

Toward greater understanding of differentiation of self in Bowen Family Systems Theory:

Empirical developments and future directions

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Differentiation of self: Theory, research, and clinical applications.

Bowen Family Systems Theory is arguably considered the most comprehensive theory of human functioning from a systems perspective. Grounded in natural systems theory, Bowen Family Systems Theory is a theory of multigenerational emotional functioning. The concepts of “differentiation of self” and the “emotional system” are essential elements in Bowen theory. According to Bowen (1978), differentiation of self is comprised of two interrelated dialectics that are thought to universally operate in living, social systems. The first aspect is the intrapsychic domain of differentiation. Bowen (1978) described this as a balance of the thinking and feeling systems in the individual, allowing a person to be emotionally objective and to act with reflective thoughtfulness. The other aspect of differentiation of self is the interpersonal dimension. This aspect is described as a balance between togetherness and autonomy in relationships. Bowen coined the term “differentiation” in reference to cell differentiation as described in the field of biology and defined as “the sum of the processes whereby apparently indifferent or unspecialized cells, tissues, and structures attain their adult form and function,” (Merriam-Webster Online Dictionary, 2008). In human emotional systems such as the family, differentiation of self is the capacity of an individual’s thinking/feeling system to manage the tension between interconnectedness and autonomy in relationships (Bowen, 1978).

About 15 years ago, the first author initiated a program of research designed to operationalize the concept of differentiation of self and examine the central tenets in Murray Bowen's Family Systems Theory. The original focus of the work was to develop a psychometrically sound tool to assess the role of therapist and client differentiation of self in (1) psychotherapy outcome, and (2) the process of effective psychotherapy. The Differentiation of Self Inventory (DSI) was first developed in 1991 and since that time, the measure has undergone two revisions to refine items and subscale definitions, minimize social desirability bias, and enhance the DSI's construct validity (e.g., Skowron & Friedlander, 1998; Skowron & Schmitt, 2003). Further, the first two authors have engaged in postgraduate training at the Bowen Center for the Study of the Family in Georgetown, under the direction of Michael E. Kerr, MD. Training under the direction of Dr. Kerr and other faculty at the Bowen Center has assisted the authors in clarifying their thinking about Bowen theory and provided invaluable access to developments in thinking within Bowen theory that have evolved since publication of Bowen's *Family Therapy in Clinical Practice* (1978) and Kerr's *Family Evaluation* (Kerr & Bowen, 1988) books. However, we acknowledge that the ideas in this chapter emerge out of our individual lenses through which we each have studied and think about Bowen theory.

In this chapter, we review existing published research on differentiation of self that employs the DSI and is grounded in Bowen Family Systems Theory, and summarize what we know and do not yet know about the role of differentiation of self in health and relationship functioning, including psychotherapy. We then highlight Bowen's concepts of family emotional process and the multigenerational transmission process which have received little empirical attention to date, and elaborate on a conceptual model that we are exploring which posits a set of mechanisms or processes through which differentiation of self is transmitted across generations

of a family. Our current research is focused on unpacking the patterned regularities and disruptions over time in parent-child behavioral streams that might account for the extent to which children's developing levels of differentiation of self are roughly on par with or match those of their parents. Examination of such a complex question requires good working knowledge of family systems theory and research designs that employ intensive observation of moment-to-moment interactions in family relationships. We conclude with a brief review of a few important theoretical notions that remain untested and some suggestions for next step research that is grounded in and informed by Bowen Family Systems Theory.

Defining Differentiation of Self

In our program of research on Bowen theory, we define differentiation of self as the capacity of a family system and its members to manage emotional reactivity, act thoughtfully under stress, and allow for both intimacy and autonomy in relationships. Differentiation of self is thought to operate on both an intra-personal domain and interpersonal/relational level. On an intra-personal level, differentiation of self involves the capacity to distinguish the thinking and feeling systems. Bowen summarized this in his epilogue to Kerr's *Family Evaluation*:

“The human is the first form of life that has been able to observe the feeling process with his intellect...the name of that is differentiation of self” (Kerr & Bowen, 1988, p. 385).

Thus, as one's basic level of differentiation increases, so does the capacity to distinguish between thinking and feeling processes, regulate strong emotion, and think clearly under stress.

In other words, greater differentiation involves the ability to engage in thoughtful examination of situations, to maintain full awareness of one's emotions, and to experience strong

affect or shift to calm, logical reasoning depending on circumstances. More differentiated adults are thought to be more capable of reflecting on, experiencing, and modulating their emotions, as well as being better able to cope with uncertainty and ambiguity while remaining calm within one's relationships. According to Kerr, differentiation of self:

” allows people to get beyond blame, at least to move in that direction, which tends to make relationship dilemmas more interesting than threatening. This reduces the fear response (and associated subjective attitudes) and tendency towards behaviors such as distancing, defending, or attacking ... (This capacity enhances the intellectual system's ability to self-regulate emotional functioning” (M.E. Kerr, personal communication, October, 9th, 2008).

In contrast, less differentiated persons are thought to be more emotionally reactive, and have difficulty thinking clearly under stress and maintaining a solid sense of self in close relationships (Bowen, 1978; Kerr & Bowen, 1988). Bowen explained that,

“There are varying degrees of ‘fusion’ between the emotional and intellectual systems in the human. The greater the fusion, the more the life is governed by automatic emotional forces that operate...and the less [one] is able to consciously control [one's] own life” (Bowen, 1978, p. 305).

“People in the lower half of the scale live in a ‘feeling’ controlled world in which feelings and subjectivity are dominant over the objective reasoning process most of the time” (Bowen, 1978, p. 474-475).

On an interpersonal level, differentiation of self reflects an ability to preserve autonomy within intimate relationships with important others (Bowen, 1976, 1978). More differentiated

individuals are thought to establish greater autonomy in their relationships without experiencing debilitating fears of abandonment, and to achieve emotional intimacy in those relationships without experiencing fears of feeling smothered or incorporated (Bowen, 1978; Kerr & Bowen, 1988).

“The more differentiated a self, the more a person can be an individual *while in emotional contact with the group*. The human appears to be a unique species in the degree to which he can simultaneously be an individual and a team player. Unlike colonial invertebrates, the capacity to function as part of a group is not contingent on giving up individuality. The ability to think and to reflect, to not automatically respond to internal and external emotional stimuli, gives man the ability to refrain from selfish and spiteful urges, even during periods of high anxiety” (Kerr & Bowen, 1988, p. 94).

More differentiated parents are capable of providing support and nurturing their children’s age-appropriate autonomy and developing capacities for self regulation. Further, more differentiated persons are thought to be capable of supporting the best interests of others at times, without feeling a loss of self-direction or selfhood in the process (Schnarch, 1997). Greater differentiation of self also enables one to maintain connections during conflict or with those who hold different opinions and to resist the use of emotional cutoff or relational control to maintain calm (Schnarch, 1997; Skowron & Friedlander, 1998).

“In relationships with others, high-scale people are free to engage in goal-directed activity, or to lose ‘self’ in the intimacy of a close relationship, in contrast to low-scale people who either have to avoid relationships lest they slip automatically

into an uncomfortable fusion, or have no choice but continued pursuit of a close relationship for gratification of emotional ‘needs’” (Bowen, 1978, pp. 474-475).

In sum, we view differentiation of self as operating in both internal and interpersonal space. Differentiation of self is a fundamental property of a family relationship system and thus level of differentiation is thought to be roughly consistent throughout a family system, while allowing for sibling variation within and across generations of a family. At its core, differentiation of self as it is expressed in individual family members involves the capacity to self regulate emotion and behavior within one’s important relationships, which in turn, enables the relational capacities for authentic, mature intimacy and an ability to define a clear sense of self-in-relation with important others.

The Differentiation of Self Inventory (DSI)

The Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998) was developed to operationalize these intrapersonal and relational dimensions of Bowen’s concept of differentiation of self. Using a construct approach to test construction (e.g., Jackson, 1970; Loevinger, 1957; Nunnally, 1978), Skowron and Friedlander conducted a series of three studies grounded in Bowen theory to develop the DSI and assess its content and construct-related validity. Drawing from the writings of Dr. Murray Bowen, Dr. Michael Kerr, and others, a pool of items were created and subjected to a principle components analysis of responses from a national sample of $N = 313$ adults. This resulted in identification of four subscales which were labeled Emotional Reactivity, (difficulty taking an) I-Position, Emotional Cutoff, and Fusion with Others. Next, DSI items were further revised and subjected to content analyses by experts in Bowen Theory (e.g., Dr. Robert Noone & others), followed by statistical item analyses

including assessment of social desirability bias. Internal consistency reliabilities for the DSI full scale and each of the four subscales were good (DSI = .88, Emotional Reactivity = .84; I-Position = .83, Emotional Cutoff = .82; Fusion with Others = .74). An examination of the DSI's factor structure using confirmatory factor analyses yielded support for the 4-factor structure, representing the four DSI subscales as factors, with differentiation of self identified as a single higher order latent factor: $\chi^2(50, N = 137) = 94.6, p < .0001, GFI = .91, \text{adjusted } GFI = .86, \text{ and } \chi^2/df = 1.89$ (Skowron & Friedlander, 1998). Tests of the DSI's initial construct-related validity demonstrated theoretically-predicted relations between lower DSI scores and higher chronic anxiety, greater symptomatic distress, and lower marital satisfaction (Skowron & Friedlander, 1998).

A revision was published in 2003 that focused on strengthening the psychometric rigor of the DSI Fusion with Others scale through conceptual revisions, new item generation, and content validity analyses conducted by panel of Bowen theory experts, followed by statistical item analyses and an assessment of the FO scale's construct-related validity. Results indicated that greater fusion with others as assessed by the DSI Fusion with Others scale predicted higher scores on two dimensions of attachment insecurity: Fear of Abandonment and Desire to Merge with Partners (i.e., Experiences in Close Relationships scale; Brennan, Clark, & Shaver, 1996, 1998), and greater Spousal Fusion on the Personal Authority in the Family System Scale (PAFS; Bray, Williamson, & Malone, 1984).

Since the DSI-Fusion with Others subscale was revised, only a small handful of the total 35 studies reported here have used the revised DSI-FO scale. Of those, about half reported theoretically consistent findings for the scale, including the validation study reported above. However, fusion scores were not associated with effortful control in an adult sample (Skowron &

Dendy, 2004) nor with variations in Jewish-Russian immigrants' acculturation process (Roytburd & Friedlander, 2008). More research is needed to evaluate the DSI-FO scale's construct-related validity and to use the FO subscale to examine specific theoretical predictions.

The current version of the DSI consists of a 46-item self-report measure of differentiation of self in adults, their significant relationships, and current relations with family of origin. The DSI contains four subscales: an 11-item Emotional Reactivity (ER) scale, an 11-item "I" Position (IP) scale, a 12-item Emotional Cutoff (EC) scale, and a 12-item revised-Fusion with Others (FO) scale. The ER scale assesses one's tendency to respond to environmental stimuli on the basis of autonomic emotional responses, emotional flooding, or lability. The IP scale assesses the extent of one's clearly defined sense of self and ability to thoughtfully adhere to one's convictions even when pressured to do otherwise. The EC scale consists of items reflecting emotional and behavioral distancing and fears of intimacy or engulfment in relationships. The FO scale contains items that tap emotional over-involvement with others, over-reliance on others to confirm one's beliefs, decisions, and convictions, and a tendency to hold few clearly defined beliefs or convictions of one's own. Participants rate items using a 6-point, Likert-type scale, ranging from 1 (not at all true of me) to 6 (very true of me). Scores on select items are reversed and summed across scales, so that higher scores on each subscale and the full scale all reflect greater differentiation of self (i.e., less emotional reactivity, greater ability to take an "I" position in relationships, less emotional cutoff, or less fusion with others). However, though we developed and refined the DSI to assess differentiation of self in adulthood, to our knowledge, no measure of differentiation of self in childhood exists to date.

In both Bowen (1978) and Kerr's (Kerr & Bowen, 1988) writings, differentiation of self is conceptualized as the opposite of fusion. In developing the DSI, we elected to use Bowen's

concept of “emotional reactivity” to describe the blurring of boundaries between thinking and feeling processes which serves as the underlying fuel leading one to either emotionally cutoff or fuse with others under stress. We elected to use the phrase “fusion with others” to signify behavioral manifestations of low differentiation of self in relationships that are driven by greater emotional reactivity and lie on one end of a continuum ranging from fusion to emotional cutoff.

What Do We Know About Differentiation of Self?

In research using the DSI to operationalize differentiation of self, support for basic aspects of Bowen theory has been accumulating as studies show that differentiation of self is linked to lower chronic anxiety, greater psychological adjustment (Skowron & Friedlander, 1998), physical health (Peleg-Popko, 2002), marital satisfaction (Skowron, 2000), self-regulatory skills (Skowron & Dendy, 2004), lower relationship violence (Skowron & Platt, 2005), and substance abuse (Thorberg & Lyvers, 2006). Some support for the cross-cultural validity of the DSI has emerged in recent years, with greater differentiation of self among persons of color linked to better psychological adjustment (Knauth & Skowron, 2004; Tuason & Friedlander, 2000), problem-solving, and positive feelings toward one’s ethnic group (Skowron, 2004). Greater differentiation of self among low-income mothers has predicted child regulatory physiology (i.e., Skowron, DePalma, Shapiro, Stanley, Kelleher, & Elreda, 2007; Van Epps, Skowron, & Akturk, 2008), child academic achievement, and fewer behavior problems (Skowron, 2005). However, research to date has failed to support Bowen’s similarity hypothesis which states that married couples tend to have similar levels of differentiation (Skowron, 2000;

Spencer & Brown, 2007), or to support the notion that parents and adult children operate at similar levels of differentiation.

Dimensions of Differentiation of Self

While the intrapersonal thinking and feeling process is inextricably intertwined with the relational manifestations of differentiation of self, several studies have deconstructed and examined these two dimensions separately. For example, the intrapersonal dimension of differentiation is reflected in one's ability to balance thinking and feeling systems as outlined in Bowen theory, and involves the extent to which emotional reactivity is managed and "I" positions can be taken in important relationships. At its core, differentiation of self on an intrapersonal level consists of a capacity to self regulate emotion and behavior, to self-soothe when anxious, and to think clearly in the midst of strong emotion. Some evidence has emerged to support the notion of an intrapersonal dimension of differentiation, in that the DSI Emotional Reactivity and "I" Position subscales together have been shown to form a single "self-regulation" factor that reflects the extent of one's comfort with emotion, capacity to reflect on or think about emotion, and capacity to maintain a clear sense of self (Skowron, Holmes, & Sabatelli, 2003). Another study observed that adults who were less emotionally reactive and better able to take "I" positions in their relationships were also better able to engage in conscious, effortful control of their behavior even after controlling for variance associated with adult attachment security (Skowron & Dendy, 2004). Wei and her colleagues (Wei, Vogel, Ku, & Zakalik, 2005) conceptualized the DSI Emotional Reactivity and Emotional Cutoff scores as indicators of affect regulation and examined the extent to which they mediated relations between

attachment security, negative mood, and interpersonal problems. Results of structural equation modeling demonstrated support for their model: Relations between attachment anxiety and (a) negative mood and (b) interpersonal problems were (a) fully and (b) partially accounted for—respectively, by individuals’ DSI-Emotional Reactivity scores. Similarly, relations between attachment avoidance and (a) negative mood and (b) interpersonal problems were also (a) fully mediated and (b) partially mediated, respectively, by DSI-Emotional Cutoff scores (Wei et al. 2005). These few studies lend initial support for the notion that differentiation of self is reflected in greater ability to manage emotional reactivity in one’s relationships and is associated with mature relationship functioning. As Bowen stated, “At higher levels of differentiation, the functioning of emotional and intellectual systems are more clearly distinguishable” (1978, p. 363). In the sections that follow, we will present a summary of empirically derived inferences about the theoretical propositions regarding differentiation of self.

Differentiation of Self, Psychological, and Health Functioning

Kerr and Bowen (1988) asserted that less differentiated individuals experience greater chronic anxiety, become dysfunctional under stress more easily, and thus suffer more psychological and physical symptoms than do more differentiated persons:

“The average level of chronic anxiety of a person and of a . . . family parallels the basic level of differentiation of that individual and family [and] the lower the level of basic differentiation, the higher the average level of chronic anxiety” (p. 115).

Further, family systems are seen as interdependent emotional units, and as such, symptoms are viewed as disorders of the family emotional system. Thus, when allostatic load is high and level

of differentiation of self is low, Kerr (2008b) argues that anxiety gets bound into physical, psychological, or social symptoms. In more differentiated relationships, Kerr states that people can put more energy into what Henry and Wang (1989) call attachment—affiliative behaviors OR autonomous behaviors, and can adapt to stressors without a buildup of anxiety that can impair functioning (Kerr, 2008b). In other words, individuals at higher levels of differentiation of self:

“Have enough confidence in their ability to deal with relationships, even emotionally intense ones, so that they neither avoid them nor become highly anxious in encountering them” (Kerr & Bowen, 1988, p. 118).

Generally, empirical research conducted using the DSI has supported these propositions. For example, Skowron and Friedlander (1998) found that lower DSI scores, particularly greater emotional reactivity and emotional cutoff, highly correlated with greater global distress and trait (i.e., chronic) anxiety scores. Aldea and Rice (2006) investigated the difference between two different domains of perfectionism, (1) adaptive perfectionism or high personal standards and (2) maladaptive perfectionism with a high self critical aspect. These authors found that emotion dysregulation, as measured by DSI Emotional Reactivity scores and scores on the Splitting Index (i.e., emotional lability & relationship instability; Gould, Prentice, & Ainsle, 1996) fully accounted for relationships between both adaptive and maladaptive perfectionism and psychological distress. Specifically, adaptive perfectionists reported lower emotional reactivity or higher levels of emotion regulation, which in turn predicted lower distress levels. In contrast, maladaptive perfectionists reported greater emotional reactivity and lability, or lower emotion regulation, which then predicted higher distress. In general, the findings from these studies

demonstrate that greater emotional reactivity and emotional cutoff as measured by the DSI are associated with greater levels of anxiety and distress in individuals.

Research has investigated the impact of differentiation of self on health related behaviors. For example, lower levels of differentiation predicted greater somatic complaints and social anxiety in a sample of young Israeli adults (Peleg-Popko, 2002). Among participants and their partners who were identified as needing genetic screening because of inherited cancer risk, Bartle-Haring and Gregory (2003) found that those with higher levels of differentiation experienced less avoidant and intrusive thoughts about inheriting cancer and experienced fewer psychological symptoms over time. Further, they found that differentiation of self mediated the relationship between the stress of genetic cancer testing and partner distress, such that higher levels of partner differentiation predicted lower levels of stress and distress when their partner was engaging in the genetic counseling process. In a sample of individuals with fibromyalgia, recall of negative life stressors in the year previous to symptom onset and differentiation of self levels predicted reports of physical symptom severity (Murray, Murray, & Daniels, 2007). Differentiation of self also appears to play a role in physical health functioning, providing some initial support for Bowen theory assertions that physical symptoms are one manifestation of lower differentiation of self levels (1978; Kerr & Bowen, 1988).

Because differentiated individuals are thought to have more mature, emotionally supportive social networks, environmental stressors are expected to affect them less than is the case for less differentiated individuals. However, it is not clear from Bowen's writings whether differentiation of self is thought to be a moderator or mediator of relationships between stress/anxiety and functioning. Two published studies to date have focused on this question and conclusions are mixed.

In a sample of college students, Murdock and Gore (2004) conducted a study investigating the relationships between stress, coping, and differentiation of self and the extent to which these contributed to psychological functioning. They found that differentiation of self was positively related to reflective coping, which is a more adaptive and thoughtful coping style. Likewise, differentiation of self was negatively related to avoidant and reactive coping, less adaptive coping styles. Further, they found an interaction between DSI scores and perceived stress in predicting psychological distress. In particular, when experiencing high levels of stress, differences in psychological distress were more pronounced between participants with higher and lower levels of differentiation. This study provides evidence for a moderation model because stress intensified the relationship between differentiation and psychological distress.

Skowron, Wester, and Azen (2004) tested both a mediating and moderating model of differentiation, stress, and functioning. A mediating model attempts to identify an intermediate process that explains the relationship between a predictor and outcome variable. Moderation models focus on factors that strengthen or influence the direction between a predictor and outcome variable. Only support for the mediating model was observed. Differentiation of self partially mediated relations between college-related stress (academic, financial, and social stressors) and adjustment, suggesting that young adult's ability to maintain connections with their families of origin while also maintaining a sense of healthy autonomy impacted their ability to cope with common stressors in college.

These two studies highlight the complex role that differentiation of self likely plays in affecting the relationship between stress and functioning. These studies demonstrate that differentiation may serve to strengthen and act as an intermediate process in describing the relationship between stress and psychological functioning. Therefore, differentiation of self

may be an important variable to consider in psychotherapy because of its associations to an individual's feelings of stress and overall functioning. However, more studies are needed to further clarify the role that differentiation of self plays in this relationship.

Research on Adolescents & Older Adults

A number of studies have also investigated differentiation of self in adolescent and emerging adult populations, particularly as it relates to their psychosocial functioning, cognitive performance, and identity development. Knauth and Skowron (2004) found that adolescent reports of higher differentiation of self were associated with reports of lower anxiety and overall symptomatology. Additionally, they found that greater differentiation mediated the relationship between anxiety and symptomatology with greater differentiation predicting fewer adolescent reports of symptoms over and above their anxiety. Another study demonstrated that adolescent's anxiety mediated the relationship between differentiation of self and problem solving, suggesting that adolescents who were more differentiated were better at managing their anxiety and this in turn allowed them to engage in better problem solving (Knauth, Skowron, & Escobar, 2006).

Peleg-Popko (2004) investigated the relationship between adolescent differentiation, family differentiation, and adolescent test and trait anxiety. Results showed that adolescents who reported greater self and family differentiation also reported lower test and trait anxiety. Additionally, adolescents who perceived their mothers as more differentiated posted better cognitive performance on an IQ test. Another study conducted by Johnson, Buboltz, & Seeman (2003) explored the role of differentiation in young adult identity development. Interesting relationships were revealed between DSI subscales and stages of identity. Young adults who

reported relatively greater ability to take “I” positions in their relationships, in turn showed the highest levels of identity achievement (i.e., reflecting a clear commitment to personal and ideological issues after a sustained period of personal exploration of alternatives). In contrast, young adults who reported greater fusion of others were more likely to report identity foreclosure (i.e., an ideological commitment characterized by incorporating one’s parents’ views and little or no personal exploration), whereas those who were more emotionally cutoff scored highest on identity diffusion (i.e., reflecting a lack of exploration and lack of commitment; Johnson et al., 2003).

As can be seen by empirical research with adolescents, levels of differentiation have been associated with anxiety and symptomatology, cognitive performance, and identity development. However, reports indicate that the DSI, which was developed for use with adult populations, may post lower internal consistency reliabilities when used with young adolescent samples (e.g., Knauth & Skowron, 2004). Therefore, some adaptations may be needed to use the DSI as a measure for adolescents in order for it to continue to be a reliable and valid construct in this population. Further, no studies have assessed the longitudinal development of adolescent’s DSI into adulthood, particularly over the course of the launching phase of the family life cycle. As with other research testing Bowen Family System theory, the majority of published studies conducted using the DSI in adolescent populations have been fairly homogenous in terms of ethnicity and socioeconomic status. However, as reflected by the contributions of authors in this edited volume, research with diverse populations is expanding and continuing to clarify the role of differentiation of self in adolescent functioning.

We could find only a few studies that have been conducted examining differentiation of self and psychological distress among older adults. Results revealed that greater emotional

reactivity and emotional cut-off and less I-position predicted greater report of distressing symptomatology by adults older than 62 years (Kim-Appel, Appel, Newman, & Parr, 2007). More research is needed at investigating use of the DSI in older adults. Similar to with adolescents, the psychometric properties need to be assessed with this population in order to determine whether the current DSI is a reliable and valid measure for this population.

Cross-Cultural Research on Differentiation of Self

A growing body of research is focusing on elucidating the relationship between differentiation of self and cultural worldview. The continuum of individualism and collectivism is considered one of the most important dimensions along which cultures vary (Kagitçibasi, 1996). Some have argued that Bowen's concept of differentiation of self places an overemphasis on Western values of independence (e.g., Essandoh, 1995; Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000; Tamura & Lau, 1992), while failing to acknowledge the role of interconnection observed in collectivist cultures. Others have disagreed and maintain that Bowen theory is one of the few theories of human functioning that adequately elevates the role of healthy connections with others to one of central importance to healthy development and maturity (e.g., Boyd-Franklin, 1989; Carter & McGoldrick, 1999; Guisinger & Blatt, 1994; Gushue & Sicalides, 1997). As such, some controversy exists as to whether the concept of differentiation of self is relevant for persons of color from non-Western cultures who hold differing worldviews.

Research studies to date indicate that differentiation of self is consistently associated with less chronic anxiety and symptomatology in cross-cultural studies with U.S. and International samples. Tuason and Friedlander (2000) found that differentiation of self in a Filipino sample of adult children and their parents was related to symptomatology and trait anxiety in ways that were consistent with results found in a North American sample. Skowron (2004) found that

greater differentiation of self—that is, less emotional reactivity, better ability to take “I” positions in relationships, less emotional cutoff or fusion with others--predicted lower psychological symptom scores, and better problem solving abilities in a U.S. sample of young adults of color. Interestingly, the DSI scores of the Persons of Color sample were not significantly different from a sample of European-Americans matched on key demographic variables. Finally, individuals of color who were less emotionally cutoff reported stronger feelings of ethnic group belonging, lending some support to the DSI’s cross-cultural validity.

In addition to the work presented in this edited volume, research with international samples has observed links between higher differentiation of self scores and global well being. For example, in a study of Israeli university students, Peleg-Popko (2002) found that higher levels of differentiation were associated with less social anxiety and fewer physiological symptoms among participants. In another study of Russian Jews, I-position uniquely predicted former Soviet Union Jews’ acculturative trends. Greater I-position was associated with more American acculturation, whereas greater difficulty taking “I” positions in relationships and experience of discrimination were associated with staying closer to Russian culture (Roytburd & Friedlander, 2008).

These results lend some support to the notion that Bowen’s concept of differentiation may have universal aspects; however, future research is needed to better understand relations between culture, worldview, differentiation of self, and mental health. More research on specific groups within the U.S. also is needed to better understand how culture and differentiation manifest themselves in relationships and life functioning within and across cultures. We have strived to remove cultural bias in the DSI through a rigorous, construct-approach to test construction, and a program of research informed by multicultural theory and research.

However, cross-cultural interpretation of the differentiation construct requires careful attention, and the DSI may require adaptations for use in different ethnic groups and international populations, to enable it to be more sensitively attuned to important cultural differences in human experience. Careful attention also should be paid to how cultural worldviews affect research designs, hypotheses investigated, and the inference drawn from study findings. In closing, how differentiation of self manifests is likely dependent on the cultural context within which a relationship system is embedded.

Differentiation of Self, Marital Satisfaction, and Adult Attachment

One line of empirical research has explored how the concept of differentiation of self is associated with marital quality, relationship satisfaction, and quality of attachment. Bowen (1976, 1978) proposed that more differentiated individuals would be more likely to remain in good contact with their families of origin, to work out person-to-person relationships with members of their extended family, and establish more mature, satisfying marriages. As summarized in Rabin and Bressler's chapter here, researchers (e.g., Kosek, 1998; Skowron, 2000; Skowron & Friedlander, 1998; Spencer & Brown, 2007) have explored whether couples' level of differentiation of self was related to their overall marital satisfaction, and consistently observed that higher DSI scores predicted greater marital satisfaction among heterosexual and same-sex couples. Further, lower marital satisfaction in both husbands and wives was most predicted by greater emotional cut-off in husbands (Skowron, 2000). Similarly among lesbian couples, greater emotional cutoff resulted in the highest levels of relationship dissatisfaction (Spencer & Brown, 2007). Research has also demonstrated that greater couple complementarity in emotional reactivity and emotional cutoff predicted high levels of marital discord (Skowron,

2000). Parsons, Nalbone, Killmer, and Wetchler (2007) found further support for the DSI's ability to predict satisfaction in marriages. Among spouses whose partners were of a different religious faith, greater differentiation of self—that is, better ability to balance thinking and feeling while remaining in emotional contact—predicted greater marital satisfaction, perhaps because they were better able to cope with the tension, ambiguity, or differences of opinion that may emerge in an interfaith marriage. However, after controlling for the effect of intimacy and spousal support, another study failed to find a significant association between differentiation of self and marital satisfaction (Patrick, Sells, Giordano, & Tollerud, 2007).

A central tenet to Bowen theory is that married couples are more similar in their level of differentiation. Recent studies tested this assertion by comparing DSI difference scores among married heterosexual (Skowron, 2000) and lesbian (Spencer & Brown, 2007) and randomly matched pseudo-couples and found no differences in level of similarity across actual and pseudo couples' DSI difference scores. More definitive tests of the similarity hypothesis are needed to empirically test this central assertion in Bowen theory. Perhaps comparing intact couples to separated and divorced couples would provide a definitive test of the similarity hypothesis given that theory asserts that people partner at similar levels of differentiation of self. Thus with the existing research designs, there may be insufficient variance in DSI difference scores to observe an effect if it is present in the population. In sum, these findings suggest that while strong relationships exist between couple differentiation and marital quality, the role of similarity and/or complementarity may be more complex and require further investigation.

Other studies have looked at the relationship between differentiation of self and attachment anxiety and avoidance, as measured by the Experiences in Close Relationship Scale – short form. Several studies have consistently observed strong correlations between DSI-

Emotional Cutoff scores and ECR Attachment Avoidance scores, and between higher scores on the ECR Attachment Anxiety scale and lower DSI-Emotional Reactivity scores, indicating greater emotional reactivity (Skowron & Dendy, 2004; Thorberg & Lyvers, 2006; Wei, Russell, Mallinkrodt, & Vogel, 2008). In a sample of clients being treated for drug abuse, those who reported greater attachment insecurity also reported lower DSI scores, compared to non drug-abusing individuals (Thorberg & Lyvers, 2006). Further, in a sample of young adults who were not yet parents, Skowron and Platt (2005) found substantial correlations between lower differentiation of self scores—namely greater emotional reactivity and emotional cutoff—and higher risk for child abuse.

Williamson, Sandage, & Lee (2007) conducted a study to test the relationship between feelings of social connectedness and guilt and shame and whether this relationship was mediated by individuals' DSI and feelings of hope. Results revealed that the DSI mediated the relations between social connectedness and feelings of shame. In particular, individuals who had greater social connectedness reported higher DSI and thus had less feelings of shame.

Research has also revealed some gender differences in terms of males' and females' DSI subscale scores suggesting that males tend to score higher on emotional-cutoff and females higher on emotional reactivity (e.g., Johnson, Thorngrin, & Smith, 2001; Peleg-Popko, 2004; Kim-Appel et al., 2007; Skowron, 2000; Skowron & Friedlander, 1998). Do gender differences exist in levels of differentiation? Or is differentiation of self invariant across gender? It is possible that that these findings may be more related to cultural values and social display rules than actual sex inequities in felt emotions and expressivity. For example, Barrett, Robin, Pietromonaco, and Eysell, (1998) found that sex differences in emotional feeling and expressivity were only elicited in opposite sex dyads and global self ratings but not in observed

interactions or in same sex dyads. This supports the notion that culture shapes how emotions are expressed and dealt with across sexes rather than reflecting innate biological or psychological processes.

Despite empirical support for the contribution of differentiation to marital quality, attachment, potential relationship violence, and other outcomes, it must be noted that most of these studies relied primarily on self-report measures. In order to reduce potential biases found with self-reports, future research must begin to employ designs that rely on multiple informants or observational measures to clarify the role of differentiation in marriage and other significant relationships. Additionally, most of the studies were conducted in homogeneous samples in terms of age, ethnicity, and SES. Therefore, research needs to be conducted in more diverse populations and should consider the culture in which the sample is embedded because differentiation of self may have different meanings to people of different cultures.

Further, Bowen theory asserts that children take on the level of differentiation of self in their family system, and that these levels are largely stable throughout one's life. However to empirically test this tenet, it is necessary to conduct longitudinal research investigating the relationships between differentiation, relationship status, and functioning, in order to determine whether an individual's differentiation level is stable. Additionally, research is needed to better understand variations in functional levels of differentiation across time, and within and across different relationship systems (i.e., with spouses, parents, friends, children, and in work systems).

Parental Differentiation of Self and its Influence on Child Outcomes

According to Bowen theory (1978; Kerr & Bowen, 1988) levels of differentiation of self are transmitted across generations of a family, with parent level of differentiation roughly constraining the level of differentiation their children can achieve. According to Murray Bowen:

“All things being equal, you emerge with about the same basic level of differentiation your parents had. This is determined by the process before your birth and the situation during infancy and early childhood...” (1978, p. 409).

While Bowen (1978) proposed a revolutionary idea that family emotional process (e.g., via triangling & child focus) results in variations in the level of functioning among children in the same family, and Kerr (2008a) has more recently delineated the processes through which these variations in sibling functioning unfold over time, we have focused our efforts on conducting a series of studies to test the more basic question of whether levels of differentiation of self among parents and their children roughly converge, and if so, modeling the interpersonal processes through which children come to acquire levels of differentiation of self roughly similar to those of their parents.

Several studies have focused on families with young children and investigated how parental level of differentiation influences aspects of children’s development. Skowron (2005) investigated how parental DSI predicted children’s cognitive functioning, self-esteem, and pro-social behavior in a low-income urban sample. After accounting for neighborhood violence and family life stress, results revealed that mother’s differentiation of self significantly contributed to children’s vocabulary and math skills, even after controlling for parent education levels. Parents who reported higher DSI scores had children who showed better vocabulary and math skills. Further, both family stressors and parental differentiation significantly predicted children’s

aggression such that greater report of family stress and lower parental differentiation of self was associated with more aggression in children.

Peleg, Halaby, & Whaby (2006) conducted a study investigating how parental DSI scores related to Israeli-Druze children's separation anxiety and adjustment to kindergarten. Results revealed that greater parental differentiation of self in general, and lower emotional cutoff in particular, were associated with lower levels of children's observed separation anxiety. Further, greater anxiety in children, as reported by teachers, was related to lower levels of parental differentiation of self. However, children of parents who reported greater fusion with others displayed less separation anxiety than children of less fused parents. It would be interesting to learn whether these results would replicate if the revised DSI Fusion with Others subscale was used instead.

These studies both reveal that parental differentiation is associated with their children's developmental outcomes in a low-income and Israeli-Druze population. However, Skowron's study was a cross-sectional design and Peleg and colleagues conducted their study when children were in kindergarten. Thus, it is not known how parental differentiation of self influences children's development from infancy into childhood, and therefore, longitudinal work needs to be conducted.

Studies focused on the role of differentiation of self in relationships between adult children and their parents have relied heavily on retrospective reporting and to date have yielded mixed results. For example, Schwartz, Thigpen, and Montgomery (2006) found that college students' retrospective reports of family of origin emotion-related parenting were associated with students' current levels of differentiation. Specifically they found that for young men, parental disapproval of negative emotions was associated with difficulty taking an "I" Position in

relationships, while for young women, parent dismissal and mother-specific disapproval predicted greater fusion with others scores. Johnson et al. (2001) investigated retrospective reports of family functioning as it related to 813 undergraduate students' differentiation of self scores. Students from intact families reported higher levels of differentiation, than students from divorced families. Reports of family of origin conflict were positively linked and family health competence negatively linked with lower DSI scores, namely greater emotional reactivity, more difficulty taking "I" positions in relationships, greater cutoff and fusion with others. Gender differences in DSI scores were observed, with men reporting more emotional cutoff, less emotional reactivity, and less fusion than did their female counterparts. While cohesion in the family of origin was related to less emotional reactivity, surprisingly, family of origin expressivity was related to more fusion and reactivity, and less cutoff.

Yet studies directly examining levels of DSI across generations have failed to find support for the emotion transmission process directly. For example, in a study examining extent of correspondence between adult children and their parents' levels of differentiation in a Filipino sample, Tuason and Friedlander (2000) found no significant associations between parents' and their adult children's DSI scores. However, future research on the transmission would benefit from use of multiple informants, and experimental, multilevel methods to assess differentiation of self levels in parents and their children.

Differentiation of Self and Self Regulation of Physiology, Emotion, & Behavior

We theorize that differentiation of self is manifested in early childhood in a child's developing capacity for self regulation of emotion and behavior. Self-regulation development is critical to children's overall functioning as it affects children's ability to behave in healthy,

adaptive ways (e.g., Denham, Blair, DeMulder, Levitas, Sawyer, Auerbach-Major, & Queenen, 2003; Eisenberg & Morris, 2002; Kopp, 1982; Kopp, 1989; Thompson, 1994). The capacity for self-regulation of emotions and behavior begins in infancy and continues to develop throughout childhood (Thompson, 1994; Kopp, 1982; Kopp, 1989). Research indicates that early in life, children rely on parents and other external sources to help them regulate their emotions and behavior and then by preschool, children increasingly develop strategies to internally control, or self-regulate, behavior and emotions (Thompson, 1991; Winsler, Diaz, Atencio, McCarthy, & Chabay, 2000). Failure to develop these abilities sets children on a course leading to problematic developmental outcomes that can continue into adulthood.

Effortful control is an important aspect of self-regulation essential to children's development because of its influence in multiple domains. Effortful control is a behavioral measure of temperament reflecting an ability to actively (effortfully) modulate arousal and emotions. Effortful control in children allows conscious control of attention in order to regulate behavioral impulses and replace them with more appropriate behavioral strategies (Rothbart, Ahadi, & Evans, 2000; Rothbart & Bates, 2006). With the maturation of early attentional networks, effortful control is believed to emerge by 12 months and continues to develop rapidly, with individual differences in this ability becoming more detectable throughout the toddler and preschool years (Kochanska, Murray, & Harlan, 2000; Kopp, 1982; Rothbart, Derryberry, & Posner, 1994; Rothbart & Posner, 2000). Further, we have observed in previous research that differentiation of self uniquely predicts greater effortful control among adults (Skowron & Dendy, 2004).

Developing the ability to self-regulate emotions is another critical skill children must master. Emotion regulation is defined as the internal and external processes involved in

initiating, maintaining, and modulating the occurrence and intensity of emotional expressions and being able to adapt to stressful demands and emotional experiences (Cole, Michel, & Teti, 1994; Thompson, 1994). In infancy, children rely heavily on caregivers to help them regulate their emotional arousal, however infants possess early rudimentary forms of emotion regulation strategies such as using gaze aversion and disengaging attention from an arousing stimulus in order to decrease negative affect (e.g., Johnson, Posner, & Rothbart, 1991; Rothbart, Ziaie, & O'Boyle, 1992). Children's behavioral repertoires of self regulation strategies continue to expand in toddlerhood when they begin to assert their autonomy, develop a sense of self awareness, and experience maturation of cognitive skills (Kopp, 1982; 1989). These behaviors include more purposeful use of attentional strategies and self-comforting behaviors to regulate emotional arousal (e.g., Grolnick, Bridges, & Connell, 1996). By the time children reach preschool, they are increasingly capable of self-regulating their emotions and require less input from external sources of regulation. The development of language abilities leads children to rely more on verbal regulation of emotion (Cole et al., 1994; Kopp, 1989), and children begin to internally regulate their representations of what is causing them to become emotionally aroused (Rothbart & Shesse, 2007). Emotion regulation development is critical for children because poor regulation of emotion has been associated with increased psychopathology (e.g., Cole et al., 1994) and social incompetence (e.g., Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994).

Self regulation of emotion and behavior has been shown to operate on a physiological level as well. Bowen (1978) theorized that one's level of differentiation of self is manifest not only in one's overt behavior, but also on an autonomic/physiological level. He explained that:

“Emotional functioning includes the automatic forces that...biology defines as instinct, reproduction, the automatic activity controlled by the autonomic nervous

system, subjective emotional and feeling states, and the forces that govern relationship systems...It is deep in the phylogenetic past and is much older than the intellectual system...There are varying degrees of 'fusion' between the emotional and intellectual systems in the human. The greater the fusion, the more the life is governed by automatic emotional forces that operate...the greater the fusion, the more man is vulnerable to physical illness, emotional illness, and social illness, and the less he is able to consciously control his own life" (1978, p. 304-305).

In fact, research with both children and adults (Wilson & Gottman, 2002) has documented the importance the parasympathetic branch may play in an individual's ability to self regulate emotions and behavior, a central component of differentiation. While the sympathetic branch of the autonomic nervous system (ANS) functions to maintain homeostasis by regulating sympathetic *excitation* of heart and respiratory rates, the parasympathetic branch of the ANS functions to maintain homeostasis through flexible *inhibition* of heart and respiratory rates. Parasympathetic activation is reflected in cardiac vagal tone which is defined as individual variability in heart rate due to respiration changes controlled by the brain, and is believed to be indicative of emotion regulation and social affiliation, including an ability to flexibly respond to moderate environmental challenge (Porges & Byrne, 1992; Porges, Doussard-Roosevelt, Portales, & Greenspan, 1996). Vagal tone is measured by isolating the variability in heart rate due to respiration and is frequently referred to as respiratory sinus arrhythmia or simply RSA (Porges et al., 1996). Vagal tone, or RSA, reflects the extent to which the vagus nerve complex promotes homeostasis in the individual by flexibly regulating heart rate due to respiration. Vagal suppression, on the other hand, represents a change from "baseline"

calm with a lifting of the cardiac inhibition in order to respond to cues in the environment. Physiologically, this is a metabolically more cost effective strategy for responding than evoking sympathetic excitation. This flexible, cost effective strategy allows individuals to shift focus from internal homeostatic demands to generating strategies for navigating complex social engagements and their associated affective, cognitive, or behavioral arousals (e.g., Calkins, 1997; Porges et al., 1996).

Understanding physiological (vagal) regulation is critical because it is positively associated with children's social engagement (Fox & Field, 1989), social competence (Eisenberg, Sadovsky, Spinrad, Fabes, Losoya, et al., 2005), and influences an individual's ability to regulate their emotions (Porges, 1991). Research suggests that family of origin experiences may impact abilities to effectively regulate emotions and can be influential in the manifestation of psychological and physiological symptoms in children (Calkins, Smith, Gill, & Johnson, 1998; Diener, Mangelsdorf, McHale, & Frosch, 2002; Gottman & Katz, 2002; Jahromi, Putnam, & Stifter, 2004; Lunkenheimer, Shields, & Cortina, 2007; Maughan & Cicchetti, 2002; see Rogosch, Cicchetti, & Aber, 1995 for a review).

Research has shown that negative and controlling behaviors by parents during a positive task is related to poor vagal regulation in children (Calkins et al., 1998). Gottman and Katz (2002) found that children who showed better physiological regulation at age 4-5 predicted better emotion regulation at age 8, and this relationship was partially mediated by children's ability to maintain a low heart rate in stressful interactions with their parents. Lunkenheimer, Shields, and Cortina (2007) found that parents' use of more emotion dismissing behaviors with their children was related to poorer emotion regulation and behavior problems. Further, Bornstein and Suess (2000) observed that vagal regulation in mother and young children become more highly

correlated over time from birth, and in light of the low correlations observed between mother and child baseline vagal tone, they concluded that their pattern of findings signified that the children's relationship experiences with mother over time likely play an important role in shaping a child's developing capacity for physiological regulation. Our lab is currently examining the extent of convergence and divergence between mother and child physiological regulation during moderately stressful laboratory interactions, and relations between mother's differentiation of self, physiology, and parenting behavior.

Several studies conducted in our lab provide some support for the notion that a parent's level of differentiation predicts their child's capacity for self regulation of emotion, physiology, and behavior. First, Skowron et al. (2007) analyzed preliminary data from high-risk-for-child abuse mother-preschool child dyads ($n = 16$), and found links between higher mother DSI scores, specifically less emotional reactivity and emotional cutoff, on the one hand, and higher child vagal regulation (i.e., physiological emotion regulation) while completing joint puzzle tasks with mother, during individual frustration/delay task (i.e., toy locked in a transparent box and child given set of keys to open it that do not work), and greater child effortful control of behavior (during a game where the child had to wait for a snack). Further, higher child vagal regulation during interactions with mother was associated with greater child behavioral regulation during individual effortful control tasks. Unlike Bornstein and Suess' (2000) findings, in this pilot, mother and child baseline RSA scores were not significantly correlated (i.e., $r = .22$), nor were their vagal regulation scores during their joint activities. By comparison, Bornstein and Seuss (2000) observed correlations of .23 and .42 between mother and child baseline RSA values at 2 months and 5 years old, respectively.

Van Epps, Skowron, & Akturk (2008) reported findings from a separate sample of mother-child dyads ($n = 26$). Among the $n = 21$ dyads who were deemed high risk due to their involvement with Children & Youth Services for suspected child maltreatment, correlations between mother and child baseline RSA $r = .34$, and vagal regulation during joint puzzle task (i.e., change from baseline) $= .31$ were observed. Greater differentiation of self among mothers predicted higher baseline RSA in both mothers and their children (.33 and .34 respectively). Less emotional reactivity among mothers also was most associated with higher baseline RSA in mother and child (.36 and .42, respectively) and with child's vagal regulation during joint task with mother ($r = .36$), but unrelated to mother vagal regulation scores.

We theorize that children's self regulation of emotion and behavior is at the core of a developing capacity to differentiate a self in family relationships. From a family systems perspective, differentiation of self facilitates the development of healthy self regulation in early childhood. Parents' capacities for regulating emotion, thinking clearly under stress, and promoting both intimacy and autonomy in family relationships, in turn provide optimal support for a child's developing capacities to self regulate emotion and behavior. As the developmental needs of the child shift over time from infancy to toddlerhood and into the preschool years, we expect that in more differentiated families, parents and children are transitioning smoothly from co-regulation of the child's physical states, emotions, and behavior, to the child's increasing self regulation of his or her own emotions and behavior. More differentiated parents are thought to be better able to support and encourage their preschool child's budding autonomy strivings, and engage in supportive, comforting behaviors that are adaptive when their child experiences stress. In contrast, less differentiated parents are more dependent on their relationships to manage stress, stabilize, and calm self (Kerr, 2008b). Behavioral exchanges between parent and child take on

anxious automaticity (Kerr, 2008b), and parents struggle more with the challenges of simultaneously providing support for child autonomy and child's needs for comfort and connection.

While preliminary evidence supports the assertion that differentiation of self assessed in parents will predict their young children's self regulation of emotion, the interpersonal mechanisms through which differentiation of self is transmitted across generations must be clarified so that they may be subjected to empirical examination. Are levels of differentiation transmitted across generations of a family? If so, how do children come to acquire levels of differentiation roughly similar to those of their parents?

Multigenerational Transmission of Differentiation via Complementarity

In 2007, we began a 5-year, NIMH-funded project informed by Bowen Family Systems Theory designed to:

1. clarify the ways in which survey, behavioral, and physiological indices of differentiation of self in parents converge and diverge,
2. shed light on the degree of correspondence between parent differentiation of self and developing self and emotion regulation in their preschool-aged children, and
3. test a mediation model of differentiation transmission, in which parent-child complementarity is hypothesized to mediate relations between parent differentiation of self and child self regulation of emotion, physiology, and behavior.

Our procedures consist of observing moment-to-moment mother-child transactions that unfold over time in a sample of at-risk families, considering the bi-directional influence of parent on

child and vice versa, and simultaneously tracking both mother and child's underlying physiological reactivity and regulation during these interchanges. We use the DSI to assess differentiation of self in parents, the Structural Analysis of Social Behavior (SASB: Benjamin, 1996) an observational coding system to assess patterns of interpersonal complementarity in mother and child exchanges, and synchronize monitoring of mother and child heart rate variability (i.e., vagal tone; Porges, 1991) using ambulatory ECG equipment. The project is designed to unpack important dyadic components of Bowen's multigenerational transmission process. Future work will be planned to expand our investigations to include a focus on important triadic dimensions of family emotional process. For example, relationship triangles play a central role in the emotional process in family systems, and subsequent work will be needed to model and test the role of triadic processes in the multigenerational transmission process.

In less differentiated systems, people are more dependent on the relationship to stabilize and calm self and to manage their stress response (Kerr, 2008b). We propose that level of differentiation of self in family systems is transmitted from parents to children over time through an interpersonal process of *complementarity* that becomes self-sustaining and bi-directionally influenced. Both theory and research support the notion that interpersonal complementarity is an important homeostatic property of relationships (Friedlander, 1993; Kiesler, 1996), whether in family systems or other important relationship systems, including close friendships or psychotherapy relationships. Complementarity is defined as (1) *similarity or match on affiliation*, and (2) *reciprocity on dominance/submission* or on the extent of power expressed. Thus in complementary transactions, friendly behavior tends to elicit a friendly response, while hostile behavior elicits a hostile response; and dominant behaviors elicit submissive responses,

and vice versa. In highly complementary parent-child transactions, a parent's friendly dominance (i.e., "protecting"), is matched by friendly submission (i.e., "trusting") on the child's part. Alternately, parent hostile dominance (i.e., "criticizing") is met with child hostile submission (i.e., "whining/ sulking"). Behavior in significant and long-standing relationships tends to elicit complementary behavior and constrain non-complementary or symmetrical behavior (Heatherington & Friedlander, 1990; Kiesler 1996; Kiesler & Auerbach, 2003; Tracey, 1994; Tracey, Ryan, & Jaschik-Herman, 2001). Even strangers' interactional behaviors have been shown to alter the behavior of their interaction partners toward greater complementarity in their interactions (e.g., Sadler & Woody, 2003). Further, complementary exchanges are experienced as more comfortable, and characterized by greater calm, and less upset or tension (Tracey, 1994). In contrast, relationships that are not complementary (i.e., anti-complementary), are experienced as more aversive, produce the greatest relationship stress, and bode poorly for relationship satisfaction and stability (Tracey, 1994). The term complementarity was first introduced by family systems researchers (Bateson, Jackson, Haley, & Weakland, 1963; Watzlawick, Beavin, & Jackson, 1967), though interpersonal and interactional perspectives on complementarity exist and have arisen from slightly different traditions and assumptions (Bateson et al., 1963; Carson, 1969; Haley, 1963; Kiesler, 1983; Watzlawick et al. 1967; see Friedlander, 1993, for a review).

In short, level of differentiation of self in the family system is transmitted across generations of the family through an emotional process that is rooted in evolutionary forces, and maintained through patterns of complementarity in family interactions. According to Kerr, complementarity will develop in relationships that operate at any level of differentiation of self (Kerr & Bowen, 1988). In order to cope with threats to the stability of our relationships, Kerr

(2008b) argues that we have evolved finely tuned sensitivities to social cues that in turn, alert us to threats to our security in important relationships. We theorize that this is in large part why most stable relationships are complementary in nature. At lower levels of differentiation, greater fusion between thinking and feeling processes leaves spouses less able to take one another's perspective, and parents less able to read their children's cues. These more anxious (i.e., less differentiated) parents misread cues, which leads to role reversals in which the child adjusts his or her behavior to match cues from the parent and takes a more complementary stance vis a vis the parent. The child relies on the parent for signals indicating how to behave in ways that maintain relationship calm, and thus continues to rely on other-directed regulation of their emotions and behavior. In short, mother and child learn to calm self, not by focusing on self, but rather by adjusting their own behavior in order to regulate the other.

Kerr (2008a) offers an example of the relationship sensitivities that we believe lead us to settle into complementarity interchanges in our significant relationships, including marital and parent-child interactions. A wife interprets her husband's facial expressions and tone of voice as disappointed in her. As a result, she says and does more things to please him. He brightens up, and she then feels less threatened (Kerr, 2008a). This exchange begins with a wife autonomy assertion (which elicited anxiety in her spouse), followed by a husband criticism of her. The wife sees that she has disappointed him and moves to take a one-down affiliative stance—when she submits to her spouse, he in turn calms, taking an affiliative controlling stance. As the interchange ends, husband and wife have resumed a complementary stance vis a vis one another, and as a result, the husband has calmed and his wife feels calmer, though she has given up her earlier autonomous position.

Bowen provides another example of emotional process in parenting, in which the relational transfer of anxiety between mother and child unfolds through a series of increasingly complementary interchanges. He explained:

“...the process begins with anxiety in the mother. The child responds anxiously to mother, which she misperceives as a problem in the child. The anxious parental effort goes into sympathetic, solicitous, overprotective energy, which is directed more by the mother’s anxiety than the reality needs of the child. It establishes a pattern of infantilizing the child, who gradually becomes more impaired and more demanding. Once the process has started, it can be motivated either by anxiety in the mother, or anxiety in the child” (1978, p. 380-381).

In this example, the child becomes attuned to mother’s anxiety and acts in a way that the mother is “pulling for” (i.e., complementary response), which reduces the mother’s upset, and in response, the child feels less anxious in relating to a less anxious parent. In other words, at lower levels of differentiation, more borrowing and trading of “self” is thought to occur and there is more “emotional pressure” to respond to the other in complementary ways. The scenario is repeated countless times and explains the development of the pseudo self and an overreliance on an orientation to looking outward toward the other to regulate self.

Specifically, we theorize that parent level of differentiation of self influences (a) the nature and degree of complementarity in parent-child interchanges, (b) flexibility in parent-child interactions, (c) successful navigation of relationship ruptures and repairs, and as a result, (d) enhances or constrains a child’s developing capacities for self and emotion regulation to that which is roughly on par with level of emotional functioning of parent(s). First, though interpersonal complementarity is thought to be an important organizer of interpersonal behavior

at all levels of differentiation of self, we propose that the “type” of complementarity observed will differ across more and less differentiated families. Among more differentiated families, parent-child patterns of complementarity are expected to consist of greater amounts of parent “support/protect” and child “rely on/trust” complementarity, shifting over time as the child develops, into complementarity that remains affiliative but becomes more focused on supporting the child’s autonomy-granting. [Note: In the SASB coding system, affiliative autonomy-granting/taking behaviors are defined as “Friendly Differentiation” (Benjamin, 1996)]. The positive complementary interchanges characterized by high levels of affiliation and autonomy-support—that is, greater differentiation of self—are theorized to predict greater self regulation of emotion, physiological, and behavior in children. Conversely, less differentiated families, in contrast, are expected to engage in patterns of complementarity that contain a higher proportion of negative exchanges involving control or distancing (i.e., parent criticize—child whine/sulk; or parent neglect--child wall off). These less differentiated family systems are expected to engage in more negative complementarity and less positive complementarity, which in turn is expected to predict greater dysregulation in children. Interestingly, a study by Smith and Ruiz (2007) found that individuals who were low in interpersonal orientation showed the greatest physiological discomfort in warm, affiliative interaction contexts.

Important constitutional factors such as child temperament may also operate as contributing factors, that when considered together with the family’s level of differentiation, may help to predict the type of complementarity that unfolds between parent and child. That is, the child’s predisposition to behave a certain way may influence the type of complementarity in the relationship between the parent and child and the pattern of interaction established over time. For example, more temperamentally reserved children may respond to a parent’s anxious

overprotection in a submissive manner, resulting in a form of “positive” fusion that serves to calm the parent’s anxiety and thus calm the child. Alternately, children who are temperamentally more exuberant and less fearful may respond to parent complaints/criticism or inconsistent responding with oppositional behavior (i.e., sulking, defiance). The parent and child have established a pattern of complementarity that is operating, and though negative in valence, it also serves to alleviate parent anxiety and also thus calm the child.

Beyond “type” of complementarity, we theorize that level of differentiation in the relationship system will govern the extent to which members rely on complementarity to calm both themselves and the system. Thus at lower levels of differentiation, perturbations in relationship complementarity will be experienced as more stressful or disorganizing and thus be linked with lower physiological (vagal) regulation in parent and child. If this is correct, we would expect to see an interaction (i.e., moderating) effect between level of differentiation (high vs. low) and complementarity (high vs. low) in predicting mother and child physiological regulation during their dyadic interchanges. Specifically, we propose that among less differentiated mother-child dyads, complementarity and physiological regulation will show a stronger positive correlation than is the case in more differentiated families, because at lower differentiation levels, members rely more heavily on the relationship system to calm and soothe self. Families at higher levels of differentiation will show better ability to tolerate/manage non-complementarity states. This translates into greater flexibility in responding. In less differentiated family systems, complementarity is more fixed and rigid, and there is less flexibility in the system because family members rely more on other-directed strategies for self-regulation and are more reactively tuned into one another. In fact, we suspect that greater differentiation of self in the system will better enable a parent to refrain from responding to

his/her child's sulking/whining with complementary response (criticism) and instead, to take a more adaptive non-complementary stance and resist the emotional "pull" to descend into negative complementarity. Our research is focusing on documenting how parent differentiation of self and physiology (vagal regulation) maps onto complementary and non-complementary parent-child interactions, and whether they facilitate or impede parents' use of "affiliative" non-complementary strategies.

We posit that there is an important component of physiological regulation that underlies these interpersonal patterns and makes it extremely difficult to ascend from a negative complementarity interchange, particularly as the relationship is defined in increasingly important, emotionally salient ways. Indeed, studies have shown that efforts to influence or persuade another (i.e., similar to a non-complementary effort to "pull" for another to agree with you, or submit to your point of view) can be experienced as stressful, as they are associated with increases in one's cardiovascular response (e.g., Brown & Smith, 1992; Smith, Limon, Gallo, Ngu, 1996). And yet studies that have examined the process and outcome of psychotherapy suggest that affiliative non-complementarity may play an important role in successful therapy relationships. For example, more negative complementarity has been observed in poor outcome psychotherapy (e.g., Hays & Tracey, 1990; Tasca & McMullen, 1992). Henry, Schacht, and Strupp (1986, 1990) conducted two studies examining the process in successful vs. unsuccessful cases, using data from the Vanderbilt psychotherapy study. Cases were matched by therapists, such that each therapist in the analysis contributed one successful and one unsuccessful case. No negative complementarity between therapist and client was observed in successful outcome cases, but in contrast, the same therapists working with their unsuccessful case behaved in hostile manner 20% of the time in session. In her review of the psychotherapy research on therapist—

client complementarity, Friedlander (1993) concluded that hostile clients should be met with friendliness and that non-complementary responding on the therapist's part may be important for progress in therapy. Hoyt, Strong, Corcoran, and Robbins (1993) found that more successful counselors tended to respond to hostile client behaviors by pressing clients toward higher levels of affiliation. In short, taking an affiliative, non-complementary stance in psychotherapy or other important relationships may constitute a physiologically taxing but mature (i.e., more differentiated) interpersonal process. Research is needed to test whether complementary states are more or less taxing relative to non-complementary states, and second, whether differentiation of self enables one to better tolerate and manage episodes of non-complementarity. In addition, it would be interesting to learn whether parents develop patterns of complementarity that approximate their own family of origin relationships with caregivers (via identification or recapitulation). Friedlander (1993) noted that there is little consensus on what constitutes "high" and "low" levels of complementarity. We wonder when and under what conditions complementarity exert its effects.

Summary

In this chapter, we presented an overview of our program of research on differentiation of self which has been guided by Bowen theory. We began by defining differentiation of self and describing the development of the Differentiation of Self Inventory (DSI). The DSI (Skowron & Friedlander, 1998; Skowron & Schmitt, 2003) is a 46-item self-report measure of differentiation of self in adults, their significant relationships, and current relations with family of origin, containing four subscales: Emotional Reactivity (ER) "I" Position (IP), Emotional Cutoff (EC), and Fusion with Others (FO). Respondents rate items using a 6-point, Likert-type scale, ranging

from 1 (not at all true of me) to 6 (very true of me), and scores on select items are reversed and summed across scales, so that higher scores on each subscale and the full scale all reflect greater differentiation of self (i.e., less emotional reactivity, greater ability to take an “I” position in relationships, less emotional cutoff, or less fusion with others).

The existing research on differentiation of self was reviewed, with particular attention to newer work examining the relationship between differentiation of self and self regulation of emotion, physiology, and behavior. Consistent with Bowen theory, greater differentiation of self has been linked with lower chronic anxiety, fewer psychological and physical health problems, greater self regulation of attention and behavior, lower attachment anxiety and avoidance, and less marital distress, conflict, and family violence. Further parent levels of differentiation predict attachment security, fewer child behavioral problems, and better performance on cognitive tests. Within both U.S. ethnic minority and international populations, studies conducted to date have linked differentiation of self with greater well-being, lower chronic anxiety, greater ethnic identity and feelings of ethnic group belonging, and the acculturation process.

However, research to date has failed to support Bowen’s similarity hypothesis (Skowron, 2000; Spencer & Brown, 2007), and little support exists for the notion that parents and adult children operate at similar levels of differentiation. More international research like that reflected in this volume is needed to better understand relations between culture, worldview, differentiation of self, and indices of health and well-being. With a few recent exceptions, research on Bowen theory in general and differentiation of self in particular, has relied heavily on use of self-report indices and cross-sectional designs.

Preliminary studies conducted in our lab suggest that parent DSI scores map onto indices of physiological regulation in both parents and their young children. We offered a conceptual

model of the transmission of differentiation of self in family systems, which centers on the role of interpersonal complementarity as an important mechanism linking level of parent differentiation of self with children's developing self regulatory capacities. Our current NIMH-funded research is focused on clarifying: (a) the ways in which survey, behavioral, and physiological indices of differentiation of self in parents converge and diverge; (b) the degree of correspondence between parent differentiation of self and developing self and emotion regulation in young children; and (c) a model of intergenerational transmission of differentiation of self, in which parent-child *complementarity* operates as one mechanism through which parent differentiation of self influences the development of child self regulation of emotion, physiology, and behavior.

Kerr believes that, "A successful effort to improve one's level of differentiation and reduce anxiety strongly depends on a person's developing more awareness of and control over his emotional reactivity" (Kerr & Bowen, 1988, p. 127). Similarly, Bowen (1978) argued that strengthening one's ability to think about feelings is essential for improving level of differentiation of self. Bowen described his views regarding the mechanisms of change in therapy as follows:

"...to create a situation through which the central triangle can attain a higher level of differentiation of self. The differentiating force is opposed by emotional forces for togetherness that successfully block any move toward differentiation in any family member...when any family member makes a move toward differentiating a self, the family emotional system communicates a three-stage verbal and nonverbal message: (1) You are wrong. (2) Change back. (3) If you do not, these are the consequences." (Bowen, 1978, p. 217).

Bowen explained that when an individual family member making the effort to differentiate is able to remain calm and control his or her reactivity in the face of the family's "change back" messages without fighting back or withdrawing, then:

“family anxiety can subside into a new and different level of closeness, with open appreciation and higher regard for the differentiating one as a person” (p. 218).

Finally, one of Bowen's most powerful and provocative assertions is the notion that,

“if one person in a family system can achieve a higher level of functioning, and stays in emotional contact with the others, another family member and another and another will take similar steps” (p. 218).

We believe that clients who present in therapy as emotionally reactive, struggling to develop a clear sense of self in their relationships with others, and/or wrestling with how to successfully navigate autonomy and affiliation in the context of their relationship systems, may benefit from a Bowen theory-informed approach to therapy. Similarly, we suspect that clients presenting with psychological and physical symptoms may be experiencing important relational impairments as well, and might benefit from Bowen-based therapy. A comparative analysis of client's scores on the DSI subscales may help to identify which aspects of differentiation are most problematic and whether the client manages their reactivity through fusion or emotional cutoff.

Young adults who present with adjustment difficulties or relationship concerns may be taught about the principles of differentiation of self and emotional systems, and encouraged to maintain regular contact with their family and helped to identify and extricate themselves from the primary relationship triangles in which they participate. Similarly, interventions with couples and/or parents may be designed to stimulate interest in one's own family of origin, learn about

family emotional systems, and to assist them in maintaining regular contact with their own parents and siblings by establishing person-to-person relationships. Over time, young adult clients are encouraged to accept greater responsibility for self and begin to formulate personal life principles that have been neglected in response to relationship anxiety or in exchange for fitting in with the crowd or approval from others. Interventions with couples and parents are designed to enhance their ability to remain calm and thoughtful under stress, and to accept greater responsibility for ownership of their own feelings, beliefs, and actions in relationships with others. Initial research examining the role of differentiation of self in psychotherapy suggests that it impacts development of the therapy alliance in individual (Skowron, Dendy, & Hayes, 2004) and family therapy (Lambert & Friedlander, 2008). However, more work is needed in order to clarify whether Bowen theory-informed therapies are effective in reducing physical, psychological, and social symptoms, marital conflict, and “child-focus” in families, or are capable of strengthening one’s level of differentiation of self.

Future Research Directions

According to Bowen theory, an individual comes to acquire the level of differentiation of self in one’s family system, and that level, give or take a few points, is transmitted across generations of the family. However, there are no longitudinal studies that have empirically tested this assumption. In order to do so, it is necessary to understand how differentiation of self begins to develop in infancy and early childhood and develop sound measures to assess this construct at these ages. Perhaps an adapted version of the DSI for adults can be developed into a observer rating measure for children, in order to capture children’s differentiation of self levels and the development of differentiation over time. Additionally, it is necessary to observe

parental-child interactions—using reliable and valid measures—in order to understand the timing and course of differentiation transmission over time in a family, and model the reciprocal nature and contingent emotional responding of parent to child and vice versa. We are confident that the keys to understanding multigenerational transmission lie in unlocking the patterned regularities and emotional undertones of dyadic and triadic interactions between parents and children.

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