



Young Adult Children of Mothers Coping with Mood Disorders: Maternal Relationship Quality, Family Stigma, and Psychological Well-Being

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Abstract

Family members frequently report experiencing social stigma due to their relationship to a loved one with mental illness. Adults' perceptions of this family stigma have been linked to elevated feelings of distress and a lower quality of life. The present study examined the mediating roles of maternal responsibility and maternal regard in the relationship between perceived family stigma and psychological well-being among young adult children of mothers coping with mood disorders. A sample of 172 young adult children of mothers diagnosed with a mood disorder (123 women, 49 men; $M = 23$ years old; $SD = 1.8$) completed an online survey to assess feelings of maternal responsibility and regard, family stigma, and psychological well-being. Correlational results suggest that higher scores on maternal responsibility were generally associated with higher levels of family stigma. Maternal regard scores were generally associated with lower levels of family stigma and higher levels of psychological well-being. Young adults' feelings of responsibility and regard in their relationship with their mother served a mediating role in relation to their reports of family stigma and psychological well-being. Mediation findings suggest that young adults' reports of higher levels of maternal responsibility contributed to a greater sense of well-being in response to higher levels of family stigma. Additionally, young adults' reduced feelings of maternal regard generally contributed to lower levels of well-being in response to higher levels of family stigma. Implications of findings for family research on social stigma and interventions for adult children of mothers with mood disorders are discussed.

Keywords Young Adults · Maternal Relationship Quality · Social Stigma · Mood Disorders

Highlights

- Young adult children of mothers coping with mood disorders report experiencing family stigmatization due to mother's mental health condition.
- Feelings of responsibility and regard in young adults' relationship with their mother were significantly related to their perceptions of family stigma and psychological well-being.
- Young adults' reports of maternal responsibility and maternal regard mediated the relationship between family stigma and psychological well-being.

Family members often experience stigmatization due to their relationship with a loved one coping with mental illness (Larson & Corrigan, 2008). This experience of family stigma has been associated with higher levels of

psychological distress and a lower quality of life for family members (Muralidharan et al., 2016; van der Sanden et al., 2016). Family stigma is commonly reported by adult children of parents diagnosed with mental illnesses (Hinshaw, 2018; Dam & Hall, 2016), especially among adult children who live with their parent (Guan et al., 2020). In addition to family stigma, child caregivers often experience more burden than parental caregivers, which can impact their sense of personal well-being and quality of life (Settineri et al., 2014). Caregiver burden among adult child caregivers for

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parents with mood disorders has been associated with significant emotional distress and functional impairment (Bauer et al., 2015). Previous findings also suggest that daughters are generally more likely to serve as caregivers for a parent experiencing depressive symptoms than sons (Lee et al., 2020; Aldridge, 2006). Additionally, adult children of mothers with serious mental illnesses typically report greater feelings of isolation and lower psychological well-being as compared with adults of fathers with serious mental illness (Abraham & Stein, 2010). The experience of family stigma among adult child caregivers can exacerbate their feelings of caregiver burden and further contribute to decreased personal well-being (Park & Seo, 2016; Champion et al., 2009).

Despite negative outcomes reported by adult children of mothers coping with mood disorders, studies suggest that these adults may also view their maternal relationship as a source of strength and support (Petrowski & Stein, 2016). According to Peisah and colleagues (2004), among families with and without parental depressive symptoms, adult children's perceptions of the mother-child relationship are shaped by feelings of responsibility and regard. Feelings of maternal responsibility are characterized by adults' perceptions of burden, feelings of protectiveness, and a sense of role reversal within the mother-child relationship (Peisah et al., 2004). In contrast, feelings of maternal regard are associated with adult children's feelings of attachment, reciprocity, and a sense of closeness toward their mother (Peisah et al., 2004). Although adults' maternal relationships can be characterized by both feelings of responsibility and regard, it is unclear to what extent these aspects of the mother-child relationship may be related to adults' perceptions of family stigma and personal well-being.

The present study focused on the multifaceted role of the mother-child relationship in young adults' experiences of family stigmatization. Specifically, the present study examined perceptions of maternal responsibility and maternal regard, and their relationship with family stigma and individual well-being among young adult children of mothers diagnosed with a mood disorder. We examined the potential mediating roles of adults' perceptions of maternal responsibility and maternal regard in the relationship between self-reported family stigma and psychological well-being.

Family Stigma, Maternal Responsibility, and Maternal Regard

Existing research suggests that family members of individuals with a mental illness experience “stigma by association” due to their relationship with their loved one; this is referred to as family stigma (Quinn & Chaudoir, 2015;

Larson & Corrigan, 2008). The experience of family stigma has been associated with higher levels of psychological distress and increased incidence of depressive symptoms (van der Sanden et al., 2016; Muralidharan et al., 2016). Further, previous findings indicate that up to half of family members with loved ones experiencing mental illness feel that they should hide their relationship with their relative from others due to a sense of shame (Larson & Corrigan, 2008). Among adult children, the experience of family stigma can involve feeling ‘different’ from peers, a sense of social alienation, and reduced feelings of self-esteem (Dam et al., 2018; Murphy et al., 2014). Children of parents with serious mental illness often report feeling ashamed of their parent's symptoms and engage in concerted efforts to conceal their parent's condition to avoid stigmatization and bullying (Dam & Hall, 2016). Among families with a parent diagnosed with bipolar disorder, social stigma contributes to feelings of shame not only among parents, but also among children and extended family members (Hinshaw, 2018). Children of parents with mental illnesses also sometimes describe a sense of ‘contamination’ due to their relationship with their parent (Koschade and Lynd-Stevenson, 2011). Many family members report that feelings of family stigma have contributed to a sense of strain and distance within their family (Larson & Corrigan, 2008).

Previous studies suggest that higher levels of family stigma among adult child caregivers have been associated with stronger perceptions of caregiver burden (Park & Seo, 2016; Champion et al., 2009). Adult children of parents with depression or bipolar disorders report both emotional and instrumental forms of caregiver burden, affecting functioning at home, school, and work (Bauer et al., 2015). Children of parents with bipolar disorders, in particular, are even more likely to report impairments in work and school functioning due to the demands of caregiving as compared with children of parents with depression (Bauer et al., 2015). Existing research suggests that the degree to which a family member perceives the caregiving relationship as burdensome may influence the family member's response to caregiving-related stressors (Clyburn et al., 2000; Lazarus & Folkman, 1984). For example, in their study of 100 mothers of children with learning disabilities, Banga and Ghosh (2016) assessed the role of perceived caregiver burden in mothers' response to family stigma. They found that perceived burden mediated the relationship between family stigma and psychological well-being, such that mothers who perceived their relationship with their child as more burdensome generally reported lower levels of psychological well-being in response to family stigma (Banga & Ghosh, 2016). As perceptions of burden are associated with feelings of maternal responsibility (Peisah et al., 2004), these findings suggest that maternal responsibility may be a salient factor in the relationship between individual

well-being and family stigma among adult children of parents with mental illness. However, the importance of adult children's sense of maternal responsibility to their experiences of family stigmatization has yet to be empirically examined.

Previous research suggests that young adults' views of mother-child relationships are defined by both feelings of burden and responsibility, and feelings of closeness and regard (Peisah et al., 2004). Prior studies indicate that the experience of family stigma among adult children of mothers with mental illnesses may be associated with reduced feelings of closeness and maternal regard (Murphy et al., 2014; Yao et al., 2020). Previous research also suggests that feelings of emotional neglect among children of mothers with bipolar disorders can contribute to the development of children's own mood-related symptoms (Doucette et al., 2016). However, studies of felt obligation among adult children coping with a parent's mental illness suggest the importance of close, positive relationships between adult children and their parents. Felt obligation includes an adult child's desire to maintain contact, share personal information, and stay close and connected with parents (Stein, 2009). Previous research suggests that adult children who report higher levels of felt obligation toward a mother with a mental illness also generally report fewer mental health symptoms, less social isolation, and higher levels of psychological well-being (Abraham & Stein, 2010). Additionally, adult caregivers of parents diagnosed with depression or bipolar disorder often report increased feelings of closeness within the parent-child relationship and, as a result, describe the caregiving relationship as rewarding (Bauer et al., 2015). Despite these previous findings, the degree to which feelings of maternal regard might lessen feelings of family stigma among adult children of mothers coping with mood disorders is currently unclear.

The Role of Parental Relationships in Young Adulthood

The parent-child relationship plays an integral role throughout children's lives and into adulthood (Horstman et al., 2016). Young adulthood, in particular, can be a turbulent period in the parent-child relationship, as young adult children seek to balance parental expectations with an increasing sense of independence from their family (Serewicz, 2013). These changes are often accompanied by financial insecurity, shifting social relationships, and rapid professional development (Arnett, 2007). Adult children often look to their parents for guidance in navigating these types of life changes (Serewicz, 2013). As young adults primarily look to the parental relationship as a source of guidance and support, the desire for independence and

individuation can take precedence over feelings of responsibility toward the parent (Horstman et al., 2016; Peisah et al., 1999). In their literature review on communication within the parent-child relationship, Horstman and colleagues (2016) suggest that mothers play a significant role in shaping their children's understanding of familial and gender role expectations. Horstman and colleagues further suggest that, whereas sons are often taught to view familial caregiving as a duty to be fulfilled, daughters are more likely to receive messages that caregiving is performed out of a sense of affection (Horstman et al., 2016). Differential role expectations for sons and daughters can have a significant impact on how women and men relate to their mother and other family members in adulthood (Horstman et al., 2016).

Prior research highlights the complexity of parent-child relationships for children of mothers coping with mental illnesses (Petrowski & Stein, 2016; Murphy et al., 2014; Aldridge, 2006). Studies suggest that children of mothers with a mental illness often report a sense of role reversal wherein they assume a 'parent' role in the mother-child relationship and must deal with feelings of responsibility and burden (Abraham & Stein, 2013). Instead of looking to their parents for guidance, feelings of burden and role reversal may require young adults to balance personal aspirations and goals with their responsibilities as a family caregiver. High levels of maternal responsibility and the demands of caregiving may be a significant source of stress among young adult children of mothers with mood disorders (Peisah et al., 2004). Previous research suggests that the demands of caregiving may be particularly significant for daughters of mothers with mood disorders, as daughters are more likely than sons to provide care for their mother (Aldridge, 2006). There is also evidence to indicate that adult daughters of parents with depression are more likely than adult sons to develop depressive symptoms themselves, which may suggest that women might be particularly affected by maternal mood disorders (Lee et al., 2020).

In families in which a parent is coping with mental illness, young adults' feelings of parental closeness and support have been associated with higher reported levels of psychological well-being (Horstman et al., 2016). In a study of young adult daughters of mothers with mental illness, Petrowski and Stein (2016) found that a close, positive maternal relationship was associated with daughters' increased desire for contact and personal sharing, and a sense of personal growth. Previous findings also suggest that young adult children may be less likely to look to their parents for guidance if they do not feel supported within the parent-child relationship (Horstman et al., 2016). Further research is needed to better understand whether the

mother-child relationship is differentially related to experiences of family stigma and personal well-being for sons and daughters whose mothers are coping with mental illness.

Present Study

The present study examined the roles of maternal responsibility and regard in understanding feelings of family stigma and individual well-being among young adult children of mothers diagnosed with a mood disorder. We assessed differences in young adults' reports of maternal responsibility, maternal regard, family stigma, and psychological well-being as a function of demographic characteristics that included participant gender, current living situation, and maternal mental health diagnosis. We then examined the degree to which young adults' reports of responsibility and regard toward their mother mediated the relationship between their views of family stigma and their reports of psychological well-being. Based on previous research, it was expected that young adults who reported higher levels of responsibility towards their mother would be more likely to report lower levels of individual well-being in response to family stigma, regardless of demographic characteristics and maternal diagnosis. It was also hypothesized that young adults who reported higher levels of maternal regard would also be more likely to report higher levels of individual well-being in response to family stigma, after accounting for variation in demographic characteristics and maternal mental health diagnosis.

Method

Sample Characteristics

The present sample consisted of 172 young adults (123 women and 49 men) who reported having a mother diagnosed with major depressive disorder (56%), bipolar disorder (34%) or persistent depressive disorder (9%). Demographic information for the sample is summarized in Table 1. The participants were mostly White (76%), with a mean age of 23 years old ($SD = 1.8$). Over half of the present sample (53%) indicated that they were currently living with their mother. A majority of the sample also reported that they were currently employed (80%) and had completed a four-year college degree (69%). Approximately 45% of the sample reported that they had a mental health diagnosis. Regarding participants' mothers, the average reported age of adults' mothers was 53 years old ($SD = 6.6$). A majority of participants reported that their mother was currently married (56%), currently employed (56%), and had a high school education (53%).

Table 1 Participant and mother demographic and mental health information

Demographics	Group size	Percentage
Participant gender		
Female	123	71.50%
Male	49	28.50%
Participant ethnicity		
White	130	75.60%
Black/African American	13	7.60%
Asian/Pacific Islander	8	4.70%
Hispanic/Latino	11	6.40%
Other	10	5.80%
Participant employment status		
Employed	138	80.20%
Student	23	13.40%
Not currently employed	11	6.40%
Participant education		
High school (or GED)	53	30.80%
College degree	119	69.20%
Participant diagnosis		
No diagnosis	94	54.70%
Mood disorder	28	16.20%
Anxiety disorder	11	6.40%
Two or more diagnoses	35	20.30%
Participant living situation		
Lives with mother	91	53.00%
Does not live with mother	81	47.00%
Mother's marital status ^a		
Currently married	97	56.40%
Currently not married	75	43.60%
Mother's employment status ^a		
Employed	97	56.40%
Not currently employed	75	43.60%
Mother's education ^a		
High school (or GED)	91	52.90%
College degree	81	47.10%
Mother's diagnosis ^a		
Major depressive disorder	97	56.40%
Persistent depressive disorder	16	9.30%
Bipolar disorder	59	34.30%

Note. $N = 172$

^aAs reported by participant

Procedure

Upon receiving approval from an Institutional Review Board at a midwestern university, we posted an online survey on Amazon's Mechanical Turk (MTurk). To be eligible for the study, adults needed to be between the ages of 18 and 25, live in the United States, speak English, and

have a mother who was currently living and diagnosed with either major depressive disorder, bipolar disorder, or persistent depressive disorder. According to previous studies, participants recruited from MTurk have been found to produce reliable data comparable with participants gathered from university research pools and other on-line recruitment sources (Buhrmester et al., 2011; Casler et al., 2013). Additionally, samples recruited via MTurk have rates of attrition bias that are comparable to other recruitment methods (Schleider & Weisz 2015).

Participants were presented with a short description of the study and an informed consent document, and then asked to respond to survey items. Individuals received \$1.50 for their participation in the study. Consistent with best practices for online research (Goodman et al., 2013; Casler et al., 2013), the survey included four “attention check” items to assess participant attentiveness. Additionally, participants were asked to provide some information regarding their mother’s mental health symptoms twice throughout the survey as a consistency check. Participant data that reflected inconsistent responding to repeated survey items or incorrect responses on multiple attention checks were excluded from the present research. Of the 790 initial surveys attempted on MTurk, 483 surveys were excluded from the sample due to respondent ineligibility or incompleteness. An additional 135 surveys were excluded due to incorrect or inconsistent responses on attention and consistency checks, resulting in a sample of 172 young adults.

Measures

Parent Adult-Child Relationship Questionnaire–Mother Version (PACQM)

The PACQM (Peisah et al., 1999) is a 13-item self-report measure that was created to assess adult children’s perceptions of the mother-child relationship. The measure consists of a responsibility subscale (e.g., “*My mother’s difficulty in making decisions has been a burden on me.*”) and a regard subscale (e.g., “*My mother is my best friend.*”). Higher scores on both subscales indicate greater endorsement of that aspect of the relationship. The PACQM has been administered to clinical and non-clinical populations and has demonstrated strong psychometric reliability and validity (Peisah et al., 2004; Roper et al., 2020; Saeed & Hanif, 2014). In the present sample, the responsibility scale was found to possess acceptable internal consistency ($\alpha = 0.73$), and the regard scale was found to possess excellent internal consistency ($\alpha = 0.91$).

Devaluation of Consumer Families Scale (DCFS)

The DCFS (Struening et al., 2001) is a 7-item self-report measure designed to assess perceptions of the societal

devaluation and stigmatization of family members of people with a mental illness. Participants are asked to report their level of agreement with statements describing how people view family members of individuals with a mental illness (e.g., “*Most people look down on families that have a member who is mentally ill living with them.*”), with higher scores indicating a greater level of agreement. For the present study, the wording of some items was altered to represent a general familial relationship with a relative with a mood disorder. Factor analysis has indicated that the DCFS possesses strong construct validity (Struening et al., 2001). In the present sample, the DCFS was found to possess excellent internal consistency ($\alpha = 0.92$).

Ryff Scales of Psychological Well-Being

The Ryff Scales of Psychological Well-Being (Ryff, 1989) are a self-report measure designed to assess psychological well-being across several domains. For the present study, we utilized the Self-Acceptance, Positive Relations with Others, and Personal Growth scales (21 items in total). Each scale is composed of statements describing the corresponding element of psychological well-being (e.g., “*In general, I feel confident and positive about myself.*”, “*I know that I can trust my friends, and they know they can trust me.*”), with higher scores indicating a greater endorsement of well-being. For the present study, we calculated a mean score to assess overall psychological well-being (Ryff & Keyes, 1995). The Ryff Scales have been found to possess strong psychometric validity and measure six distinct constructs (Ryff & Singer, 2006). Each scale has also been found to possess high levels of test-retest reliability ($r = 0.81–0.88$; Ryff & Keyes, 1995). In the present sample, the overall mean score was found to possess excellent internal consistency ($\alpha = 0.93$).

Data Analyses

Analysis of variance (ANOVA) procedures were used to assess potential differences in participant scores on maternal responsibility, maternal regard, family stigma, and psychological well-being as a function of participant gender, current living situation, and maternal psychiatric diagnosis. Pearson correlations were calculated to assess associations among main study variables. Mediation analyses were conducted to assess the possible mediating roles of young adults’ perceptions of maternal responsibility and maternal regard within the relationship between family stigma and psychological well-being. To examine and compare the mediating roles of both maternal responsibility and maternal regard individually, we conducted two single mediation analyses with each factor of the mother-child relationship as a mediator. The first mediation analysis examined the

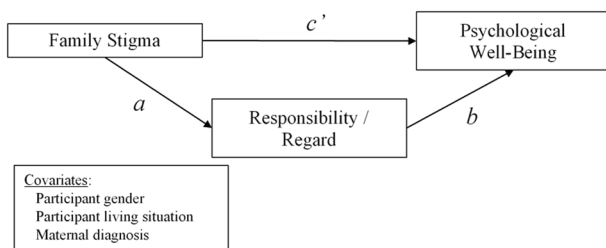


Fig. 1 Proposed mediational model. This figure visualizes the proposed mediational model regarding the role of young adults' feelings of maternal responsibility and maternal regard in the relationship between family stigma and psychological well-being. Specifically, this figure visualizes the direct effect of family stigma on psychological well-being (c') and the indirect effect of family stigma on psychological well-being through maternal responsibility or maternal regard ($a*b$). One mediation analysis examines the potential mediating effect of responsibility, and one mediation analysis examines the potential mediating effect of regard. Participant gender, participant living situation, and maternal diagnosis were included as covariates in both mediation analyses

potential mediating effect of maternal responsibility, and the second analysis focused on the potential mediating effect of maternal regard. The conceptual mediational model for these two analyses is illustrated in Fig. 1.

The proposed mediational model for both analyses posits that family stigma has both a direct effect on young adults' psychological well-being, and indirect effects on well-being dependent upon feelings of maternal responsibility and maternal regard. Participant gender, participant living situation, and maternal diagnosis were included as covariates in each mediation analysis. Although the cross-sectional nature of the present research precludes causal and temporal inferences, important relationships among study variables can be leveraged through the use of mediation analyses in cross-sectional research (Hayes & Rockwood, 2017). Previous cross-sectional studies have adopted similar mediational analyses to examine relationships between adults' reports of mental health stigma and variables such as perceived individual well-being, caregiver burden, depressive and anxious symptoms, and self-reported feelings of shame and guilt (Banga & Ghosh, 2016; Williamson et al., 2020).

Results

Preliminary Analyses

Results of a series of one-way ANOVAs found no significant differences in participant mean scores on family stigma or psychological well-being measures as a function of participant gender, living situation, or maternal diagnosis. Regarding the mother-child relationship, ANOVA results indicated that participants' reports of maternal

responsibility significantly differed as a function of their living situation, $F(1, 170) = 15.55, p < 0.001, \eta^2 = 0.84$. Overall, participants who reported that they were currently living with their mother reported higher levels of maternal responsibility ($M = 12.77, SD = 4.48$) than participants who indicated that they were not currently living with their mother ($M = 9.93, SD = 4.99$). Results indicate no significant differences in participant reports of maternal responsibility based upon participant gender or maternal diagnosis. ANOVA findings indicated that participants' reports of maternal regard significantly differed as a function of their mother's diagnosis, $F(2, 169) = 5.46, p = 0.005, \eta^2 = 0.06$. Overall, participants reported higher levels of regard when their mother was diagnosed with persistent depressive disorder ($M = 10.75, SD = 3.75$) or major depressive disorder ($M = 9.05, SD = 4.63$) than participants whose mothers were diagnosed with bipolar disorder ($M = 7.14, SD = 4.42$). There were no significant differences in participant reports of maternal regard based upon participant gender or living situation.

Pearson correlational analyses were conducted to assess relationships between main study variables. Young adults' maternal responsibility and maternal regard scores were significantly and positively correlated ($r = 0.24, p = 0.001$). Maternal regard scores were also significantly and positively correlated with scores on psychological well-being ($r = 0.40, p < 0.001$), such that participants who reported greater feelings of maternal regard also reported higher levels of psychological well-being. No significant relationship between maternal responsibility and psychological well-being scores was found ($r = 0.08, p = 0.312$). Scores on maternal responsibility ($r = 0.21, p = 0.005$) and maternal regard ($r = -0.19, p = 0.013$) were significantly correlated with family stigma scores, such that participants who reported higher levels of maternal responsibility also generally reported greater levels of family stigma, and those who reported higher levels of maternal regard also reported lower levels of family stigma. Family stigma scores were significantly negatively correlated with psychological well-being scores ($r = -0.29, p < 0.001$), such that higher family stigma scores were associated with lower psychological well-being scores. Results of correlational analyses, as well as mean scores and standard deviations of main study variables, are reported in Table 2.

Mediating Role of Maternal Responsibility and Regard

Mediation analyses were performed to assess the degree to which participants' reports of maternal responsibility and regard mediated the relationship between family stigma and psychological well-being. These analyses were conducted using the PROCESS macro for SPSS (Hayes, 2013). In the

Table 2 Correlation coefficient matrix for main study variables

Variable	Mean	SD	1.	2.	3.
1. PACQM1	11.45	4.92	–		
2. PACQM2	8.55	4.60	0.24**	–	
3. DCFS	15.99	4.89	0.21**	–0.19*	–
4. Ryff	4.07	0.83	0.08	0.40**	–0.29**

Note. $N = 172$. PACQM1 Responsibility, PACQM2 Regard, DCFS Devaluation of Consumer Families Scale, Ryff Ryff Psychological Well-being Scale

* $p < 0.05$, ** $p < 0.01$

present study, we followed the recommendation of Zhao and colleagues (2010) that direct effects among variables are not necessary to perform mediation analyses, and that a significant indirect effect is all that is necessary to demonstrate mediation. As noted by Zhao and colleagues (2010), a significant direct effect can be used to determine whether the direct and indirect effects are complementary, indicating the effects are either both positive or both negative, or competitive, meaning that the effects exist in opposite directions. Therefore, the terms “full mediation” and “partial mediation,” are not employed in the description of study findings, as they are no longer considered relevant in the interpretation of mediation analyses (see Hayes, 2018; Hayes & Rockwood, 2017; Zhao et al., 2010).

Participant reports of their gender, living situation, and maternal diagnosis were included as covariates in both mediation analyses. Although main study variables were not found to significantly differ as a function of participant gender, we decided to include gender as a covariate given previous evidence that role expectations for sons may differ from expectations for daughters in mother-child relationships (Horstman et al., 2016). Participant scores on all measures were mean-centered. Bootstrapped confidence intervals were calculated to assess the statistical significance of indirect effects in all mediation analyses utilizing 5000 resamples (Zhao et al., 2010). Additionally, the percentage of variance in the total effect that can be explained by the indirect effect, represented by the ratio of the indirect effect to the total effect (ab/c), was calculated to aid in the interpretation of indirect effect sizes (Preacher & Kelley, 2011).

Maternal Responsibility

The results of the mediation analysis conducted to assess the mediating effect of maternal responsibility scores in the relationship between family stigma and psychological well-being are presented in Fig. 2. Responsibility scores were found to have a significant positive indirect effect in the relationship between family stigma scores and psychological well-being scores, $b = 0.01$, 95% BCa CI [0.00, 0.01], $ab/c = -0.12$. The direct effect of family stigma on well-

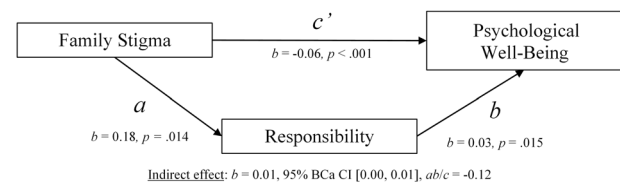


Fig. 2 Mediating effect of maternal responsibility on the relationship between family stigma and psychological well-being. This figure visualizes the direct effect of family stigma on psychological well-being (c') and the indirect effect of family stigma on psychological well-being through maternal responsibility ($a*b$). The confidence interval (95% BCa CI) for the indirect effect approaches, but does not contain zero, indicating that significant mediation has occurred. The ratio of the indirect effect compared to the total effect (ab/c) indicates that the indirect effect of family stigma on psychological well-being through maternal responsibility contributes to approximately 12% of the variance in psychological well-being scores

being was also significant. Further, the direct effect was negative, $b = -0.06$, $p < 0.001$, which indicates that there is a competitive mediating effect.

Maternal Regard

The results of the mediation analysis conducted to assess the mediating effect of maternal regard scores in the relationship between family stigma and psychological well-being are presented in Fig. 3. Regard scores were found to have a significant negative indirect effect in the relationship between family stigma scores and psychological well-being scores, $b = -0.01$, 95% BCa CI [-0.02, -0.00], $ab/c = 0.23$. Further, the direct effect was also found to be negative and significant, $b = -0.04$, $p = 0.001$, which indicates that there is a complementary mediating effect.

Discussion

Using a sample of 172 young adult children of mothers coping with mood disorders, the present study examined differences in young adults' reported perceptions of maternal responsibility, maternal regard, family stigma, and psychological well-being as a function of participant gender, living situation, and maternal mental health diagnosis. Present findings suggest that participants who reported that they currently lived with their mother reported higher levels of maternal responsibility than participants who reported that they did not live with their mother. Further, participants who reported that their mother had been diagnosed with bipolar disorder generally endorsed lower levels of maternal regard than participants who reported that their mother had been diagnosed with major depressive disorder or persistent depressive disorder. No significant mean differences were found in main study variables as a function of gender. Correlational findings suggest that young adults' reports of

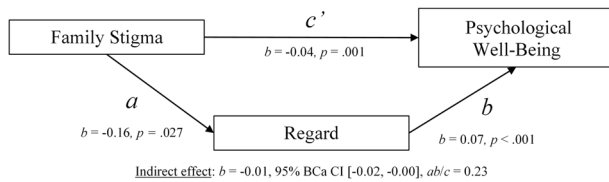


Fig. 3 Mediating effect of maternal regard on the relationship between family stigma and psychological well-being. This figure visualizes the direct effect of family stigma on psychological well-being (c') and the indirect effect of family stigma on psychological well-being through maternal regard ($a*b$). The confidence interval (95% BCa CI) for the indirect effect approaches, but does not contain zero, indicating that significant mediation has occurred. The ratio of the indirect effect compared to the total effect (ab/c) indicates that the indirect effect of family stigma on psychological well-being through maternal regard contributes to approximately 23% of the variance in psychological well-being scores

maternal regard, but not maternal responsibility, were significantly positively related to their perceptions of individual well-being. Findings also indicate that young adults' perceptions of maternal responsibility and regard were generally associated with higher levels of family stigma. Consistent with study hypotheses, after controlling for gender, living situation, and maternal diagnosis, it was found that young adults' reports of maternal responsibility and maternal regard contributed to a significant portion of the effect of family stigma on individual well-being. Specifically, participants' reports of higher levels of maternal responsibility contributed to a greater sense of well-being in response to higher levels of family stigma. Additionally, participants' reduced feelings of maternal regard generally contributed to lower levels of well-being in response to higher levels of family stigma.

Family Stigma, Psychological Well-Being, and Maternal Responsibility

Present findings suggest that young adults' feelings of maternal responsibility were a significant mediator, which contributed to approximately 12% of the variance in the relationship between family stigma and psychological well-being. Specifically, it was found that maternal responsibility had a competing mediational effect (Zhao et al., 2010), wherein the direct effect of family stigma on psychological well-being was negative, and the indirect effect of family stigma through maternal responsibility was positive. In other words, although findings suggest that higher levels of family stigma were generally associated with lower levels of psychological well-being, young adults who reported higher levels of family stigma were also more likely to endorse stronger feelings of maternal responsibility, and these stronger feelings of responsibility contributed to a greater sense of well-being. Whereas previous research suggests that feelings of responsibility are often

burdensome and related to lower psychological well-being (Park & Seo, 2016; Abraham & Stein, 2013), present findings suggest the need for a more nuanced view of the impact of feelings of maternal responsibility among young adults. However, present findings regarding the mediating role of maternal responsibility must be interpreted with caution, given the relatively weak effects from the mediation analysis, and the lack of a significant bivariate correlational relationship between participant scores on maternal responsibility and well-being measures.

Previous studies suggest that young adults' perceptions of higher levels of burden may contribute to lower levels well-being in response to family stigmatization (Banga & Ghosh, 2016). However, present findings may indicate that feelings of responsibility are not inherently burdensome and that maternal responsibility may contribute to higher levels of individual well-being. These results are consistent with previous findings that adults' reports of felt obligation toward their mother with mental illness were related to higher levels of psychological well-being (Abraham & Stein, 2010). However, in contrast to previous studies on family caregiving (Aldridge, 2006; Lee et al., 2020; Farzand & Baysen, 2018), present findings did not indicate that feelings of responsibility significantly differed as a function of participant gender. Regarding participant living situation, present findings indicated that young adults who currently live with their mother were generally more likely to report higher levels of maternal responsibility. This finding is supported by previous research which suggests that caregivers living with their loved one are more likely to endorse higher levels of caregiver burden (Pakenham, 2012). However, contrary to previous findings (Guan et al., 2020), young adults' perceptions of family stigma and feelings of well-being did not significantly differ based upon whether young adults currently lived with their mother. Although young adults living with a mother with a mood disorder may feel greater maternal responsibility, present findings suggest that a stronger sense of responsibility is not inherently related to increased feelings of stigmatization and a reduced sense of well-being. If replicated, present findings suggest a need for further research focused on differences between maternal responsibility, caregiver burden, and other relational constructs such as felt obligation in understanding how adults view relationships with their mother with a mood disorder.

Family Stigma, Psychological Well-Being, and Maternal Regard

Consistent with study hypotheses, present mediational findings suggest that young adults' perceptions of maternal regard played a significant mediating role and contributed to approximately 23% of the variance in the relationship

between family stigma and psychological well-being. Specifically, young adults' reports of maternal regard had a complimentary mediating effect (Zhao et al., 2010), such that adults' reports of family stigma had a negative direct effect on psychological well-being, and a negative indirect effect on well-being attributable to maternal regard. Although no causal inferences can be made due to the cross-sectional nature of the study, present findings suggest that higher levels of family stigma and lower levels of maternal regard are significantly related to lower levels of well-being among young adult children of mothers coping with mood disorders. These findings are consistent with previous research, which suggests that feelings of maternal closeness are positively associated with feelings of psychological well-being among adult children of mothers with a mental illness (Peisah et al., 2004; Petrowski & Stein, 2016; Abraham & Stein, 2010). Notably, it was found that young adult children of mothers with bipolar disorder reported less maternal regard than adult children who reported that their mother had a unipolar depressive disorder. This finding is consistent with previous research, which suggests that children of parents with bipolar disorders often report reduced feelings of warmth and connection and a sense of emotional neglect (Lau et al., 2018; Doucette et al., 2016).

Although adults with mothers with unipolar depressive disorders generally reported higher levels of regard than adults with mothers with bipolar disorder, present findings suggest that family stigma contributed to lower levels of regard and psychological well-being regardless of maternal diagnosis. One potential aspect of maternal regard that may contribute to reduced levels of well-being in the face of family stigma is the nature and quality of parental communication. Parent-child communication is thought to play an important role in establishing a sense of closeness and security within the parent-child relationship (Horstman et al., 2016). Hinshaw (2018) contends that family stigma among children of parents coping with mood disorders may contribute to a lack of parental closeness and communication. Previous findings suggest that children of parents coping with a mental illness who perceive a lack of open communication about their parent's mental illness generally report increased feelings of anxiety, isolation, and sadness relative to children who report more open parental communication (Dam et al., 2018). Research also suggests that a lack of communication within families with a mental illness, defined by concealment and a sense of secrecy around the mental illness, can contribute to family stigma (Larson & Corrigan, 2008). Although it was beyond the scope of the present study, it is possible that parental communication may have played a role in young adults' reports of maternal regard. Future research is needed to examine the role of parental communication in understanding connections between perceived family stigma, maternal regard, and

psychological well-being for adult children of mothers with mood disorders.

Present Study Limitations

Although thought provoking, present research findings are limited in several respects. The present study consisted of the views of a relatively small sample of young adult children of mothers with mood disorders who responded to an internet survey via MTurk. Our overall sample response rate of 21.8% is slightly lower than the average reported for internet samples (34.2%), although it is within the standard range of response rates (11.6% and 56.8%) reported for online samples (Poynton et al., 2019). We purposefully chose conservative criteria for retaining participant data in the present sample consistent with recommendations regarding attention checks using MTurk data collection methods (Goodman et al., 2013; Casler et al., 2013). However, the relatively low participant response rate may reflect sample selection bias and is recognized as a limitation of the study.

The predominantly White and college-educated nature of the present sample may also limit the generalizability of present findings. Socioeconomic status, race, and ethnicity help to shape family relationships (Conger et al., 2010) and it is unclear how different familial background characteristics may relate to perceptions of family stigma and well-being for adult children with a parent coping with mental illness. A larger sample may have also yielded differences in young adults' reports of well-being related to maternal diagnosis, as indicated by prior research (Mowbray & Mowbray, 2006). Present findings need to be replicated with larger, more diverse samples to better understand how the experiences of family stigma and the maternal relationship may differ based on sociocultural factors or maternal diagnosis. Additionally, no conclusions can be made about the directionality of present findings, given the cross-sectional design of the present study. Although mediation analyses are often used in cross-sectional research, the exclusive use of cross-sectional, self-report data is recognized as a limitation of the present research. Longitudinal research is needed to understand causal relationships among mother-child relationships, family stigma, and well-being for adult children of parents with mental illness.

It is also important to note that about 45% of adults in the present study reported having a psychiatric diagnosis. Similar to prior research, present study findings suggest that young adults engage in ongoing relationships with parents coping with mental illness while simultaneously coping with their own mental health challenges (Petrowski & Stein, 2016). As previous research has suggested that 25% of adults with a sibling living with mental illness report a

diagnosed mental health condition (Stein et al., 2020), present findings may indicate that adults with a parent with a mental illness may be relatively more likely to be diagnosed with a mental illness themselves. The present study is based on participant self-report, and no attempt was made to corroborate psychiatric diagnosis or other information provided by participants. Further research with larger and diverse samples is necessary to further explore diagnostic considerations regarding adult children and their loved ones with mental illness.

Future Directions

The present study highlights the importance of the mother-child relationship in the experiences of family stigma and psychological well-being among young adult children of mothers with mood disorders. Previous studies have focused primarily on associations between reports of higher levels of caregiver burden and lower levels of individual well-being for adults coping with parental mental illness (Park & Seo, 2016; Champion et al., 2009). However, if replicated, present findings support a more nuanced approach to understanding maternal relationships among adult children of mothers with mood disorders. Our results suggest that adults' feelings of maternal responsibility may not be perceived as inherently burdensome, and that maternal regard may play a larger role than maternal responsibility in young adults' experience of family stigma. Present findings suggest the need to study both rewarding and challenging aspects of these young adults' experiences of maternal relationships. Such an approach may facilitate greater understanding of the ways that family ties influence individual well-being and perceptions of family stigma.

Although formal, instrumental caregiving has been associated with reports of higher levels of caregiving burden and family stigma (Pakenham, 2012), present findings suggest that young adults' feelings of responsibility toward their mother may be associated with increased feelings of well-being when responsibilities are viewed as less burdensome. Future research on the experiences of adult children of mothers diagnosed with mood disorders would do well to examine more varied forms of caregiving that may be undertaken by young adults. Historically, family members have played a prominent role in advocating for improved mental health care policy and treatment for individuals with mental illnesses (Evans & McGaha, 1998). Family members often engage in social advocacy activities to support their loved one with mental illness (Sommer, 1990). Advocacy engagement has also been associated with improved levels of individual well-being and self-efficacy among caregivers (Montague & Eiroa-Orosa, 2017). Social advocacy may provide an additional avenue for adult children to demonstrate their caring for a parent coping with

mental illness. Given that family stigma relies on negative stereotypes and misinformation about people with mental illnesses, understanding young adults' perceptions of social advocacy and activism as a form of family caring may also help to inform interventions designed to address family stigmatization.

Present findings highlight the importance of maternal closeness and maternal regard as it relates to adult children's experience of family stigma and psychological well-being. Previous research underscores the importance of closeness and regard for the parent-child relationship in young adulthood (Horstman et al., 2016), and the importance of close, open parental relationships in reducing a sense of secrecy and stigmatization in families with parental mental illness (Hinshaw, 2018). Family interventions may benefit from working to increase feelings of closeness and regard in adults' relationships with their parents coping with mental illness. For example, Beardslee's Family Intervention has been found to successfully foster a sense of parent-child closeness, improve parent-child communication, and reduce child internalizing symptoms among children of parents with mental illnesses (Beardslee et al., 2003; Pihkala et al., 2012). Interventions designed to address family stigma among adult children of parents with mood disorders may help increase feelings of closeness and open communication. Present study findings regarding the mother-child relationship provide an important first step for future research and interventions to address the needs of adult children in families coping with maternal mental illness.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

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