemma in the study of juvenile delinquency. For decades, male juvenile delinquency behavior was far more prevalent and serious than delinquency in female juveniles. Therefore, females were viewed as anomalies in juvenile delinquency research. Often, results pertaining to delinquent behaviors were generalized to females, (as evidenced in the research on child-related factors of delinquency), despite subject populations that primarily consisted of males. This left much to be conjectured regarding the causes and correlates of female juvenile delinquency.

Gradually, more research has been conducted on female juveniles with regard to delinquency (see Rhodes & Fischer, 1993). Several factors have been shown to be specifically correlated with delinquency for girls. Henggeler et al. (1987) found the following to be associated with female juvenile delinquency: family communication difficulties, high maternal conflict, high parental control (see also Gove & Crutchfield, 1982), neurotic (or overly-anxious) fathers, and child dominance. Other studies have found peer pressure (Pleydon & Schner, 2001), a family history of paternal psychiatric disorders (Gibbs, 1981), relational disturbances (Peters, 2001), low socioeconomic status (Hipwell et al., 2002), victimization (Peters, 2001; U.S. Department of Justice, 1996), and an early onset of disruptive behaviors (Hipwell et al., 2002) to be predictors of delinquency.

Yet certain factors, such as victimization, occur in the female juvenile population more frequently than in the male population. Due to this higher percentage of victimization, girls are thought to be inappropriately penalized for gender-specific behaviors such as running away or prostitution that can be by-products of their victimization (American Bar Association & National Bar Association, 2001; Hartwig & Myers, 2003). Moreover, there are significant cultural implications, such as girls being more comfortable with violence (Rosenthal, 1985), that teach girls violence is an acceptable form of “dispute resolution.”

Maternal Factors

In research on the parenting dyad, emphasis is placed on mothers as being the most influential on their children. Mothers are seen as having a larger impact on their children due to their responsibilities to the family unit and time spent with the children. Currently, these factors are even more important as there is a surge in single-parent households, most headed by a mother. The degree to which a mother is stressed may have negative implications on the family

unit and on individual children. High degrees of maternal stress have been correlated with a variety of family effects such as: poor attachment with and negative reactivity toward the child (Shulman, Becker, & Sroufe, 1999); negative perceptions of child behaviors (Fair-Brodeske, 2000; Mattie-Luksic, Javornisky, & DiMario, 2000); and adverse effects on children including punitive punishments, which have been associated with a later increase in delinquent tendencies (Baker, Heller, & Henker, 2000; Jackson, Gyamfi, Brook-Gunn, & Blake, 1998; Moss, Rousseau, Parent, St-Laurent, & Saintonge, 1998; Ogata, 1999; Ostberg, 1998; Shulman et al., 1999).

Another facet of maternal stress is the degree to which women have entered into the workforce (Ottaway, Guarino, & D'Alessio, 2001; Shadmon, 1998; see also Winefield, 2002; Zaslow, Tout, Botosko, & Moore, 1998). In 1975, roughly 47 % of mothers with minor children participated in the labor force. By 2002 the occupational status of mothers with children under the age 18 reached an all-time high of 72% (Chao & Utgoff, 2002). Women are now not only mothers and sometimes wives but also workers and professional employees; women are dealing with multiple roles and multiple strains and have increasingly less time to care for themselves and their families. Research has pointed out the benefits of maternal employment on the level of adjustment for their child (Hoffman & Nye, 1974) as well as concern over trends in employment that do not fit the needs of a family (Ross & Mirowsky, 1988). Women are working longer hours, have less access to affordable and reliable daycare, have less flexibility in their jobs and are working in less family-centered environments than in the past. Moreover, women are being compressed into multiple roles that demand inordinate amounts of time and emotional energy while generally having less access to social supports (Vandall & Ramanan, 1992). These social

supports are crucial to mothers' psychological well-being and also the well-being of their children (Pierrehumbert, Ramstein, Karmaniola, & Halfon, 1996; Shadmon, 1998).

Likewise, changes in the welfare system limit cash assistance to needy families, forcing many women into low-paying jobs fraught with continued economic hardship. In a study conducted by Jackson et al. (1998), financial strain was associated with more depressive symptoms for mothers and increases in punitive punishments for children.

The maternal role is argued to be of greatest importance not just to children, but specifically to daughters. In several studies, mothers have been shown to impact their daughters' behaviors but not their sons'. In a study conducted by Whitbeck, Simons, and Kao (1994), the researchers found that mother's attitudes of sexual permissiveness influenced their daughters' sexual attitudes but not their sons' stances. This notion is also reinforced with the impact of other relational factors in the lives of adolescent girls: delinquency, parenting strategies (Loper, 2000), violent tendencies (Loper, 2000; U.S. Department of Justice, 1996), and smoking (Flay & Richardson, 1994). These factors are outcomes associated with relational disturbances in the female juvenile population.

Theoretical Framework

A variety of theoretical frameworks have been offered to explain delinquent behaviors in girls. To date, no one theory has been able to account for the dramatic rise in female juvenile delinquency. Therefore, components of several theories will be utilized to explain not only the rise in delinquency status of females but also the importance of the maternal role in female adolescent child rearing.

Role Strain Theory

Goode (1960) claimed that role strain was only felt when a person's total role system is overwhelming. One role, such as the role of being a mother, is not taxing by itself, but the combination of roles is straining on an individual. Other theorists have separated out roles as independent sources of strain, embedded in an organized system of roles. For example, the role of mother can be a source of strain in itself, as well as how it ties into other roles the mother occupies (e.g., worker, wife, or friend). It has been found that role strain is not only normal, but that multiple roles may be a positive influence in one's life (Verbrugge, 1986). If a mother is able to adequately balance parenting responsibilities with work responsibilities, then strain can have a positive effect on the mother. Consider a mother who works as an executive for a large marketing firm which provides on-site daycare and flex time. This compensates for additional hours the mother may have to take for having a sick child or needing a personal day. In this instance, the mother is receiving role strain from two sources, the role of mother and the role of worker. The roles are not in conflict, though, because the employer's assistance in child rearing reduces the mother's negative role strain. However, if the mother is frequently missing work to care for her sick child, is not receiving flex time from her employer and must commute to and from daycare, then role strain may have a negative impact on the mother due to the individual responsibilities of each role and the poor organization of these roles. It is the degree to which each role conflicts with the other roles that has a negative impact on the mother.

Role Configuration Theory

Role configuration theory provides a framework by which to explain the impact of role strain on maternal stress and subsequent behavior. Role configuration theory contends that the conflicting demands of multiple roles leads to disordered behavior. It is hypothesized that

demands from different social roles can conflict, causing tension and stress (Sachs-Ericsson & Ciarlo, 2000); the more conflicting these multiple roles, the more likely they are to lead to stress. In turn, this stress leads to the emergence of mental health problems and consequential negative behaviors. The stressed mother utilizes more punitive punishments with her child, becomes overly aggressive and hostile towards family members, and begins acting in ways inconsistent with her prior behaviors. Moreover, it is speculated (Sachs-Ericsson & Ciarlo, 2000) that women have more difficulty with conflicting demands of multiple roles because they are traditionally viewed as the “homemaker,” while their husbands are regarded as the “worker.” Accordingly, the additional strains associated with the role of “worker” are thought to accompany increases in conflict for women, as women are not as socially supported for this role as are their male counterparts. In this way, women entering the workforce suffer from society’s mixed messages about women’s proper roles.

Socialization Theory

To extend the theory of role strain to adolescent females, it is important to remember the impact a mother has on her daughter. Akers (1985) theorized that poor socialization can result in learning motives, drives, and attitudes that are favorable to law violation and delinquent behaviors. The process of socialization involves exposure to conventional or nonconventional (e.g., deviant) behaviors and the modeling, reinforcement, and imitation of these deviant behaviors. Delinquency is a learned phenomenon, and this is important in the sense that adolescents must learn inappropriate behaviors from sources that are close to them.

Paperny and Deisher (1983) contend that patterns are learned through the processes of modeling, imitation, and reinforcement from those that administer maltreatment. Parents that maltreat their child are thought to provide likely models for the learning and appropriateness of

deviant or delinquent behaviors. Adolescent maltreatment of any form has the ability to teach adolescents that it is not only acceptable, but appropriate, to express hostility and aggression towards others (Garbarino, 1981). Therefore, the mother's stress from role conflict and role configuration may result in negative behaviors such as hostility and aggression towards her adolescent daughter. The mother may frequently yell, demean, or chastise her daughter. The adolescent, in turn, learns these behaviors through maltreatment and experiences them as appropriate, imitating the deviant behaviors as acceptable forms of aggression.

APPENDIX C: ADDITIONAL METHODS

Participants

Thirty two (25%) of the respondents worked full time, 20 (16%) of the respondents worked part time, and 77 (60%) of the respondents indicated “other” for employment status. The occupational professions of the participants included 61 homemakers (47%), 19 in professional occupations (15%), 16 unemployed (12%), 8 in sales, and marketing (6%), 6 in factory work (5%), 5 in administrative jobs (4%), 4 in managerial work (3%), 3 in culinary occupations (2%), 2 in waitressing (2%), and 2 were students (2%).

A majority (42) of the respondents indicated there were four people in their household (33%), 30 (23%) had three people in the household, 26 (20%) had five people in the household, 16 (13%) respondents had six or more people in the household, and 14 (11%) had two people in the household, while one (1%) indicated that she lived alone. Of all the children in the household, the median age was 14. One hundred fifty six (56%) of the children in the household were between the ages of 9 and 15, 94 (33%) were between the ages of 16 and 22, and 31 (11%) were between the ages of 1 and 8 years of age. A majority ($n = 215$) of the respondents children were female (74%), with 73 (25%) of the children male.

Instrumentation

Informed Consent

An informed consent handout (see Appendix G) was written to inform participants of their rights while taking part in this research study. In an effort to protect the privacy and confidentiality of participants, they were not asked to sign the informed consent letter.

Participants who agreed to the terms discussed in the consent completed the instruments.

Additionally, it was assumed that by completing the instrumentation, respondents understood their rights and risks associated with participation.

Demographic Questionnaire

The Demographic Questionnaire ascertained information relevant to the participant including: gender, age, race, marital status, educational level, employment status, household income level, number of people living in the household, ages of children in the household, and the participant's occupation. Gender was included to rule out errors in surveying, since the study focused on maternal factors (See Appendix F).

Maternal Behavior Index

The Maternal Behavior Index (Mbi) was adapted directly from the Adolescent Maltreatment Index (AMI) (Brezina, 1998). The Mbi is an adapted version of the four-item Adolescent Maltreatment Index (AMI) (Brezina,1998) to capture the perspective of the parent, with a change in the original question from "In the past year my parent has . . ." to "During the last year I have . . ." The AMI was designed for adolescent reporting of parental behaviors. The AMI was developed by Brezina (1998) for research on adolescent maltreatment; all behaviors questioned fall within the bounds of legally acceptable parental conduct, indicating a potential for more honest responses to negative treatment. Items were derived from factor analysis of

certain types of behaviors that had previously been identified as negative treatment by parents (Cronbach's $\alpha = .75$). For the purpose of this study, questions were geared toward parent response instead of adolescent response, necessitating the reformatting by the author of the current study.

Adolescent Behavior Survey

The Adolescent Behavior Survey (ABS) (LaGrange & Silverman, 1999), was used to assess delinquent behaviors of the adolescent daughter of the participant. The ABS was derived from an original instrument utilized by the University of Alberta Juvenile and Adolescent Behavior Study in 1994, in a cross-sectional survey of secondary school students. The original instrument examined multiple factors including opportunity measures, adult supervision, and self-control as well as delinquency.

LaGrange and Silverman (1999) constructed this instrument to study gender differences in delinquency by the framework of general theory of crime. They included vandalism items which were left as a separate category in the original instrument (scale $\alpha = .86$), and excluded the item, "hurting someone to have sex" which improved the scale α to .87. They constructed three categories of offending: property offenses (10 items, $\alpha = .81$), violent offenses (5 items, $\alpha = .69$), and drug offenses (4 items, $\alpha = .71$). Construct validity was determined based on the general delinquency items only, not the total instrument. Items were also ranked in frequency from "never" to "more than three times" and asked for juvenile reporting of these behaviors.

For the purpose of the current study, items were adapted from LaGrange and Silverman's (1999) instrument, to be geared for parental reporting. The original wording, "In the last year I have . . ." was revised to say, "In the last year my daughter has, or I suspect she has . . ." Scale

and categorical alphas were reassessed for the purpose of determining scale validity of maternal report on their daughter's behaviors. Moreover, questions have been excluded that were designed to assess for opportunity measures, adult supervision, and self-control, as these items have been delimited from the study. Identification of items by categorization was as follows: property (items 1 to 9 and 20), violence (10 to 14), and drugs (15 to 18). Categorization of items was important to assess the types of delinquent acts that were more frequently committed by female juveniles. This categorization of delinquency was supported by Pergamit, Huang and Lane (2001). They divide delinquent acts into "personal" and "property" foremost, and then break acts down by levels of frequency. This included an estimate of the number of times an act was committed or ambiguous frequencies such as "never committed" to "committed very often." This instrument utilized these ways of identifying juvenile delinquency, giving information about the type of act committed as well as frequency.

Occupational Crisis Scale

Occupational stress was measured using the Occupation Crisis Scale (OCS) (Hutri, 1995). Although the OCS has typically been used to measure occupational crisis and occupational dead end situations (Hutri & Lindeman, 2002), this measure was used due to its focus primarily on occupational dissatisfaction and occupational stress rather than life dissatisfaction (Hutri, 1996). A study conducted by Hutri (2001) found that employees who had the most crisis symptoms were also those who had experienced frustration and social problems in the work environment. Previous studies have also shown that the inventory is impervious to socially desirable responses. The reliability of the measurement for symptoms of an occupational crisis was .81 using Cronbach's alpha (Hutri, 1996). Occupational crisis was also found to be correlated with occupational stress ($r = .53$, Hutri, 1996). Participants were asked to score five

items on a Likert scale ranging from “1” (do not agree) to “5” (totally agree). Due to the low incidence of severe occupational crisis (Hutri, 1996), responses on the OCS were calculated by averaging the total score of the inventory. Participants were placed in one of two groups: mothers with occupational stress (those scoring 1 to 25, with total possible score of 25) and mothers with no occupational stress (those scoring “0”). Mothers who were unemployed or were stay at home moms did not have to complete the survey and were coded as mothers with no occupational stress.

Dukes Social Support Index

The Dukes Social Support Index (DSSI) (Koenig, Westlund, George, Hughes, & Hybels, 1993) was an 11-item survey designed to be a brief measure of social support. The first four items of the index supplied a social interaction subscale assessing frequency and type of social interaction. Scores ranged from 4 to 12. The last seven items supplied a satisfaction subscale that measured the level of affective satisfaction the participant feels in her social interactions. The scores in this subscale ranged from 7 to 35. The score range for the total questionnaire is 11 to 47. Items have been shown to have internal reliability for social interaction and social support (Cronbach’s alpha of .80, .60, and .80) (Powers, Goodger, & Byles, 2003). Validation for use in the elderly (Koenig et al., 1993; Byles, Feldman, & Mishra, 1999), for the Australian community (Strodl, Kenardy & Aroney, 2003), and for women has been established (Powers et al., 2003). Responses were coded on multiple Likert-type scales and ranged from “none of the time” to “all of the time,” or “none” to “seven or more times.” The instrument was normed on the elderly population in Australia (Koenig et al., 1993).

Maternal Parenting Measure of Stress

The Maternal Parenting Measure of Stress (MPMS) (see Appendix I) was a 20-item survey designed by the author for the purposes of this study to assess for the stress of parenting adolescents. Some items for this survey were derived from subscales present in Abidin's Parenting Stress Index (1990a) and Parenting Stress Index Short Form (1990b). Those items addressed incompetence, role restriction, social isolation, and difficult child temperaments. Other items were added to improve reliability of the instrument for mothers in assessing overall parenting stress. Those items addressed social support, psychological well being, and use of physical discipline (Jackson et al., 1998). Additional items also included expressed emotion of the child, as this has been shown to be correlated with increased parenting stress (Baker et al., 2000). Responses were coded on Likert-type scales and ranged from "agree" to "disagree."

Items designed to assess for the expressed emotion of the adolescent as well as temperament included questions 2, 7, and 15. Items 1, 3 to 6, and 10 assessed for parenting incompetence by asking about a mother's perceived ability to offer corrective punishment, be listened to when offering directions, and ability to manage her daughter. Psychological well-being, in relationship to being a parent was assessed in items 11 to 14 and 18 to 19. Items were designed to assess for psychological well being by asking about how a mother feels when with her daughter as well as the emotions a mother feels are attributed to her daughter's behaviors. Two items, 8 and 16, assessed for social support and perceived isolation the mother feels. Item 9 assessed for the use of physical discipline and item 20 assessed for perceived role restriction. Validity for this instrument was determined in the current study. See Appendix I.

Procedures

In the waiting area of multiple clinics in a Midwestern community mental health center, flyers were placed near the appointment windows asking mothers with adolescent daughters to participate in a study. Mothers requested the instrumentation packet from front desk personnel and were then asked to complete a demographic survey. If women answered “yes” to a question concerning the age of their daughter (“do you have a daughter between the ages of 12 and 18?”), they were asked to continue with the survey. No contact by the principle investigator concerning the study was made to either the adolescents or their mothers prior to, during, or after the study except for the purpose of relaying raffle awards. Participants were invited to participate in a raffle offering numerous prizes including two \$50 gift certificates to Wal-Mart, two \$25 gift certificates to Wal-Mart, and 15 \$5 gift certificates to McDonalds.

Packets containing all instruments were given a number for identification. All information provided for the purposes of this study was identified only by this number. Packets included one copy of each questionnaire (OSM, DSSI, MPMS, MBI, and ABS), one demographic questionnaire, and two informed consents (one copy for the participant to keep). Instruments in packets were distributed in counterbalanced order with informed consent and demographics surveys on top.

Participants were instructed to review the informed consent prior to completing the demographics questionnaire and surveys. No accommodations were made for individuals who had disabilities, although accommodations (e.g., another person reading the form or filling in the surveys with the parent) were not restricted from use. Instruments were presented randomly to participants to control for fatigue and other sequence effects. Participants were allowed to discontinue the survey or not answer questions at any time. Participants were informed that the

total completion time for the instruments was 20 to 30 minutes and they were requested to complete the instruments at the same time (one after the other). Participants were requested to either drop off the instruments at the community mental health agency in a locked drop box or to send the instruments through the mail in a self-addressed and sealed envelope to the agency. Data was collected until participants were roughly equal to 50 in each group (delinquent and nondelinquent). At the end of the study, raffle winners were randomly selected through a drawing. Raffle prizes were then mailed to the recipients address listed on the raffle ticket.

Data Analysis

Using SPSS, frequency distributions were run on demographic items to determine sample characteristics. A discriminate function analysis was conducted to ascertain the difference in the independent variables that include maternal behavior, occupational stress, maternal social support, and maternal parenting stress, as indicated through the summed scores of each individual instrument (OSM, DSSI, MPMS, and MBI), and the dependent variable of group membership status (delinquency or nondelinquency), as measured through summed scores of the ABS.

Table 5

Participant Demographic Information

Variables	Frequencies	Percentage
Race		
White	116	89.9
Black	2	1.6
Hispanic	4	3.1
Other	7	5.4
Education		
Non-graduate	17	13.2
High School Graduate	39	15.5

(continued)

Variables	Frequencies	Percentage
Trade School	14	10.9
Some College	37	28.7
Bachelor's Degree	15	11.6
Graduate Degree	7	5.4
Employment		
Full Time	32	24.8
10,001-15,000	20	15.5
20,001-30,000	14	11.1
31,000-45,000	6	4.7
45,001-55,000	9	7.0
55,001 +	19	15.1
Number of People in the Household		
1	1	.8
2	14	10.9
3	30	23.3
4	42	32.6
5	26	20.2
6	10	7.8
7	2	1.6
8	2	1.6
9	2	1.6
Occupation		
Stay at Home Mother	61	47.3
Sales/Marketing	8	6.2
Managerial	4	3.1
Factory Work	6	4.7
Waitress	2	1.6
Cook	3	2.3
Professional	19	14.7
Student	2	1.6
Administrative	5	3.9
Unemployed	16	12.7
Missing	3	2.3

APPENDIX D: ADDITIONAL RESULTS

To determine that the items in each survey have internal consistency, Cronbach's Alpha was conducted on the items in the instruments used in this study, including the Maternal Behavior Index (MBI), the Adolescent Behavior Survey (ABS), the Occupational Crisis Survey (OCS), the Dukes Social Support Index (DSSI), and the Maternal Parenting Measure of Stress (MPMS).

The alpha for the four items in the MBI was .66, indicating that the items in the scale have minimally adequate internal reliability. For specific items in the MBI, it was determined that the alpha did not improve significantly with the omission of any item with the exception of the last question, "During the last year been overly critical or blamed my daughter for things that were not her fault," in which alpha was indicated to be improved to .73. However, because there are only four items in the scale, it was reasonable that the alpha is lower than for instruments with substantially more items (Barrett, Leech, & Morgan, 2005). Therefore, this item was retained in the instrument.

Cronbach's alpha for the 22 items in the ABS was .81 which indicates that the items in the scale have good internal reliability. After examining specific items in the scale, no item omission substantially improved the alpha for the instrument. The coefficient alpha was minimally improved to .82 with removal of the question, "In the last year, my daughter has, or I suspect she has, run away from home." As this only minimally impacted the alpha, this item was retained in the instrument. Examination of the three original categories in the instrument yielded

a coefficient alpha of .85 for property offenses ($M = 10.25$, $SD = 2.91$), .53 for violence ($M = 5.10$, $SD = 1.67$), and .73 for drugs ($M = 3.28$, $SD = .79$).

In the OCS, alpha for the 5 items that compose the scale was .81, which indicated that the items in the scale have reasonable internal reliability. Additionally, the DSSI's 11 items had a reasonable internal reliability of .79. The MPMS also had reasonable internal reliability at .89. In these three instruments, results indicated that any item deleted from the instrument would cause a decrease in the coefficient alpha, therefore all original items were kept to maintain the reliability of these instruments.

APPENDIX E: ADDITIONAL DISCUSSION

The present study has shown that many factors in a mother's life can have a profound impact on her daughter's life. A mother's perceived stress, social support, and negative behaviors may create an environment conducive to the development of delinquency in female adolescent's lives.

Examining this issue from a societal level, it may indicate the need for a phenomenal change in how society offers support to mothers. Specifically, social support groups could be developed to foster healthy, age-appropriate networks for mothers of all ages. Interests in parenting support could be a common theme, with mothers gaining support from similar-minded peers regarding rearing their daughters. Topics could include a variety of parenting strategies for discipline, as well as emotional support for mothers in coping with negative behaviors of their daughters, regardless of age. Additionally, groups could foster healthy relationships by offering various relational building activities for the dyads of mothers and daughters. This may mean social support groups offering free or low-cost childcare for mothers with multiple children through volunteer organizations, so that a mother-daughter dyad would have opportunities to bond.

Educational opportunities for mothers may include research-proven parenting strategies for daughters of all ages, thereby increasing a mother's knowledge of effective and appropriate behavior modification techniques. This, in turn, can help bolster more positive interactions between mother and daughter, as a mother who has less perceived parenting stress as a result

from a daughter that listens to her, is less likely to have a daughter who engages in delinquent behaviors. From a community perspective, this may indicate a strong emphasis on appropriate parenting interactions, potentially allowing mothers to be sanctioned for more minor inappropriate parenting infractions than in prior decades. Lowering the threshold for what constitutes abuse while raising knowledge on effective parenting techniques may have a profound impact not only on perceived maternal stress, but on the support a mother receives from the community as a whole.

In this present study, the researcher constructed a survey that measured the level of stress in a mother's life. The results from this analysis were conclusive that this instrument did have merit, with very high internal consistency coefficients. It was therefore determined that this instrument reliably assessed factors related to parenting stress levels among mothers.

This instrument is in its early phase of development and has limitations that one should take into consideration when generalizing the findings. Specifically, more studies should be done to determine exhaustive factors of maternal stress, as there are likely to be many factors that can affect maternal stress levels. Several researchers have discussed a variety of different factors that can impact maternal stress, and ways that maternal stress can consequentially impact the lives of children (Dole et al, 2003; Kazak & Marvin, 1984; Mash & Johnston, 1983). In fact, Abidin (1990b) purports the need for multivariate models to better understand the causes of parenting stress and the consequences of this stress on the behaviors of the parent and impact of the child. Examples of factors that may be a part of maternal stress but are not included in this instrument are time demands, finances, relationship demands, protective instincts, and self doubt.

This instrument requires further exploration. Use of a cross-cultural, more diverse population should be utilized to perform a factor analysis. This type of analysis would prove

useful to investigate factors selected to represent the stress that a mother feels. Adding additional factors specific to maternal strains alone and how these impact the parenting role may also be useful in examining maternal stress levels. Examples of such variables may include the impact of social strains relative to a woman's parenting role. Conducting more studies using this instrument would also provide a more in-depth examination of construct and criterion-related validities. Studies should include women from various socioeconomic, professional, ethnic, racial, educational, and cultural backgrounds. Studies should also include women of various relationship statuses (single, married, divorced, widowed, co-habiting), as well as women with a varying number of children and children's genders, and the perceived strain of siblingship issues. Furthermore, correlational studies between the identified factors of maternal stress and other areas of psychological strain not addressed would increase the utility of this instrument.

However, in spite of the limitations, the Maternal Parenting Measure of Stress has the potential to be important to research and clinical applications for mothers. This is the first instrument administered to mothers that has been specifically designed to measure a mother's stress instead of global parenting stress. Results from this pilot study are promising and may be a good contribution to the investigation of maternal stress levels.

APPENDIX F: DEMOGRAPHICS QUESTIONNAIRE

Please provide the following information by checking the appropriate boxes.

1. Gender:

- Male
 Female

2. Your Age: _____

3. Your Race:

- White
 African American
 Hispanic
 Native American
 Asian American
 Other: _____

4. Marital Status:

- Single, never married
 Married
 Separated
 Divorced
 Widowed
 Other: _____

5. Highest Education Level Completed:

- Some high school
 High School diploma or GED
 Trade or vocational school
 Some college
 Bachelor's degree
 Graduate or professional degree

6. Employment Status:

- Full-time (35 + hours)
 Part Time (up to 34hours)

7. Household Income Level:

- 0-\$10,000
 \$10,001-\$15,000
 \$15,001-\$20,000
 \$20,001-\$30,000
 \$30,001-\$45,000
 \$45,001-\$55,000
 \$55,001 +

8. Number of People Living in the Household: _____

9. Ages of children living in home and gender:

Age Gender (M or F)

Child #1: _____

Child #2: _____

Child #3: _____

Child #4: _____

Child #6: _____

10. Your Occupation:

- Stay at home mom
 Sales/Marketing
 Managerial
 Factory work
 Waitress
 Cook
 Professional
 Student
 Administrative
 Unemployed
 Other: _____

11. Do you have a daughter between the ages of 12 and 18?

yes no

*If you answered "yes" to this question,
please continue with the survey, if no,
please stop the survey*

APPENDIX G: INFORMED CONSENT

You are invited to participate in a research study conducted by Anne Price, who is a doctoral student from the Counseling Psychology Department at Indiana State University. Ms. Price is conducting this study for her doctoral dissertation. Dr. James Campbell is her faculty sponsor for this project.

Your participation in this study is entirely voluntary and you may withdraw at any time. In addition, your participation or lack of participation will not impact your treatment. You should read the information below and ask questions about anything you do not understand, before deciding whether or not to participate. You are being asked to participate in this study because you are a mother with an adolescent daughter.

PURPOSE OF THE STUDY

The purpose of this study is to gather information about characteristics of mothers of adolescent girls. As a result of your participation, we hope to learn more about factors such as: employment stress, parenting stress, maternal characteristics, and social networks, and how these might impact teenage girls.

PROCEDURES

If you volunteer to participate in this study, we will ask you to do the following:

1. We will ask you to complete a demographics survey and four other surveys.
2. These surveys will take approximately 30 minutes to complete. There are no right or wrong answers to any of the questions. Answers are based on your personal experiences alone.

POTENTIAL RISKS AND DISCOMFORTS

We expect that any risks, discomforts, or inconveniences will be minor and we believe that they are not likely to happen. If discomforts become a problem, you may discontinue your participation.

POTENTIAL BENEFITS TO SUBJECTS AND/OR SOCIETY

It is unlikely that you will benefit directly from participation in this study, but the research should help us learn how to improve services for mothers of adolescent daughters and for adolescent females.

BENEFITS OF PARTICIPATION

You will not receive any payment for participation in this study. However, you will be invited to participate in a raffle for various prizes. Prizes include two \$50 gift certificates to Wal-Mart, two \$25 gift certificates to Wal-Mart, and fifteen \$5 gift certificates to McDonalds. Odds of winning are estimated to be one in every five persons. Prizes will be awarded after 100 completed surveys have been received. There is no cost to you for participation in this study.

CONFIDENTIALITY

These surveys are anonymous. Do not write your name on any of the surveys. No one will be able to identify you or your answers. Individuals from the Department of Counseling at Indiana State University, and the Institutional Review Board may inspect these records. Should the data be published, no individual information will be disclosed.

Surveys can be handed to the secretary at the agency you have picked up the survey or can be mailed to Indiana State University, College of Education, Department of Counseling, Terre Haute, IN 47809, attn: Anne Price.

Raffle tickets can be placed by you in a drop box inside the secretary's station at the same agency or can be mailed to Indiana State University, College of Education, Department of Counseling, Terre Haute, IN 47809, attn: Anne Price.

Raffle tickets will contain necessary information to contact winners of raffle prizes. The staff members of the agency will not read completed surveys nor will have access to the raffle tickets. Surveys will be kept in a locked filing cabinet separate from raffle tickets.

PARTICIPATION AND WITHDRAWAL

You can choose whether or not to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer. There is no penalty to withdraw from the study and you will not lose any benefits to which you are otherwise entitled.

IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact

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RIGHTS OF RESEARCH SUBJECTS

If you have any questions about your rights as a research subject, you may contact the Indiana State University Institutional Review Board (IRB) by mail at 114 Erickson Hall, Terre Haute, IN 47809, by phone at (812) 237-8217 or e-mail the IRB at irb@indstate.edu. You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with ISU. The IRB has reviewed and approved of this study.

By filling out the surveys, you are agreeing to participate in this study. You are also indicating you have read this statement and understand your rights and responsibilities as a participant in this study.

APPENDIX H: RAFFLE TICKET

Name: _____

Address: _____

City: _____ State: _____

Zip: _____

Phone #: _____

APPENDIX I: MATERNAL PARENTING MEASURE OF STRESS

Please answer all questions in regards to your adolescent daughter only.

1. I feel I am able to manage my daughter:

Agree Somewhat Agree Somewhat Disagree Disagree

2. My daughter's behaviors are out of control:

Agree Somewhat Agree Somewhat Disagree Disagree

3. My daughter does things that I do not want her to do:

Agree Somewhat Agree Somewhat Disagree Disagree

4. I have difficulty sticking to punishments when my daughter does something wrong:

Agree Somewhat Agree Somewhat Disagree Disagree

5. I am able to communicate with my daughter:

Agree Somewhat Agree Somewhat Disagree Disagree

6. I frequently yell at my daughter:

Agree Somewhat Agree Somewhat Disagree Disagree

7. My daughter acts out on a daily basis:

Agree Somewhat Agree Somewhat Disagree Disagree

8. I have adequate support from my friends or family in helping me raise my daughter:

Agree Somewhat Agree Somewhat Disagree Disagree

9. I do not feel I have to hit (e.g., spank or slap) my daughter to get her under control:

Agree Somewhat Agree Somewhat Disagree Disagree

10. My daughter listens to me:

Agree Somewhat Agree Somewhat Disagree Disagree

11. My daughter respects me even when she does not like what I have to say:

Agree Somewhat Agree Somewhat Disagree Disagree

12. My daughter brings out feelings of anger in me:

Agree Somewhat Agree Somewhat Disagree Disagree

13. I enjoy spending time with my daughter:

Agree Somewhat Agree Somewhat Disagree Disagree

14. I am able to openly talk with my daughter:

Agree Somewhat Agree Somewhat Disagree Disagree

15. Most children my daughter's age act the same way she does

Agree Somewhat Agree Somewhat Disagree Disagree

16. I am very involved in my daughter's social life:

Agree Somewhat Agree Somewhat Disagree Disagree

17. My daughter's friends are respectful to me:

Agree Somewhat Agree Somewhat Disagree Disagree

18. My daughter's behavior is bothersome to me:

Agree Somewhat Agree Somewhat Disagree Disagree

19. My daughter brings out feelings of happiness in me:

Agree Somewhat Agree Somewhat Disagree Disagree

20. My daughter's behaviors negatively impact our family:

Agree Somewhat Agree Somewhat Disagree Disagree

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