Maternal Well-being and Life-span Issues of Autism in Taiwanese Families of Adolescents and Adults with Autism Spectrum Disorders

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Introduction: Research on experiences of Taiwanese mothers caring an adolescent or adult with an autism spectrum disorder (ASD) is scarce. The purpose of the study is to better understand how the presence of a child with ASD affects families in Taiwan and to investigate the role of culture in influencing maternal well-being and life-span issue of autism in families of individuals with ASD.

Methods: This study took a descriptive approach, gaining information from 20 mothers of adolescents and adults with ASD in the North of Taiwan. Semi-structured interviews were conducted to elicit mothers’ experiences and concerns. Measures completed by the mother included information on maternal depression (CES-D; Radloff, 1977), caregiver burden (Song, 2001), the Pessimism scale from the Questionnaire on Resources and Stress (Friedrich, Greenberg, & Crnic, 1983), and a list of societal/cultural stressors including the challenges or difficulties reported by mothers. The results from the mothers’ responses were reported quantitatively and qualitatively.

Results: Results from this study pointed to considerable caregiver burden for mothers and give some indication of the associated maternal well-being and life-span issues when raising a child with ASD in Taiwan. Many mothers indicated that they had caregiver’s strains for the child with ASD, were lack of availability and/or access to family resources and social welfare, and had difficulty in educating or inculcating children with autism in culturally appropriate behaviors. Regarding caregiver burden and psychological well-being, the mothers (80%) indicated that they had moderate to extremely heavy caregiver burdens and twelve out of twenty mothers (60%) reported a high level of depression as the cut-off score of 16 has been used. In terms of life-span issues, mothers had specific worries about the future of the individuals with ASD. They were worried about the long-term care and appropriate placement for their son or daughter with ASD.

Conclusion: The findings of this descriptive study provided information to assist implementation of family-centered interventions to meet the needs of families of individuals with ASD in Taiwan. Additionally, results from this study may help elucidate the factors associated with maternal well-being and life-span issues of autism in families of individuals with ASD in the Chinese culture.

Key References:

Keywords: autism, maternal well-being, life-span issues, Taiwan
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Introduction

Autism is a lifelong developmental disability. Autism spectrum disorders (ASD) are characterized by impairments in communication, reciprocal social interaction, and the presence of restricted and repetitive behaviors or interests (American Psychiatric Association [APA], 2000). The prevalence of ASDs is reportedly increasing in Western countries as well as in Taiwan (Ministry of the Interior, 2006). The number of identified individuals with ASD in Taiwan has grown from 1,043 in 1997 to 5,882 in 2006 (Ministry of the Interior, 2006). The number of individuals with ASD being identified has increased annually by approximately 500 persons.

Previous studies of Western families have reported that mothers of individuals with ASD often report higher levels of depression than mothers of individuals with other types of disabilities (Abbeduto et al., 2004; Bitsika & Sharpley, 2004; Seltzer et al., 2000). Regarding maternal or family characteristics related to maternal well-being, mothers of a son or daughter with ASD have reported higher levels of depressive symptoms if they had more pessimism about their child’s future (Abbeduto et al., 2004; Greenberg, Seltzer, Krauss, Chou, & Hong, 2004). In terms of the caregiver issues, mothers often have reported increased caregiving strains when their son or daughter with ASD lived with them than when they lived...
elsewhere (Krauss, Seltzer, & Jacobson, 2005; Seltzer et al., 2000), and when their son or daughter with ASD needed high levels of assistance and care (Seltzer & Krauss 1989).

Compared to research on Western families of individuals with ASD, research on Taiwanese families is scarce. There has been increasing research attention paid to studying the impact of autism on family members during adolescence and adulthood (e.g., Seltzer, Krauss, Orsmond, & Vestal, 2000). In the past decade, researchers in Taiwan examined the experiences of family members (particularly mothers) of individuals with ASD (Chang, 1996; Hsieh & Shu, 2004; Liang, 2004; Shu, 2002; Shu, Hsieh, Hsieh, & Li, 2001; Shu & Lung, 2005; Shu, Lung, & Chang, 2000; Tao, 2004; Uang, 1995) or developmental disabilities (Chen, 2004; Chou, 1996; Chou & Tzou, 2004; Huang, 1995; Shu, Lung, & Huang, 2002; Wang, 1994) by general surveys or qualitative reports. This research has indicated that Taiwanese families of individuals with ASD encounter great difficulties and experience a high level of stress and hardship in parenting a son or daughter with ASD, but the studies have not examined the extent to which the maternal and individual characteristics are associated with parental well-being. Moreover, this family research on Taiwanese families has primarily focused on children with ASD. Only two studies have focused on adolescents (age 15 and above) and adults with ASD and their family members (Chang, 1996; Liang, 2004). Chang (1996) conducted a survey that indicated 80% of adolescents and adults with ASD lived at home and could not care for themselves independently. Therefore, there is a
great need for information that will help understand maternal well-being and caregiver burden under these circumstances, specifically when the son or daughter with ASD is an adolescent or adult.

The purpose of the study was to better understand how the presence of a child with ASD affects families in Taiwan and to investigate the role of culture in influencing maternal well-being and life-span issues of autism in families of individuals with ASD. Thus, in the current study, we investigated how mothers in Taiwanese families with adolescents and adults with ASD might adapt, and how the caregiver issues might be impacted.

Methods

Study design

This study took a descriptive approach investigating maternal well-being and life-span issues in families of adolescents and adults with ASD in Taiwan. The results from the mothers’ responses were reported quantitatively and qualitatively.

Participants

A sample of 20 mothers parenting a son or daughter with ASD in Taiwan were recruited for this study. The individuals with ASD were 10 years old and older and have been diagnosed by a medical or mental health professional according to Diagnostic and Statistical Manual IV (DSM-IV) criteria (APA, 1994). The Taiwanese families for this study were recruited from autism associations in the North area of Taiwan. Table 1 presents the
demographic data for these mothers.

Materials

All of the instruments used in this study are self-administered written questionnaires or interviews. The questionnaires were created to include pertinent demographic data. Mothers were asked to complete a list of family members, including each of her child’s gender, age, birth order, health status, as well as report on the living arrangement of their son or daughter with ASD, parents’ educational level, family size, and family socio-economic status. The mothers provided information on the family’s history with respect to autism spectrum disorders and other developmental disabilities. Measures included information about maternal well-being, pessimism about the child’s future, caregiver burden, and cultural stressors.

Maternal depressive symptoms. The measure of the depressive symptoms was the Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977). Mothers rated on a 4-point scale ranging from 0 (rarely) to 3 (most of the time) how they have felt over the past week. Scores ranged from 0 to 60, with higher scores indicating more depressive symptoms. The CES-D has been widely used in studies of adults and has been reported to be a reliable and valid measure of depressive symptoms in community samples of older persons in the U.S. (Gatz & Hurwicz, 1990). The measure has been translated into Chinese by two psychiatrists (Chien & Cheng, 1985). In Taiwan, the CES-D has been used
to examine elders’ psychological well-being (Hsu & Chang, 2004). The internal consistency reliability of the CES-D for the Chinese people has been reported to be .77 (Lin, 1989).

*Pessimism about the future.* Mothers completed the Pessimism scale from the Questionnaire on Resources and Stress (Friedrich, Greenberg, & Crnic, 1983), regarding whether or not they have specific worries about the future of the individual with ASD. Mothers completed ten statements with a “yes” or “no” response. The internal consistency reliability was .70 for mothers of adolescents and adults with ASD (Orsmond, Seltzer, Greenberg, & Krauss, 2006).

*Caregiver burden.* Caregiver burden was examined by the Caregiver Burden scale, which was developed in Chinese by Song (2001) in Taiwan. This scale consisted of 17 items and mothers rated the frequency of a described statement from 0 (never) to 4 (always). Scores ranged from 0 to 68, with four levels: mild (8-20), moderate (21-32), moderate to heavy (33-44), and extremely heavy (45 and above). A higher score indicated mothers report more burden. The internal consistency reliability was .88 for 301 caregivers of adults with mental illness (Song, 2001).

*Cultural stressors.* Mothers were asked to respond to a list of societal/cultural stressors, which was developed by the investigator, based on the content of interviews conducted during a pilot study and the literature review. Societal/cultural stressors include the challenges or difficulties reported by mothers, such as caregiver’s strains for the child with
ASD and parents-in-law, pressures from the extended family (e.g., parents-in-law). Mothers rated how these stressors affect them, from 0 (not at all) to 2 (very much).

**Interview.** The principal investigator asked open-ended questions regarding both positive and negative experiences of raising a son or daughter with ASD and how the mother perceives that traditional Chinese family values have influenced their experiences. The mothers were also asked what their family’s needs were when caring a child with ASD and the changes that they have needed to make to care for their son or daughter with ASD from when their son or daughter was a child to the present time (adolescence or adulthood).

**Procedures**

**Data collection methods.** A letter describing the purpose and procedures of the study, a contact card, and a self-addressed stamped envelope were sent to families by agencies and autism associations in Taiwan. Upon receipt of the contact cards from potential participants, the principal investigator contacted the potential participants by telephone. If the mother agreed to participate, and the study criteria were met, she was mailed a questionnaire and informed consent form. Identical recruitment procedures were applied to all families. Information from Taiwanese mothers was collected directly through interviews and the self-report questionnaires. Mothers were mailed the self-report questionnaires and asked to complete the survey before her interview. The principal investigator retrieved the mother’s questionnaire when the principal investigator went to her home for the interview. In
addition, mothers participated in an interview lasting approximately 30 minutes, to be conducted in her home or at another location at her request. This interview provided information on the impact of raising a child with ASD within the Chinese cultural context and the family’s needs. The face-to-face interview can capture the participants’ insights in their own words, and can also confirm any incomplete or unclear information from the questionnaire.

Data Management and Analysis

The descriptive statistics were conducted to examine cultural stressors, maternal depression, caregiver burden, and pessimism in Taiwanese families. Content from the interview was be analyzed using qualitative methods, such as the collective case study approach. The interviews were transcribed, and a subset was translated into English.

Themes in the mothers’ responses were identified and coded. The across-case data analysis process continued with clustering and analyzing the data, and tying together a general description of the experience in accordance with each theme. Each theme was described and significant statements was included to support the theme (Ayres, Kavanaugh, & Knafl, 2003; Patton, 2001).

Result

As seen in Table 2, certain societal/cultural stressors may affect mothers when raising their son or daughter with ASD. Many mothers indicated that they had caregiver’s strains
for the child with ASD, were lack of availability and/or access to family resources and social
welfare, and had difficulty in educating or inculcating children with autism in culturally
appropriate behaviors. Table 3 presents data on maternal depressive symptoms and
caregiving issues in the two age groups. With respect to caregiver burden and psychological
well-being, the majority of examined mothers (80%) indicated that they had moderate to
extremely heavy caregiver burdens and twelve out of twenty mothers (60%) reported a high
level of depression as the cut-off score of 16 has been used. In terms of life-span issues,
mothers had specific worries about the future of the individuals with ASD. They were
worried about the long-term care and appropriate placement for their son or daughter with
ASD. Correlations among maternal depressive symptoms, caregiver burden, and pessimism
about the child’s future were examined (see Table 4). There was a significant positive
correlation between maternal depressive symptoms and caregiver burden, with a higher level
of depressive symptoms associated with a greater caregiver burden. A significant positive
correlation was also observed between maternal depressive symptoms and the presence of
pessimism about the child’s future. Mothers who reported more depressive symptoms had
specific worries about the future of the individual with ASD.

Over the course of 20 interviews, mothers frequently reported their challenged
experiences and certain concerns about the child’s future and placement. The categories
were merged as the following themes: (a) regard children as a center of life and (b) plan for
Significant statements were identified and extracted from the transcriptions to support each theme.

*Regard children as a center of life*

The mothers’ daily lives may be controlled by their son or daughter with ASD. They described that they’re always ready to fight for the needs of their child with ASD. The mother’s life appeared to regard children with ASD as a center of life.

“My life is overwhelming and stressful, because I need to stand by anytime… You know, everyday I’m afraid that I might get a phone call from school, which means that my son made troubles in school... I’m always revolving around my child, just like a spinning top...”

“I went to school to be a volunteer in order to take care of my daughter. I’m in school all day. If my daughter has any problem, I could deal with it immediately.”

“My son has a lot of difficulties learning in a college, I couldn’t find available resource to assist my son. I have to accompany my son as his study partner… That's the reason I quit my job…”

“He is a good partner right now. Although I have to stay with him all the time, I love to have his accompany. We could go shopping and travel to Japan or other countries.”
Plan for the child's future or placement

Concerning the future caregiving of individuals with ASD, Taiwanese families face a dilemma between family well-being and child care. Being placed in an institution would be the last choice, only if the parents were unavailable or had no other solutions. These mothers described they have certain concerns about their children’s situations.

“I wish there is a place where my child can stay. For now, there is no appropriate working environment available to these children. The relevant government department did not deal with these issues for us. We’re lack of availability and access to the supportive employment…even though he/she is doing a simple work with slender earnings, it would be wonderful…”

“As long as I think of my child’s future, tears cover my face…I couldn’t stop thinking of his situation when I could no longer take care of him…”

“That’s an unforeseen future. Plans can never keep up with changes. We must prepare for the worst. My child may have to live out his days in some institutes…We are reluctant but we’re having no choice.”

“We don’t have the heart to leave our children in some care facilities. I hope that several parents who have sons or daughters with ASD could work together…if we could set up a farm or garden for our kids, we are able to take care of them by turns…we also create some work opportunities for our children.
They can have something to do and have a safe environment to stay…”

“Insurance and property trust may be a good way to care my child’s future life
as we (parents) pass away. But we could not expect the outcome.”

“As parents of individuals with ASD, we really hope residential community
services can be provided and supported by our government.”

These statements suggest that mothers frequently experienced difficulty doing their own
daily activities and felt helpless. Their entire lives were occupied by the son or daughter
with ASD and they were striving to meet the demands and desires of their children with
ASD.

Discussion

The goals of this study were to investigate the well-being of families of adolescents and
adults with ASD in Taiwan and to explore the life-span issues of families of individuals with
ASD. Results from this study pointed to considerable societal/cultural stressors, caregiver
burden for mothers and give some indication of the associated maternal well-being and
life-span issues when raising a child with ASD in Taiwan.

The findings from the present study revealed that all mothers felt pressured when they
had difficulty in educating or inculcating children with autism in culturally appropriate
behaviors. Taiwanese families have been found to emphasize obedience and proper
manners more than families in Western countries (Lin & Fu, 1990; Wang & Tamis-LeMonda,
In Chinese culture, a failure to control children’s behaviors is viewed as a parental failure, which refers to disgracing the family name (Chou & Palley, 1998). Since individuals with ASD often have behaviors that are difficult to control, Taiwanese parents may experience difficulty in educating or inculcating their son or daughter with ASD in culturally appropriate behaviors. Therefore, the presence of behavior problems may have a negative effect on maternal well-being in Taiwanese mothers.

The findings from this study, as in other studies, suggest that mothers of individuals with ASD often experience higher levels of depression when they reported increased caregiving strains (Seltzer et al., 2000; Sharpley, Bitsika, & Efremidis, 1997). With respect to caregiving strains, most mothers in Taiwan expect to provide long-term care for a son or daughter with ASD, and are often viewed to be an appropriate and unpaid care provider by many people (Shu et al., 2002). This study indicated that this increased caregiving burden is an important consideration regarding maternal well-being (McCubbin, Thompson, & McCubbin, 1996; Seltzer & Krauss 1989).

Concerning the future caregiving of individuals with ASD, Taiwanese families face a dilemma between family well-being and child care. This finding was consistent with results in the previous studies (Abbeduto et al., 2004; Chang, 1996; Greenberg et al., 2004) which found that families of individuals with ASD were reported to be very pessimistic about their child’s future, especially the future caregiving. In Taiwan, it is uncommon to place children
with ASD in institutions or other community settings (e.g., Community Home). Over 90% of individuals with intellectual disabilities (including autism) live with their family members (Chou & Schalock, 2007). Since Chinese culture emphasizes family obligations, parents of adolescents and adults with ASD (Chou, 1996) or mental retardation (Chen, 2003) preferred to take care of their children by themselves rather than place their children in institutions.

Additionally, as in previous studies (Abbeduto et al., 2004; Greenberg et al., 2004), maternal pessimism about the child’s future is related to maternal depressive symptoms in Taiwanese families. This result indicated that researchers should pay significant attention to the life-span issues of autism in Taiwanese families.

However, two major limitations of the study should be noted. First, this study relied on self-report measures by the mothers. The reliability of family information and child’s conditions may be influenced. Investigating other members’ opinions by the same measures might be helpful to reflect the family situations accurately. Second, the sample size was too small. These families were recruited from the specific area in Taiwan. The findings may not be generalized to families in other areas of Taiwan. The results should be interpreted with caution.

Conclusion

The findings of this descriptive study provided information to assist implementation of family-centered interventions to meet the needs of families of individuals with ASD in
Taiwan. Practitioners should always consider some possible maternal characteristics associated with the well-being of mothers of individuals with ASD. By being aware of maternal depressive symptoms and caregiver issues, the risk of family vulnerability may be reduced. Additionally, results from this study may elucidate the factors associated with maternal well-being in families of individuals with ASD in the Chinese culture. The findings in this study also suggest that research into maternal well-being and life-span issues in families of adolescents and adults with ASD requires further exploration in the context of large and controlled family studies. It will be helpful to use a longitudinal study to investigate how mothers adapt over time. Future research efforts will provide important information about development and special needs of families and the process of long-term coping with a son or daughter with ASD.

Acknowledgement

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Table 1.  *Demographic Data for Mothers of Adolescents and Adults with ASD*

<table>
<thead>
<tr>
<th></th>
<th>Adolescents with ASD (N = 10, age from 11 to 18)</th>
<th>Adults with ASD (N = 10, age from 19 to 29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother’s age</td>
<td>37 - 50 (M = 43.8, SD = 4.05)</td>
<td>44 - 63 (M = 50.4, SD = 6.62)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>9 (90%)</td>
<td>9 (90%)</td>
</tr>
<tr>
<td>Divorced</td>
<td>1 (10%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Mother’s level of education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary school</td>
<td>1 (10%)</td>
<td></td>
</tr>
<tr>
<td>Junior high school</td>
<td>2 (20%)</td>
<td></td>
</tr>
<tr>
<td>Vocational school</td>
<td>3 (30%)</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>6 (60%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>1 (10%)</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>Master's degree</td>
<td>2 (20%)</td>
<td></td>
</tr>
<tr>
<td>Employed status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>3 (30%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Part-time</td>
<td>3 (30%)</td>
<td>3 (30%)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>4 (40%)</td>
<td>6 (60%)</td>
</tr>
<tr>
<td>Household income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ Average Monthly Family Income in 2006 (NT$ 76,091)*</td>
<td>7 (70%)</td>
<td>5 (50%)</td>
</tr>
<tr>
<td>&gt; Average Monthly Family Income in 2006 (NT$ 76,091)</td>
<td>3 (30%)</td>
<td>5 (50%)</td>
</tr>
<tr>
<td>No. of family members</td>
<td>4 – 6 (M = 4.70, SD = .82)</td>
<td>4 – 13 (M = 5.70, SD = 2.75)</td>
</tr>
<tr>
<td>More than one child with a disability</td>
<td>2 (20%)</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>Taking care of in-laws</td>
<td>3 (30%)</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>Overall health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>1 (10%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Fair</td>
<td>4 (40%)</td>
<td>7 (70%)</td>
</tr>
<tr>
<td>Good</td>
<td>5 (50%)</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>Health status changed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worse</td>
<td>7 (70%)</td>
<td>5 (50%)</td>
</tr>
<tr>
<td>About the same</td>
<td>2 (20%)</td>
<td>4 (40%)</td>
</tr>
<tr>
<td>Better</td>
<td>1 (10%)</td>
<td>1 (10%)</td>
</tr>
</tbody>
</table>

Table 2. *Frequencies on the Societal/Cultural Stressors Affect Mothers when Raising their Son or Daughter with ASD (N = 20)*

<table>
<thead>
<tr>
<th>Societal/Cultural Stressors</th>
<th>Very Much</th>
<th>Somewhat</th>
<th>Not at All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial burden for taking care of the child with ASD</td>
<td>5 (25%)</td>
<td>8 (40%)</td>
<td>7 (35%)</td>
</tr>
<tr>
<td>Prolonged diagnostic process</td>
<td>9 (45%)</td>
<td>8 (40%)</td>
<td>3 (15%)</td>
</tr>
<tr>
<td>Caregiver’s strain for the child with ASD</td>
<td>15 (75%)</td>
<td>4 (20%)</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>Caregiver’s strain for the parents-in-law</td>
<td>2 (10%)</td>
<td>8 (40%)</td>
<td>10 (50%)</td>
</tr>
<tr>
<td>Lack of availability and/or access to family resources and social welfare</td>
<td>4 (20%)</td>
<td>9 (45%)</td>
<td>7 (35%)</td>
</tr>
<tr>
<td>Lack of availability and/or access to education</td>
<td>4 (20%)</td>
<td>9 (45%)</td>
<td>7 (35%)</td>
</tr>
<tr>
<td>Lack of availability and/or access to medical services</td>
<td>2 (10%)</td>
<td>10 (50%)</td>
<td>8 (40%)</td>
</tr>
<tr>
<td>Disgracing the family name</td>
<td>1 (5%)</td>
<td>5 (25%)</td>
<td>14 (70%)</td>
</tr>
<tr>
<td>Pressures from the extended family (e.g., parents-in-law)</td>
<td>1 (5%)</td>
<td>7 (35%)</td>
<td>12 (60%)</td>
</tr>
<tr>
<td>Pressures from friends or people outside the family</td>
<td>1 (5%)</td>
<td>8 (40%)</td>
<td>11 (55%)</td>
</tr>
<tr>
<td>Difficulty in educating or inculcating children with autism in culturally appropriate behaviors</td>
<td>8 (40%)</td>
<td>12 (60%)</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 3.  *Data on Maternal Depressive Symptoms, Caregiver Burden, and Pessimism about the Child’s Future.*

<table>
<thead>
<tr>
<th></th>
<th>Adolescents with ASD (N = 10, age from 11 to 18)</th>
<th>Adults with ASD (N = 10, age from 19 to 29)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal depressive</td>
<td>3 - 53 (M = 28.4, SD = 16.91)</td>
<td>0 - 44 (M = 15.9, SD = 13.30)</td>
</tr>
<tr>
<td>symptoms(^a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A high level of depression (scores ≥16)</td>
<td>70%</td>
<td>50%</td>
</tr>
<tr>
<td>Caregiver Burden(^b)</td>
<td>20 - 48 (M = 36.2, SD = 9.95)</td>
<td>13 - 43 (M = 24.5, SD = 10.47)</td>
</tr>
<tr>
<td>Mild</td>
<td>1 (10%)</td>
<td>3 (30%)</td>
</tr>
<tr>
<td>Moderate</td>
<td>3 (30%)</td>
<td>5 (50%)</td>
</tr>
<tr>
<td>Moderate to heavy</td>
<td>3 (30%)</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>Extremely heavy</td>
<td>3 (30%)</td>
<td></td>
</tr>
<tr>
<td>Pessimism about the future(^c)</td>
<td>1 - 10 (M = 7.8, SD = 2.74)</td>
<td>0 - 10 (M = 5.5, SD = 4.01)</td>
</tr>
</tbody>
</table>

\(^a\) CES-D scale: Center for Epidemiological Studies-Depression Scale (Radloff, 1977).

\(^b\) Caregiver Burden scale (Song, 2001).

\(^c\) Pessimism scale from the Questionnaire on Resources and Stress (Friedrich, Greenberg, & Crnic, 1983).
### Table 4. Pearson Correlations between Maternal Depressive Symptoms, Caregiver Burden, and Pessimism about the Future of the Individual with ASD

<table>
<thead>
<tr>
<th>Variables</th>
<th>Maternal Depression</th>
<th>Caregiver Burden</th>
<th>Pessimism about the Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Depression</td>
<td>−</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caregiver Burden</td>
<td>.806**</td>
<td>−</td>
<td></td>
</tr>
<tr>
<td>Pessimism about the Future</td>
<td>.507*</td>
<td>.695**</td>
<td>−</td>
</tr>
</tbody>
</table>

* *p < .05  ** p < .01


