Mediating and Moderating Effects of Differentiation of Self on Depression Symptomatology in a Rural Community Sample

Lisa M. Hooper[1] and Venita DePuy[2]

Abstract
Differentiation of self—a core construct of Bowen's family systems theory, which represents psychological health and healthy functioning—was examined as a possible predictor of depression and as a mediator and moderator of the relation between family conflict (F-CON) and depression symptomatology (DEP). A total of 60 racially diverse adults ($M = 41.20$, $SD = 8.53$) from a rural community participated. All data were obtained from standardized self-report questionnaires measuring family variables (F-CON and differentiation of self) and psychological outcome (DEP). F-CON and differentiation of self were correlated with and predictive of DEP. A multivariate, multiple regression model revealed that differentiation of self partially mediated the effects of F-CON on DEP. However, results from a hierarchical regression model showed that differentiation of self did not moderate the relation between F-CON and DEP. Taken together, these preliminary findings provide evidence of the importance of the associations between family systemic factors (F-CON and differentiation of self) and DEP. Implications and directions for future research and family counseling are put forward.

Introduction

Natural systems theory posits that all organisms are guided by processes common in nature (Bowen, 1978; Kerr & Bowen, 1988; Papero, 1990; Titelman, 1998). Bowen's family systems theory (Bowen, 1978) builds on natural systems theory by incorporating the "differentiation of self" principle. The individual's core duty is to "differentiate" himself or herself from the family of origin, and previous generations' behavior and level of functioning influence this process and the current functioning of the individual. Among the factors that differentiate individuals from their family of origin, Bowen includes the individual's coping behaviors and abilities regarding others' anxiety and emotions in conjunction with the individual's own anxiety and emotions. Whereas traditional natural systems theory emphasizes intrapsychic processes, Bowen's theory emphasizes both intrapsychic and interpersonal processes (cf. Bowen, 1978; Kerr & Bowen, 1988; Skowron & Friedlander, 1998).

Intrapsychic processes relate to one's ability to separate thinking from feeling. A more differentiated person is able to balance thinking and feeling, is able to experience strong emotions while being objective, and can resist emotional reactivity (ER) and impulsive behavior. Thus, from the intrapsychic view, differentiation of self can be defined as a healthy emotional detachment, or the ability to maintain objectivity by separating emotion from cognition (i.e., feeling from thinking), even during times of family- and individual-level intensity, stress, adversity, and trauma.

Interpersonal processes relate to one's ability to engage or be intimate with others while still maintaining a sense of independence or autonomy. From an interpersonal perspective, differentiation of self is a phenomenon experienced on a continuum, not as an either/or phenomenon, using personal principles as a guide. From a combined intrapsychic and interpersonal perspective, more differentiated individuals evince both a closeness to and separateness from their family of origin and are less influenced by and reactive to others' behaviors and opinions. In contrast, less differentiated individuals have trouble separating thinking and feeling and separating self from

[1] Department of Educational Studies in Psychology, Research Methodology and Counseling, University of Alabama, Tuscaloosa, AL, USA
[2] Apex, NC, USA

Corresponding Author:
Lisa M. Hooper, Department of Educational Studies in Psychology, Research Methodology and Counseling, University of Alabama, Box 870231, 315 B Graves Hall, Tuscaloosa, AL 35487, USA
Email: lhooper@bamaed.ua.edu

others. Such people may react emotionally, have little autonomy, and are often fused with others who lack the ability to cope during times of adversity (Bowen, 1978).

Importantly, Bowen's construct of differentiation of self is useful in understanding possible health-related outcomes (e.g., emotional, physical, or psychological outcomes) evinced in the family system and thus among family members. Bowen (1978) asserted that healthy functioning in general and healthy relational functioning in particular can be measured by the degree of self-differentiation. Bowen and colleagues (Kerr & Bowen, 1988) argued that level of differentiation predicted functioning across the life span. According to this argument, it is plausible that persons with higher levels of differentiation of self experience fewer negative mental and physical health outcomes during times of individual and familial stress and adversity. The current study tested this hypothesis.

The current study used a Bowenian family systems framework to examine the relations between the family environment (family conflict [F-CON]), differentiation of self, and depression. Specifically, given the literature base and the prevalence rates of depression (Kessler et al., 2005), research suggests that a variety of domains (e.g., family system) must be examined when considering explanations related to depression. Thus, we considered a family systems framework and family systems factors (F-CON and differentiation of self) as possible correlates and predictors of depression. We also considered differentiation of self as a mediator and moderator of the relation between F-CON and depression. A significant strength of using Bowen's family systems theory to better understand depression is that it considers (1) the influence of multiple generational systems and functioning on past and current individual-level functioning and symptoms, (2) the bidirectionality and complexity of relationships and behavior, and (3) the links between family and individual risk and protective factors (Wood, 1993). In other words, Bowen's family systems theory considers multiple levels and systems, rather than just individual-level factors, in making meaning of behaviors, conditions, psychopathology, psychological growth, and distress (Bartle-Haring & Lal, 2010; Fisher & Weihs, 2000; Hooper, Marotta, & Lanthier, 2008). Our study builds on this theory by testing the effects of a family-level factor (F-CON) and an individual-level factor (differentiation of self) on psychological outcomes (depression symptomatology [DEP]).

Rationale for the Current Study

The current study adds new information to the literature base on differentiation of self in the following three ways. First, the current study explores the construct differentiation of self in a racially diverse, rural, community sample—one of the most understudied populations in the United States (Probst, Moore, Glover, & Samuels, 2004). Moreover, most studies have been limited by primarily White American college student populations. Second, informed by Skowron and colleagues' (Skowron, Wester, & Azen, 2004) research design and data analytic procedure (i.e., mediation and moderation modeling),

the current study attempts to add to their findings by replicating their study of 126 undergraduate college students. Third, the current study considers two important family system constructs (F-CON, differentiation of self) in conjunction with a significant public health concern (depression), which separately and taken together have implications for the individual and the family system. A brief, current review of the literature underscores these previously mentioned gaps, and thus the need for the study.

Background

An examination of the empirical literature base reveals that family systems theory has long been used to understand the risk and protective factors related to psychological stress, mental health disorders, and medical conditions (Hooper, 2007; Hooper, Burnham, & Richey, 2009; Lohman & Jarvis, 2000; Minuchin, Rosman, & Baker, 1978; O'Connor, Hetherington, & Reiss, 1998; Rothbaum, Rosen, Ujiie, & Uchida, 2002; Wood, Klebba, & Miller, 2000). In particular, research on Bowenian family systems theory has shown that low levels of differentiation have been linked with psychopathology and distress (Appel-Kim, Appel, Newman, & Parr, 2007; Roytburd & Friedlander, 2008; Tuason & Friedlander, 2000), poor adult relationships (Skowron, 2000; Tuason & Friedlander, 2000), medical conditions (Murray, Daniels, & Murray, 2006), and difficulties with the family of origin (Schwartz, Thigpen, & Montgomery, 2006), whereas high levels of differentiation have been linked with psychological health and well-being (Chung & Gale, 2006; Murdock & Gore, 2004; Skowron, 2000; Skowron et al., 2004; Skowron, Stanley, & Shapiro, 2009), spiritual health (Jankowski & Vaughn, 2009), academic success (Skowron, 2000), resilience in the face of childhood adversity (Hooper et al., 2008), positive adult relationships (Peleg, 2008), and better relationships with the family of origin, even when trauma or neglect has occurred (Bowen, 1978).

Many of these studies have been informed in the operationalization of Bowen's differentiation of self by Skowron and colleagues. Borrowing from Bowen and the underpinnings of his work, Skowron and Friedlander (1998) operationalized four factors that influence a person's level of differentiation: (a) ER (i.e., the degree to which someone responds to stressful situations with extreme emotion), (b) emotional cutoff ([EC] i.e., the degree to which someone responds to intimacy by distancing or overfunctioning), (c) fusion with others ([FO] i.e., the degree to which someone becomes overinvolved with others), and (d) the ability to take an I position ([IP] i.e., a clearly defined sense of self). Many studies have used Differentiation of Self Inventory by Skowron and colleagues (Skowron & Friedlander, 1998; Skowron & Schmitt, 2003) to measure differentiation of self. The next section reviews some of the clinical and research literature that buttress the current study.

Differentiation of Self and Health

Bowen and colleagues (Bowen, 1978; Kerr & Bowen, 1988; Titelman, 1998) proposed that problematic health and family

functioning is a result of the cumulative effects of past generations and family functioning on current generations and family functioning. Specifically, dysfunction and possibly poor health in one generation are often passed down to the next generation. Thus, in addition to studying individual health, Bowenian family systems theory allows for the study of the family system, or the emotional unit (Titelman, 1998).

Relations Between Differentiation of Self and Psychological Health

In recent years, several researchers have examined the predictive value of differentiation of self. The empirical literature related to differentiation of self as a predictor of health and distress has been particularly robust, although limited by samples primarily consisting of college student participants.

A recent study found a significant relation between mood and differentiation of self (with the latter being operationalized as EC and ER; Wei, Vogel, Ku, & Zakalik, 2005). Wei et al. (2005) explored the mechanisms through which early family relationships may have a deleterious effect on current distress and functioning. Specifically, in their study of 229 college student participants, differentiation of self (viz., ER) had a unique effect on negative mood. The authors suggested that people who use ER as a long-term coping strategy to manage stress and anxiety in the family system may be more likely to eventually experience a diagnosis of anxiety or depression.

In another study composed of college student participants, Skowron et al. (2004) examined the extent to which differentiation of self mediated and/or moderated the relation between college stress and adjustment. Their results showed support for a model of mediation but not moderation. As expected, college stress was associated with lower levels of differentiation of self. The opposite was true for adjustment; as differentiation of self increased, so too did the level of positive adjustment in their study sample.

In another study that examined the predictive value of differentiation of self, Skowron (2000) made two important findings. The first major finding was that in marriages, high combined levels of differentiation of self (i.e., high differentiation of self among both partners) predicted greater marital satisfaction, whereas low combined levels of differentiation of self predicted greater marital distress. In this study, couples' differentiation scores explained 74% of the variability in marital satisfaction for husbands and 61% of the variability in marital satisfaction for wives. This finding suggests the predictive power and theoretical soundness of the differentiation of self-construct.

The Skowron (2000) study also supported Bowen's (1978) hypothesis regarding couples' potential complementary styles of coping with stress and anxiety. The study identified patterns among husbands who were emotionally cutoff and wives who were emotionally reactive. This complementary style was more evident among the couples reporting marital discord. Skowron asserted that this push-and-pull creates an environment for the couple that yields enough connection and distance for both members to be content. That is, the process of EC allows for enough space, and ER engenders enough closeness.

Differentiation of Self and Racially Diverse Populations

Less is known about how and to what extent differentiation of self mediates or moderates mental and medical conditions and wellness among racial minority populations. However, a few researchers have begun to investigate the translatability of findings observed in racial majority samples to racial minorities. For example, Skowron (2004) explored the relevance and application of culture and differentiation of self for psychological health and adjustment among a sample of 61 racial/ethnic minority participants attending a large university. Skowron investigated the extent to which there were differences between the racial minority sample's Differentiation of Self Inventory scores and the racial majority sample's Differentiation of Self Inventory scores. The analysis that was performed revealed no significant differences between scores for non-Hispanic White participants and for racial minority participants.

Tuason and Friedlander (2000) examined the association between psychological distress and level of differentiation among families, as well as the transmission of differentiation level across generations. They also explored the cross-cultural applicability of Bowen's theory. Specifically, their study was conducted in the Philippines with a sample of 306 mothers, fathers, and adult children. Tuason and Friedlander found that level of differentiation predicted both symptomatology and trait anxiety. For example, increased differentiation scores were associated with psychological distress (i.e., Symptom Checklist-90–R [SCL]: $r = .72$). For parents, differentiation and psychological distress existed in an inverse relationship.

A study that explored the buffering effects of differentiation of self on acculturative stress and depressed mood among a sample of Korean and White American college students (Chung & Gale, 2006) found that differentiation of self was a significant correlate and predictor of psychological health; however, it was a stronger predictor for the White American participants than for the Korean American participants. The authors reported a significant inverse relation between mood and level of differentiation of self: the greater the level of differentiation, the lower the level of depressed mood.

Although these studies, among others, are informative and relevant to the current study, most of them have been conducted with college student participants. Currently, the literature offers little information transferable to more inclusive and diverse populations. Filling a gap in the literature, the current study investigates differentiation of self in a racially diverse, rural adult community sample.

Hypotheses

The primary objective of this study is to better understand the relation between F-CON and DEP. Because differentiation of self is purported to be directly linked to the family context and to psychological health at the individual level, one can
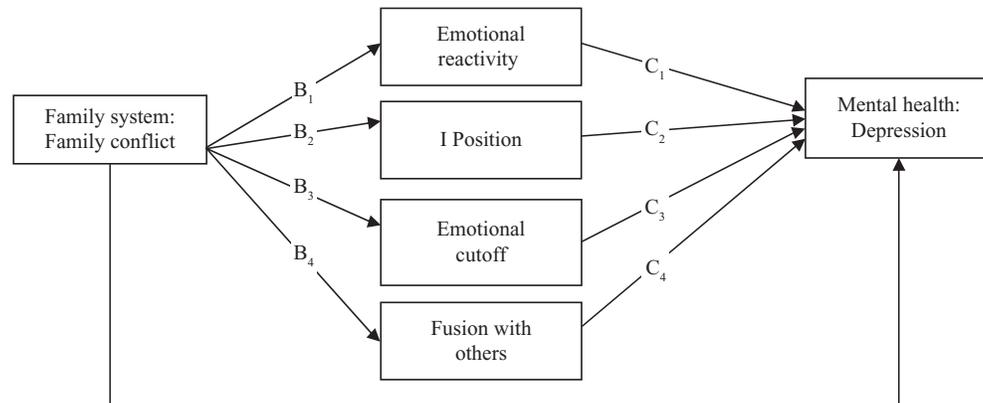
Figure 1A: Hypothesis 1
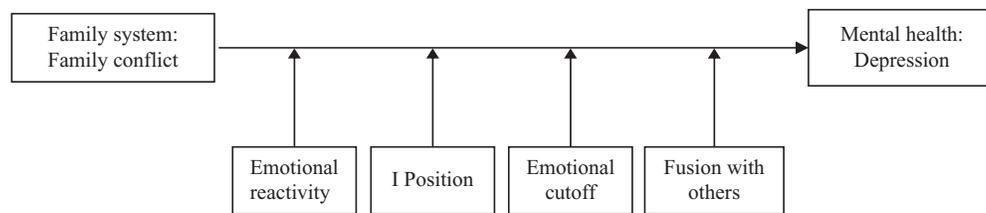

Figure 1B: Hypothesis 2

Figure 1C: Hypothesis 3

Figure 1. Simple Regression (Hypothesis 1), Mediation (Hypothesis 2), and Moderation (Hypothesis 3) Models: The Relations between the family environment, differentiation of self, and mental health. Adapted from "Differentiation of Self Mediates College Stress and Adjustment," by E. A. Skowron, S. R. Wester, and R. Azen, 2004, *Journal of Counseling and Development, 82, 71.*

hypothesize that differentiation of self may play a key role in mediating or possibly even buffering (i.e., moderating) this process and outcome. Therefore, higher levels of F-CON and higher levels of differentiation of self may help predict lower levels of DEP or psychological distress.

As previously mentioned, differentiation of self pertains to the ability to maintain emotional objectivity during high levels of anxiety in a system, while concurrently relating to key people in the system, as proposed by Bowen (1978). In the current study, differentiation of self is conceptualized to include the four factors operationalized in the Differentiation of Self Inventory (Skowron & Friedlander, 1998; Skowron & Schmitt, 2003): ER, EC, FO, and the ability to take an IP.

In addition to exploring the bivariate relations between the study variables (i.e., F-CON, differentiation of self, and DEP), three hypotheses were tested in this study, as illustrated in Figure 1. Differentiation of self was proposed to be related to and a possible mediator (see Figure 1B) and moderator (see Figure 1C) of DEP in the context of a conflictual family environment (e.g., aggression in the family environment) because of the outcomes related to differentiation of self and

psychological health evinced in the clinical and research literature (Murray et al., 2006; Skowron et al., 2004; Wei et al., 2005). Thus, informed by the literature base—in particular the theoretical and statistical modeling proposed by Skowron et al. (2004), the following three hypotheses were tested:

Hypothesis 1. Conflictual family environment (F-CON) is hypothesized to have a direct linear effect (a significant predictor) on DEP. This hypothesis was tested using a simple linear regression with F-CON scores regressed on DEP scores (Figure 1A).

Hypothesis 2. Differentiation of self (operationalized as ER, IP, EC, and FO) will mediate the effects of F-CON on DEP. This hypothesis was tested using recommendations outlined by Baron and Kenny (1986) and Frazier, Tix, and Barron (2004) (Figure 1B).

Hypothesis 3. Differentiation of self (operationalized as ER, IP, EC, and FO) moderates/buffers the effects of F-CON on DEP. This hypothesis was tested using recommendations outlined by Baron and Kenny (1986) and Frazier et al. (2004; Figure 1C).

Method

Participants

A community sample of 85 racially diverse participants, primarily women, volunteered to participate in the study. A total of 25 participants were excluded because they had a significant amount of missing data. However, we do not have information regarding the reason for incomplete questionnaires. Thus, the final study sample was 60 adult community participants. The participants ranged in age from 20 to 66 ($M = 41.20$, $SD = 8.53$), and all lived in a rural region of the United States. The self-reported race of the participants was diverse; more than half of the participants in the study were non-Hispanic Black American ($n = 41$; 69%). The remaining participants were non-Hispanic White American ($n = 17$; 28%), or did not report their race ($n = 2$; 3%). The racial composition of the sample is representative of the racial makeup of the communities from which the sample was drawn. With regard to educational background, the sample was also diverse: 10% reported some high school; 37% reported completing high school; 28% reported completing some college, and 25% reported being a college graduate.

Procedure

We used flyers, invitation letters, e-mail, and telephone voice-mail messages to recruit participants in the community. When participants were contacted by phone, the researchers used a telephone script similar to the description in the invitation letters, which explained the purpose of the study: an exploration of the link between the family environment and emotional health.

Data collection took place during evening hours at local schools. Participants were provided with detailed information about the purpose of the study, an informed consent form, and a packet of self-report questionnaires. All participants were afforded the opportunity to ask questions about the study. The principal investigator and trained graduate-level research assistants administered the questionnaires. On average, participants took approximately 30 to 40 min to complete the questionnaires. Participants each received $10.00 for volunteering their time. All study procedures were approved by the University Institutional Review Board.

Measures

Demographic information. A questionnaire created for the current study asked participants for background information regarding current age, gender, marital status, race/ethnicity, educational background, and country of origin.

Differentiation of Self Inventory—Revised (DSI-R). The DSI-R (Skowron & Schmitt, 2003) is a 46-item self-report inventory used in the study to measure individuation, coping, and psychological health. The DSI-R was designed to capture Bowen's (1978) construct of differentiation of self. Participants responded using a 6-point Likert scale (1 = *not at all true of me*, 6 = *very true of me*). Full-scale and subscale scores range from 1 to 6, with higher scores reflecting a greater level of differentiation (i.e., individuation and psychological health).

The four subscales include ER, IP, EC, and FO. The ER subscale includes 11 questions and reflects the extent to which one responds to anxiety-provoking situations with an increased emotion (e.g., "People have remarked that I am overemotional"). The IP subscale includes 11 questions and refers to one's sense of self and one's ability to communicate and stand by his or her convictions (e.g., "No matter what happens in my life I know that I will never lose my sense of who I am"). The EC subscale includes 12 questions and indicates how much one avoids or fears intimacy (e.g., "I tend to distance myself when people get too close to me"). Finally, the FO subscale includes 12 questions and assesses the extent to which one is overinvolved with or overidentifies with others (e.g., "I tend to feel pretty stable under stress"). Higher scores on the ER, EC, and FO subscales indicate lower levels of differentiation of self, and lower scores on the IP subscale reflect a greater level of differentiation of self (Skowron & Schmitt, 2003).

In the initial validation study of the original DSI, Skowron and Friedlander (1998) proffered support for the DSI's construct validity, in that the level of differentiation correlated with chronic anxiety. Specifically, the DSI full-scale score significantly predicted trait anxiety ($r = .64$, $p < .0001$). Correlations between trait anxiety and the four subscales were also significant. In the initial validation study (Skowron & Friedlander, 1998), the subscale/full-scale correlations were moderate to high, ranging from .43 to .80. More recently, Skowron and Schmitt (2003) have reported internal consistency among the DSI-R scores ranging from .81 to .92. Cronbach's α coefficients were very good in the current study and ranged from .71 to .87 (ER α = .87; IP α = .73; EC α = .85; and FO α = .71).

Family Environment Scale (FES). The Family Environment Scale (FES; Moos & Moos, 1981) was used to obtain current information about the participants' family characteristics, environment, and climate. The FES is a 90-item, self-report measure consisting of 10 subscales. Taken together, scores derived from the subscales create a profile or typology of the participant's family environment and interaction patterns. Specific to the current study, one subscale from the FES was used to assess the family environment, relationships, and interaction patterns: F-CON. Participants were asked to indicate how much they agreed with 10 statements using a 6-point Likert scale (1 = *strongly agree* to 6 = *strongly disagree*). Higher scores on the F-CON scale indicate a greater level of F-CON. A sample item for F-CON is "Family members sometimes get so angry they throw things."

The FES is widely used to measure family climate, context, and behaviors (Moos & Moos, 1981). The reliability of this instrument's scores has been shown to produce Cronbach's αs ranging from .50 to .90 (Boyd, Gullone, Needleman, & Burt, 1997; Chipuer & Villegas, 2001; Loveland-Cherry, 2006;

Waldron, Sabatelli, & Anderson, 1990). In the current study, reliability for the F-CON subscale score was assessed using Cronbach's α. Cronbach's α for the current study sample was .64.

Beck Depression Inventory (BDI)

The Beck Depression Inventory (BDI; Beck, Steer, & Brown, 1996) is composed of 21 self-report questions that capture depressive symptomatology. Scores for each item range from 0 to 3. The maximum possible total score is 63, and higher scores reflect greater severity of DEP and a greater likelihood of a diagnosis for major depression disorder. If all BDI items are recorded, the BDI total score is calculated as the sum of all questions. If one item is missing, the BDI total score is calculated as the sum of the nonmissing items, multiplied by 21/20. If 2 or more items are missing, the BDI score is considered missing.

The BDI is one of the most widely used instruments that measures depression, and scores from this instrument have been shown to have good reliability and validity (Beck et al., 1996). In the current study, the BDI was used to capture depressive symptomatology—in accordance with the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994). Consistent with other studies, the obtained reliability in the current study was more than adequate; Cronbach's α was .91 for the current study.

Data Analysis

The authors used the following data analytic procedures to examine the data. First, descriptive data (means and standard deviations) for all study variables were examined. Second, scatter plots and Pearson product−moment correlation coefficients were used to determine the strength of the relations between the study variables. Informed by the procedure of Skowron et al. (2004), mediation was tested using the four conditions outlined by Baron and Kenny (1986) and Frazier et al. (2004). Additionally, as recommended for moderation analyses (Aiken & West, 1991), all independent variables were centered at zero to reduce multicollinearity before including them in the tested model. Thus, the independent variables—all continuous—were standardized ($M = 0$, $SD = 1$). All analyses were conducted using Statistical Package for the Social Sciences software (version 15.0).

Results

The BDI total score was present in 80 subjects, the F-CON score was present in 82 subjects, and the four DSI subscale scores were present in 66 subjects. Only 60 subjects had results for BDI, F-CON, and the four DSI-R subscales. Therefore, analyses were restricted to these 60 subjects. Differences between participants who had complete data and those who had missing data were compared, and no statistically significant differences were found.

Descriptive and Bivariate Results

Table 1 displays the means, standard deviations, and correlations between the BDI, F-CON, and four DSI-R subscales (EC, ER, FO, and IP). Significant bivariate relations exist between the BDI, F-CON, EC, ER, and FO, with the exception of the relationship between F-CON and FO ($p = .0626$). The IP subscale was not significantly related to any other measure.

Tests for Mediation

Baron and Kenny (1986) state that significant correlations between predictors (F-CON), criterion (BDI), and mediators (EC, ER, FO, and IP) must exist to test the mediating effects of the subscale variables on the relationship between F-CON and BDI.

The first hypothesis, testing the effect of F-CON on BDI, assessed by the regression of F-CON on BDI, reflected a significant relationship ($t(59) = 3.67$, $p = .0005$, $R^2 = .15$), with higher F-CON scores associated with higher BDI scores.

The second hypothesis, that EC, ER, FO, and IP mediate the effect of F-CON on BDI, is evaluated in several steps. First, paths B_1 through B_4 in Figure 1B are tested using a multivariate, multiple regression model to examine the effects of a single predictor (F-CON) jointly on four-criterion variables (the four DSI-R subscales: EC, ER, FO, and IP). F-CON was found to have a significant effect on the four subscales (Wilks' lambda $= .83$, $p = .0377$). In individual follow-up regression models of the DSI-R subscales on F-CON subscale, F-CON significantly predicted lower ER and lower EC (ER, $t(59) = -3.10$, $p = .0030$; EC, $t(59) = -2.61$, $p = .0116$) but did not have a significant effect on IP or FO (IP, $t(51)$, $p = .6134$; FO, $t(59) = -1.48$, $p = .1432$).

In the third part of the mediation analysis, the predictive ability of F-CON on BDI in the presence of the DSI-R subscales—i.e., the additional amount of variance when adding the mediators to the regression of BDI on F-CON—was evaluated in a combined model, as shown in Table 2. This larger model accounted for more of the variance in BDI scores than explained by F-CON alone ($\Delta R^2 = .13$), although none of the subscale scores were individually significant in that model.

Subsequent models of F-CON and a single DSI-R subscale score regressed on BDI, also displayed in Table 2, indicated that higher levels of EC, FO, and ER are associated with higher levels of BDI in the presence of F-CON (EC, ($t(59) = -2.76$, $p = .0078$; FO, $t(59) = -2.27$, $p = .0270$; ER, $t(59) = -2.29$, $p = .0255$). In all cases, F-CON continued to exhibit a significant relationship with BDI, even in the presence of the mediators. Therefore, complete mediation was not observed.

Test of Moderation

The third hypothesis, that differentiation of self moderates the relationship between DEP and F-CON, was tested using a hierarchical multiple regression model. First, BDI scores were regressed on F-CON and DSI-R subscales, as shown in Table 3.

Table 1. Descriptive Statistics for Variables and Bivariate Correlations among Study Variables

Variables[a,b]	Mean	SD	1	2	3	4	5	6
1. Conflictual family environment (F-CON)	2.93	1.75	—					
2. I position (DSI-R)	40.3	10.24	.07	—				
3. Emotional cutoff (DSI-R)	−31.1	12.30	−.32*	.02	—			
4. Fusion with others (DSI-R)	−32.7	8.97	−.19	−.01	.13**	—		
5. Emotional reactivity (DSI-R)	−34.9	12.29	−.38**	−.14	.61**	.69**	—	
6. Depression (BDI)	8.89	10.42	.45**	−.10	−.44**	−.34**	−.41**	—

a. Predictor variables: Family conflict measured by the Family Environment Scale (F-CON), I position, emotional cutoff, fusion with others, emotional reactivity measured by the Differentiation of Self Inventory—Revised (DSI-R).
b. Criterion variable: Depression symptomatology measured by the Beck Depression Inventory (BDI).
*p < .05.
** p <.01

Table 2. Mediation Test: Regression Analysis Summary for Predictor Variables and Depression

Predictor Variable	B	SE B	t	R^2	Omnibus F	Sig.	Criterion Variable
Analysis 1				.21	15.04	.001	DEP
Conflictual family environment	2.710	0.699	3.88			.001	
Analysis 2			0.83[a]		2.74	.037	
Conflictual family environment	0.391	0.769	0.51			.613	I Position
	−2.283	0.876	−2.61			.011	Emotional cutoff
	−0.983	0.662	−1.48			.143	Fusion with others
	−2.657	0.856	−3.10			.003	Emotional reactivity
Analysis 3				.34	5.52	.001	DEP
Conflictual family environment	2.01	0.724	2.77			.007	DEP
I position	−0.133	0.119	−1.12			.267	DEP
Emotional cutoff	−0.273	0.099	−2.76			.007	DEP
Fusion with others	−0.304	0.134	−2.27			.027	DEP
Emotional reactivity	−.237	0.103	−2.29			.025	DEP

Note: DEP = depression symptomatology.
a. *t* value represents Wilks' lambda.

Table 3. Moderation Test: Regression Analysis Summary for Predictor Variables and Depression

Step and Predictor Variable	B	SE B	R2	ΔR2	ΔF
Step 1:			.34		5.52**
1. F-CON	2.01**	0.724			
2. I position	−0.133	0.116			
3. Emotional cutoff	−0.187	0.121			
4. Fusion with others	−0.144	0.180			
5. Emotional reactivity	−0.071	0.156			
Step 2:				.02	0.029
1. F-CON × I Position	−0.023	0.027			
2. F-CON × Emotional Cutoff	0.009	0.032			
3. F-CON × Fusion With Others	0.003	0.045			
4. F-CON × Emotional Reactivity	−0.035	0.049			

Note: F-CON = conflictual family environment.
**p < .01.

Next, the four interaction terms created between the predictor (F-CON) and the four DSI-R subscales were regressed on the residuals from the first model. Although the first portion showed significant main effects (F = 5.52, p = .0004, R^2 = .34), the inclusion of the interaction terms did not significantly improve the model (ΔR^2 = .02, ΔF = .029, p = .8830). Therefore, no support for moderation was observed.

Discussion

The major purpose of the current empirical study was to examine the extent to which differentiation of self mediates and/or moderates the relation between F-CON and DEP in a nonclinical, rural community sample. Differentiation of self has long been viewed as an indicator of well-being and psychological

health (Bowen, 1978; Hooper et al., 2008; Kerr & Bowen, 1988; Skowron & Friedlander, 1998; Skowron et al., 2009; Tuason & Friedlander, 2000); thus, it was hypothesized that higher levels of differentiation of self would decrease levels of depression even in the context of F-CON. Overall, our study offers mixed support for the models tested. Notwithstanding the limitation of a primarily female sample, and similar to the findings of Skowron et al. (2004), no gender differences related to the study variables were found.

The study results on the bivariate relations between the DSI-R subscales and BDI are noteworthy. Other than the IP, scores on all of the subscales—EC, FO, and ER—were correlated with depression symptoms, as measured by the BDI. These small- to medium-size associations (Cohen, 1992; Cohen & Cohen, 1983), which were in the expected direction, suggest that researchers may benefit from additional explorations that further clarify for whom, when, and how a focus on differentiation of self may be beneficial in general and lead to less depression in particular. However, a caution is recommended when considering the evidence related to these associations because the study consisted of a nonclinical, convenience sample. Additionally, levels of DEP were moderate; thus, a study composed of a larger sample with major depression may uncover some important information relevant to prevention, intervention, and treatment efforts for families and individual family members.

F-CON was also strongly positively correlated with DEP; higher scores on the F-CON were related to higher scores on the BDI. As shown in Table 1, although F-CON was associated with EC and ER, there was no significant association between F-CON and IP and between F-CON and FO in the current rural, community sample. These findings are partly consistent with empirical research studies and Bowen's theory related to the value of differentiation of self and positive individual functioning and psychological health (cf. Bartle-Haring & Lal, 2010; Skowron, 2004).

Importantly, the current findings uncovered that patterns and correlates of the current racially diverse community sample were consistent with findings in studies composed of primarily non-Hispanic White American college student samples. Thus, this finding adds to the family systems research base by expanding empirical research in a racially diverse, community sample. The negative relationships (nonsignificant findings) found in the correlational analyses are also consistent with other studies. This finding supports the view of the multidimensional nature of differentiation of self by Skowron and colleagues. That is, the four proposed constructs that undergird differentiation of self—IP, EC, FO, and ER—have unique relations, separately and taken together.

Overall, our study offers mixed support for the mediation and moderation models tested. As hypothesized, F-CON was a significant direct predictor of DEP and accounted for unique variance in the current study. Differentiation of self was also a significant predictor and mediator of DEP. Specifically, when the mediator (operationalized as ER, EC, IP, and FO) was added to the model, the variance explained above and beyond F-CON was statistically significant. The final mediation model accounted for 34% of the variance. Although differentiation of self reduced the effect of F-CON on DEP, F-CON remained significant in the presence of differentiation of self. Therefore, only partial mediation was achieved in the current study. Additionally, differentiation of self did not moderate the relation between F-CON and DEP in the model tested. Even though this finding is similar to the test for moderation by Skowron et al. (2004), it remains unclear whether the small sample size in the current study attenuated the results of the study. Additionally, it is worth noting that the current sample reported low levels of DEP; this factor could have impacted the results in the current study.

Going forward, we point to two research questions that may expand this preliminary research and may be important to consider: (a) What are the moderating and mediating effects of differentiation of self on the relation between F-CON and depression in a randomly selected, clinical sample of participants with moderate-to-severe levels of depression? (b) What are the moderating and mediating effects of differentiation of self on the relation between F-CON and depression in a larger, randomly selected, nonclinical sample of racially diverse, equally represented male and female rural participants?

Study Limitations and Strengths

There were limitations to this study that must be considered. The clearest limitation is the sample. As previously mentioned, the small, primarily female sample was a convenient, nonclinical sample from a rural community. Thus, although the characteristics of the sample limits the generalizability of the findings, it adds to the literature by including one of the most understudied populations in the United States (Probst et al., 2004): rural, racial minority participants. Additionally, to date many of the empirical studies that have examined the predictive validity of differentiation of self have consisted primarily of White American college student participants. Therefore, in addition to being a notable limitation, a strength of the current study was the sample, which was a racially diverse, rural community sample.

In addition, although our study's findings are consistent with the findings evidenced in other studies (see Skowron et al., 2004), the current study was exclusively based on self-reported data. A multidimensional approach, including such methods as family interviews and observation of family interactions, would likely provide a more comprehensive view of family systems dynamics. The measures and subscales used in the study may have also served as a limitation of the study; specifically, because of concern with participant time and burden, we used only one subscale from the FES. Future studies may elect to use the full scale.

Finally, this study was cross-sectional. Thus, no direction related to causality or causal conclusions can be made.

Implications for Practice

Family therapists can benefit from the results of the current study in several ways. First, in terms of assessment, family

therapists are encouraged to measure routinely the levels of differentiation in family members where family discord exists (also see Schwartz et al., 2006). The DSI-R appears to produce reliable and valid scores and thus is one possible measure available to family therapists to capture this important clinical construct. Other alternative measures include the Chabot Emotional Differentiation of Self Scale (Chabot, 1993) and the Haber Level of Differentiation of Self Scale (Haber, 1993).

Second, the current study provides some support for the use of Bowen family systems theory to guide family therapists in their clinical practice when working with culturally diverse individuals and families (e.g., rural and racial minority families; Thomas, 1998b). Ethical and culturally competent counselors consider how cultural factors influence the therapeutic process, therapeutic outcomes, and importantly the extent to which helping theories (e.g., Bowen family systems theory) developed many decades ago are culturally responsive and relevant to the families and individuals with whom therapists currently work (Chung & Gale, 2006; Gallardo, Johnson, Parham, & Carter, 2009; Hooper, 2003; Kerr & Bowen, 1988; McGoldrick, Giordano, & Garcia-Preto, 2005; Thomas, 1998a). Consistent with other researchers' tentative conclusions (cf. Chung & Gale, 2006; Skowron, 2004), we believe the current study offers preliminary support for the cross-cultural validity and clinical utility of Bowen's family systems construct differentiation of self.

Third, the findings from the current study illustrate to family therapists how system-focused therapists can consider the implications of individual and family systems and the family environment concurrently in their clinical approach to family therapy. Regarding the family environment, healthy family functioning, from a Bowenian perspective, exists when the anxiety in the system is low and family members exhibit higher levels of differentiation (Schwartz et al., 2006). Being well differentiated allows one to cope more effectively with emotional processes and anxiety-provoking situations within oneself and between self and others (Bowen, 1978). Additionally, the level of differentiation one experiences is directly related to the level and amount of anxiety in the emotional unit or family, the parents' level of differentiation, and other family and individual factors. Thus, the same deleterious relational and family factors that affect one's level of differentiation are the same factors that may enable and facilitate couple and F-CON and discord (Bartle-Haring & Lal, 2010; Hooper et al., 2008). Further, a family's and its members' ability to manage and balance levels of individuality and togetherness also affects healthy individual and family functioning (Schwartz et al., 2006). Family behaviors such as higher levels of differentiation, lack of ECs, and open communication reduce problems in the family. Additionally, one can hypothesize that if an individual is able to work toward greater levels of differentiation, then he or she may be less likely to be depressed and more likely to have greater psychological health.

Finally, the current study has relevance to marriage and family therapists by considering not only race as an important cultural factor but also geographical region (i.e., rural families).

Individuals and families living in rural communities in the United States are the least studied and oftentimes have the poorest mental health care available (Probst et al., 2004; Thomas, 1998a). Family systems therapists can make a difference in this underserved population by being available to work with both individuals and families alike.

Conclusion

In general, these preliminary findings, derived from a small community sample, support Bowen's (1978) theory and research. It appears that having higher levels of differentiation of self is related to and helpful in coping with emotional processes within oneself and between self and others. Additionally, perhaps the most noteworthy finding is that the level of differentiation that some racially diverse adults experience is associated with the level and amount of anxiety and discord in the emotional unit, or family, and other family and individual factors. Based on the current study's findings, one can preliminarily conclude that if an individual is able to achieve greater differentiation, then he or she may be less likely to react to F-CON and discord, more likely to have greater psychological health, and less likely to have DEP. The concept of differentiation of self has been significantly implicated in individual and family psychological health and well-being and therefore should be considered in the work that both family systems researchers and therapists conduct.

References

Aiken, I., & West, S. G. (1991). *Multiple regression testing and interpreting interactions.* Newbury Park, CA: Sage.

American Psychiatric Association. (1994). *Diagnostic and statistical manual on mental disorders* (4th ed.). Washington, DC: Author.

Appel-Kim, D., Appel, J., Newman, I., & Parr, P. (2007). Testing the effectiveness of Bowen's concept of differentiation in predicting psychological distress in individuals age 62 years or older. *Family Journal*, *15*, 224-233.

Baron, R. M., & Kenny, D. A. (1986). Moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology*, *51*, 1173-1182.

Bartle-Haring, S., & Lal, A. (2010). Using Bowen theory to examine progress in couple therapy. *The Family Journal: Counseling and Therapy for Couples and Families*, *18*, 106-115.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck depression inventory manual* (2nd ed.). San Antonio, TX: Psychological Corporation.

Bowen, M. (1978). *Family therapy in clinical practice.* New York, NY: Jason Aronson.

Boyd, C. P., Gullone, E., Needleman, G. L., & Burt, T. (1997). The family environment scale: Reliability and normative data for an adolescent sample. *Family Process*, *36*, 369-373.

Chabot, D. (1993). *Preliminary psychometric properties of the Chabot Emotional Differentiation Scale*. Unpublished manuscript, Fordham University, New York.

Chipuer, H. M., & Villegas, T. (2001). Comparing the second-order factor structure of the Family Environment Scale across husbands' and wives' perceptions of their family environment. *Family Process*, *40*, 187-198.

Chung, J., & Gale, J. (2006). Comparing self-differentiation and psychological well-being between Korean and European American students. *Contemporary Family Therapy*, *28*, 367-381.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155-159.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Derogatis, L. R. (1994). *SCL–90–R: Symptom checklist-90–R. Administration, scoring, and procedural manual*. Minneapolis, MN: National Computer Systems.

Fisher, L., & Weihs, K. L. (2000). Can addressing family relationships improve outcomes in chronic disease? *The Journal of Family Practice*, *49*, 561-566.

Frazier, P., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, *51*, 115-134.

Gallardo, M. E., Johnson, J., Parham, T. A., & Carter, J. A. (2009). Ethics and multiculturalism: Advancing cultural and clinical responsiveness. *Professional Psychology: Research and Practice*, *40*, 425-435.

Haber, J. (1993). A construct validity study of a Differentiation of Self Scale. *Research and Theory for Nursing Practice*, *7*, 165-178.

Hooper, L. M. (2003). Parentification, resiliency, secure adult attachment style, and differentiation of self as predictors of growth among college students. *Dissertations Abstracts International*, *64*, 1493.

Hooper, L. M. (2007). The application of attachment theory and family systems theory to the phenomenon of parentification. *The Family Journal: Counseling and Therapy for Couples and Families*, *15*, 217-223.

Hooper, L. M., Burnham, J. J., & Richey, R. (2009). Select parent and family system correlates of adolescent current weight status: A pilot study. *The Family Journal: Counseling and Therapy for Couples and Families*, *17*, 14-21.

Hooper, L. M., Marotta, S. A., & Lanthier, R. P. (2008). Predictors of growth and distress following parentification: A retrospective exploratory study. *The Journal of Child and Family Studies*, *17*, 693-705.

Jankowski, P. J., & Vaughn, M. (2009). Differentiation of self and spirituality: Empirical explorations. *Counseling and Values*, *53*, 82-96.

Kerr, M. E., & Bowen, M. (1988). *Family evaluation.* New York, NY: W. W. Norton & Company.

Kessler, R. C., Demler, O., Frank, R. G., Olfson, M., Pincus, H. A., Walters, E. E., ... Zaslavsky, A. M. (2005). Prevalence and treatment of mental disorders, 1990 to 2003. *The New England Journal of Medicine*, *352*, 2515-2523.

Lohman, B. J., & Jarvis, P. A. (2000). Adolescent stressors, coping strategies, and psychological health studied in the family context. *Journal of Youth and Adolescence*, *29*, 15-43.

Loveland-Cherry, C. J. (2006). Where is the family in family interventions? *Journal of Family Nursing*, *12*, 4-6.

McGoldrick, M., Giordano, J., & Garcia-Preto, N. (2005). *Ethnicity and family therapy* (3rd ed.). New York, NY: Guildford.

Minuchin, S., Rosman, B. L., & Baker, L. (1978). *Psychosomatic families: Anorexia nervosa in context.* Cambridge, MA: Harvard University Press.

Moos, R. H., & Moos, B. S. (1981). *Family Environment Scale manual.* Palo Alto, CA: Consulting Psychologists Press.

Murdock, N. L., & Gore, P. A. (2004). Stress, coping, and differentiation of self: A test of Bowen theory. *Contemporary Family Therapy*, *26*, 319-335.

Murray, T. L., Daniels, M. H., & Murray, C. E. (2006). Differentiation of self, perceived stress, and symptom severity among patients with fibromyalgia syndrome. *Families, Systems, and Health*, *24*, 117-159.

O'Connor, T. G., Hetherington, E. M., & Reiss, D. (1998). Family systems and adolescent development: Shared and nonshared risk and protective factors in nondivorced and remarried families. *Development and Psychopathology*, *10*, 353-375.

Papero, D. V. (1990). *Bowen family systems theory.* Boston, MA: Allyn & Bacon.

Peleg, O. (2008). The relation between differentiation of self and marital satisfaction: What can be learned from married people over the course of life? *The American Journal of Family Therapy*, *36*, 388-401.

Probst, J. C., Moore, G. C., Glover, S. H., & Samuels, M. E. (2004). Person and place: The compounding effects of race/ethnicity and rurality on health. *American Journal of Public Health*, *94*, 1695-1703.

Rothbaum, F., Rosen, K., Ujiie, T., & Uchida, N. (2002). Family systems theory, attachment theory and culture. *Family Process*, *41*, 328-350.

Roytburd, L., & Friedlander, M. L. (2008). Predictors of Soviet Jewish Refugees' acculturation: Differentiation of self and acculturative stress. *Cultural Diversity and Ethnic Minority Psychology*, *14*, 67-74.

Schwartz, J. P., Thigpen, S. E., & Montgomery, J. K. (2006). Examination of parenting styles of processing emotions and differentiation of self. *The Family Journal: Counseling and Therapy for Couples and Families*, *14*, 41-48.

Skowron, E. A. (2000). The role of differentiation of self in marital adjustment. *Journal of Counseling Psychology*, *47*, 229-237.

Skowron, E. A. (2004). Differentiation of self, personal adjustment, problem solving, and ethnic group belonging among persons of color. *Journal of Counseling and Development*, *82*, 447-456.

Skowron, E. A., & Friedlander, M. L. (1998). The differentiation of self inventory: Development and initial validation. *Journal of Counseling Psychology*, *45*, 235-246.

Skowron, E. A., & Schmitt, T. A. (2003). Assessing interpersonal fusion: Reliability and validity of a new DSI fusion with others scale. *Journal of Marital and Family Therapy*, *29*, 209-222.

Skowron, E. A., Stanley, K., & Shapiro, M. (2009). A longitudinal perspective on differentiation of self, interpersonal, and psychological well-being in young adults. *Contemporary Family Therapy*, *31*, 3-18.

Skowron, E. A., Wester, S. R., & Azen, R. (2004). Differentiation of self mediates college stress and adjustment. *Journal of Counseling and Development*, *82*, 69-78.

Thomas, A. J. (1998a). Ethical mandates for multicultural sensitivity for family counseling. *The Family Journal*, *6*, 49-51.

Thomas, A. J. (1998b). Understanding culture and worldview in family systems: Use of the multicultural genogram. *The Family Journal*, *6*, 24-32.

Titelman, P. (Ed). (1998). *Clinical applications of Bowen family systems theory*. New York NY: The Haworth Press.

Tuason, M. T., & Friedlander, M. L. (2000). Do parents' differentiation levels predict those of their adult children? And other tests of Bowen theory in a Philippine sample. *Journal of Counseling Psychology*, *47*, 27-35.

Waldron, R. J., Sabatelli, R. M., & Anderson, S. A. (1990). An examination of the factor structure of the Family Environment Scale. *American Journal of Family Therapy*, *18*, 257-272.

Wei, M., Vogel, D. L., Ku, T.-Y., & Zakalik, R. A. (2005). Adult attachment, affect regulation, negative mood, and interpersonal problems: The mediating roles of emotional reactivity and emotional cutoff. *Journal of Counseling Psychology*, *52*, 14-24.

Wood, B. L. (1993). Beyond the "psychosomatic family": A biobehavioral family model of pediatric illness. *Family Process*, *32*, 261-278.

Wood, B. L., Klebba, K. B., & Miller, B. D. (2000). Evolving the biobehavioral family model: The fit of attachment. *Family Process*, *39*, 319-344.