

THE CRUCIBLE DIFFERENTIATION SCALE: ASSESSING DIFFERENTIATION IN HUMAN RELATIONSHIPS

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Whereas most existing differentiation measures are grounded in Bowen's writings about differentiation, the self-report instrument created in this study addresses differentiation according to the Four Points of Balance articulated by the Crucible Approach. The Crucible Differentiation Scale (CDS) is a 63-item, Likert-type, multidimensional measure of differentiation focused on adults and their important relationships. The psychometric properties of the CDS were tested through five studies with a total of 4,169 participants. The identified CDS subscales are Solid Self, Connectedness, Anxiety Regulation through Self-Soothing, Anxiety Regulation through Accommodation, Reactivity through Avoidance, Reactivity through Arguments, and Tolerating Discomfort for Growth. The CDS has potential use in evaluating differentiation theory, organizing treatment, and measuring therapy process and outcome.

Differentiation of self, the process by which individuals manage their independence and interdependence within a relationship, lies at the core of Murray Bowen's (1978) theory and therapy. Differentiation is the struggle to balance autonomy with relationship investment (Kerr & Bowen, 1988). Differentiation is a tangible interpersonal process that goes on between individuals and also an individual process that shapes a person's thoughts feelings and behaviors. Of the various constructs composing Bowen's approach, differentiation of self is the most critical to mature development and attainment of psychological health (Skowron & Friedlander, 1998).

Bowen (1978) developed a theoretical scale of differentiation ranging from the lowest possible level of differentiation (zero) to the highest level (100). He proposed highly differentiated people have a sufficiently developed sense of self to permit investing in relationships, while maintaining responsibility for themselves, and neither fostering nor participating in the irresponsibility of others. In contrast, poorly differentiated people have a tenuous sense of self and are incapable of maintaining both individuality and stable relationships. However, Bowen did not believe a psychometrically sound differentiation scale could be developed owing to its multidimensional nature, which involves the intrapsychic ability to maintain cognitive functioning when experiencing strong emotions, and the interpersonal ability to maintain autonomy in emotionally important relationships (Bowen, 1978; Kerr & Bowen, 1988).

Nevertheless, a number of instruments have attempted to operationalize Bowen's concept of differentiation. Many of these instruments measure only the interpersonal components of differentiation (Anderson & Sabatelli, 1992; Bartle-Haring, Glade, & Vira, 2005; Bray, Williamson, & Malone, 1984; Hovestadt, Anderson, Piercy, Cochran, & Fine, 1985; McCollum,

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1991). McCollum's (1991) Emotional Cutoff Scale addresses people handling emotional attachments with parents through cutoff. The Adult Behavioral and Emotional Reactivity Index (Bartle-Haring et al., 2005) looks at emotional reactivity to parents. The Family of Origin Scale (Hovestadt et al., 1985) asks respondents to reminisce about their family of origin. These scales ignore other significant relationships and intrapsychic aspects of differentiation. The Personal Authority in Family Systems Questionnaire (Bray et al., 1984) has a broader focus, addressing interpersonal differentiation in present relationships. Similarly, the Differentiation in the Family Systems Scale (Anderson & Sabatelli, 1992) focuses on interpersonal differentiation in reciprocal dyadic relationships. The two latter scales ignore the intrapsychic component of differentiation.

In contrast, the Haber (1993) Level of Differentiation of Self Scale and the Chabot Emotional Differentiation Scale (Licht & Chabot, 2006) measure intrapsychic differentiation processes. The Haber Scale looks at values and beliefs, goals, cognitive versus emotional processes, I-position, assessment of self, expectations of others, response to group pressure, and decision making. The Chabot Scale assesses typical thoughts and feelings in relationships and is not specific to family relationships. Neither scale addresses interpersonal functioning.

The Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998) is designed for married couples aged 25 and older. Four subscales assess intrapsychic and interpersonal components of differentiation. "Emotional Reactivity" measures a person's tendency for emotional flooding, emotional lability, or hypersensitivity in relationships. "I-Position" reflects a clearly defined sense of self and thoughtful adherence to one's convictions when pressured to do otherwise. "Emotional Cutoff" looks at defensive behaviors such as distancing and denial triggered by feeling threatened by intimacy, excessive vulnerability in relations, or fears of engulfment. "Fusion With Others" measures emotional over-involvement in relationships, including triangulation and over-identification with parents. The DSI has been related to marital satisfaction, state and trait anxiety, psychological stability, resilience in inner-city youth (Skowron, 2001), and effortful control (Skowron & Dendy, 2004).

Authors of the aforementioned scales have noted the difficulty of capturing the complexity of Bowen's theory of differentiation, echoing Bowen's dubiousness about developing a reliable and valid measure. Besides difficulty assessing key aspects of differentiation outlined by Bowen, there is the problem that well-differentiated and poorly differentiated people may endorse the same item for different reasons (e.g., "I like helping other people."). Likewise, a scale that effectively measures low differentiation may be poor at measuring high differentiation, and vice versa. Moreover, differentiation may not be a linear construct: Bowen divided his own theoretical scale into four quadrants, postulating that people in the first and second quadrants (0–25 and 25–50) had all the same problems. Those in the first quadrant had no possibility of changing, while those in the second quadrant could markedly improve their lives. The difference was they were unwilling or unable to tolerate the anxiety and pain of raising their differentiation. This non-linearity warrants a subscale looking specifically at low differentiation, the above points warrant another one looking at high differentiation, and these scales together provide a broader look at an individual's differentiation and willingness to tolerate pain for growth; however, this has not been carried out in any prior scale.

THE CRUCIBLE APPROACH

The genius of Bowen's differentiation concept has been elaborated beyond Bowen's own writings, although scale construction has not kept pace. The Crucible® approach focuses on different aspects of differentiation than Bowen theory (1978) and differs markedly from Bowen therapy. It expands differentiation to include how the brain "wires" itself interpersonally over the course of a lifetime. Whereas Bowen theorized about how the brain operates under anxiety and pressure, the Crucible approach applies the latest brain science of mind-mapping, interpersonal neurobiology, and neuroplastic training to actually treating clinical problems (Schnarch, 2009).

Crucible therapy operates at significantly greater levels of anxiety and pressure than Bowen therapy by helping individuals, couples, families, and organizations build to *critical mass* for

change (Schnarch, 1991, 1997/2009). This approach reflects a different way of approaching people's difficulties maintaining effective cognitive function and emotional regulation during increased stress and emotional arousal. Crucible therapy is an *anxiety tolerance* rather than an *anxiety reduction approach*. This is one reason why the Crucible approach is more optimistic than Bowen was about people's ability to raise their differentiation.

Much of this stems from significantly expanding Bowen's understanding of how differentiation surfaces in the ecology of love relationships, whether between adult lovers, or in parents' and children's non-sexual relationship. This includes identifying the natural emergence of *emotional gridlock* as a result of healthy differentiation (Schnarch, 1991). The ways emotional gridlock spontaneously emerges in general, and around intimacy (Schnarch, 1991), sexuality (Schnarch, 1997/2009), and sexual desire (Schnarch, 2009) in particular, have been outlined in great detail. Normal healthy couples inevitably become mired in emotional gridlock over any number of issues because self-differentiation permeates committed relationships as a result of evolution of the human brain and ongoing sociobiology.

Gridlock occurs when one person in a relationship defines a position on an issue that blocks the preferred or acceptable position of another, and these positions become enmeshed in issues of regulating anxieties by accommodation and bolstering reflected sense of self. Resolving gridlock involves at least one person increasing their differentiation. The Crucible approach views gridlock as normal and inevitable, and conflict as healthy and necessary for personal growth. Going through gridlock creates anxiety, anger, feelings of rejection and emotional pressure that eventually (hopefully) reaches critical mass for change in the relationship, when the best in someone stands up under the pressure of their personal crucible and does what needs to be carried out or creates a new solution. This resolves emotional gridlock, and raises the individual's differentiation. It is a positive-psychology approach that views resolving gridlock as the "people-growing machinery" (Schnarch, 1991) that fosters human resilience and evolution through prototypic problems plaguing individuals, families, and couples since prehistoric times. The ability to maintain good cognitive functioning and emotional self-regulation during stressful situations develops through high-anxiety, high-meaning encounters, which emerge during the course of marriage, love relationships, family, school, and work life.

The Crucible Four Points of Balance™ are a major advance in operationalizing differentiation, making it more understandable and giving clients practical applications that help them get through gridlock (Schnarch, 2009). These four uniquely human abilities, evolved over millions of years, are intrinsic to the human brain and constitute the basis of differentiation. The Four Points of Balance control moment-to-moment interactions with partners, parents, children, friends, and co-workers, as well as the internal operations of the human self that underlie emotional regulation and autonomy.

The Four Points of Balance are as follows: Point #1: *Solid Flexible Self*. This is the ability to maintain a solid sense of self, rather than depending upon a positive reflected sense of self from others, allowing you to maintain your own psychological shape when other people pressure you to conform. Likewise, it reflects the ability to change and adapt, accept influence from others as good judgment dictates, and heed good advice without losing sight of your goals and values. Point #2: *Quiet Mind and Calm Heart*. This involves the capacity to soothe your own feelings, regulate powerful emotions, and control your anxieties, rather than maintaining emotional balance by dominating or accommodating others, or by becoming emotionally distant or intrusive. According to the Crucible approach, people who cannot control themselves control the people around them (Schnarch, 2009). Point #3: *Grounded Responding*. This is the ability to make modulated proportionate responses to provocations and difficult circumstances. This means not locking into arguments or over-reacting, while also staying emotionally invested and not avoiding difficult people or situations that need to be handled. Point #4: *Meaningful Endurance*. This is the ability to get out of your "comfort zone," tolerate discomfort for growth, and persevere through disappointment and hardship to accomplish your goals. It is also knowing when your efforts are foolhardy and it is time to give up (Schnarch, 1991, 1997/2009, 2002, 2009).

The stronger your Four Points of Balance, the more differentiated you are. Applications of the Crucible Four Points of Balance have shown promise with domestic violence batterers (Schnarch, 2008), families (Schnarch, Regas, & Morehouse, 2009), and poverty-level parents

(Schnarch & Regas, 2008). Crucible Four Points of Balance guide clinicians in where and how to look at clients in four critical areas, both initially, over the course of treatment, particularly in difficult moments in treatment, and when debriefing clients' report of recent events. Similarly, the Four Points of Balance tell clients what to focus on in their darkest, most difficult, and out of control moments. They operationalize Bowen's brilliant theory of differentiation that helps clients become more differentiated in daily life and helps therapists to do differentiation-based therapy.

NEED FOR A NEW DIFFERENTIATION MEASUREMENT INSTRUMENT

At the present time, no measure of differentiation addresses the Four Points of Balance. Likewise, no prior measure specifically targets both low and high differentiation. Thus, we developed the Crucible Differentiation Scale (CDS) to assess high and low differentiation in terms of the Four Points of Balance. Although both the CDS and the DSI address intrapsychic and interpersonal processes, the two scales differ in several respects. The CDS approaches differentiation through the Four Points of Balance whereas the DSI does not. The CDS is designed for individuals aged 22 and older who are single, married, or in an emotionally committed relationship. Whereas other instruments specifically examine differentiation in relationships with spouses or parents, the CDS considers all important relationships, including parents, siblings, children, partners, spouses, or significant others.

The CDS does not focus on fusion and cutoff as does the DSI. Bowen himself said emotional fusion and cutoff were highly correlated. "The greater the undifferentiation or fusion between the generations, the greater the likelihood the generations will cut off from one another" (Kerr & Bowen, 1988, p. 271). However, Emotional Cutoff and Fusion with Others subscales in the DSI were weakly correlated, demonstrating the smallest intercorrelations of all subscales. Moreover, Bowen used low differentiation and emotional fusion as interchangeable constructs, whereas the DSI has a (total) differentiation score and an emotional fusion score, raising confusion about the difference between the two.

According to the Crucible approach, emotional fusion is a common state of existence involving connection without separateness. Emotional fusion often leads to a sense of emotional estrangement and attempts to regulate one's emotions and sense of self through increased emotional and physical distance. At the same time, cutoff is another form of emotional fusion. Having separate Fusion and Cutoff scales encourage the common conceptual mistake of thinking people who have cut off from parent, partners, siblings, and children have no relationship with them, obviating Bowen's exact point. The Crucible approach and the CDS do not utilize the concept of emotional cutoff, preferring a view of emotional fusion that subsumes emotional cutoff rather than differing from it.

STUDY 1

Appropriate IRB clearance and ethical procedures were followed in all studies described in this article. Before beginning, each participant gave consent authorizing participation in the research study.

The purpose of Study 1 was to create the CDS. Together with our research team, we generated numerous potential scale items based on the Four Points of Balance and our theoretical knowledge of and clinical experience with the Crucible approach. The resulting 133-items were administered to staff, faculty, and undergraduate and graduate students attending a six-campus university in the United States who responded to an "open call" broadcast email, as well as friends and colleagues of the research team. In all studies reported here, the CDS was administered via an Internet testing website using a 6-point Likert-type scale, ranging from not at all true of me (1) to very true of me (6). Test materials described the project as a voluntary, anonymous research study focusing on feelings, thoughts, and beliefs about oneself and relationships with others. Participants were instructed to think about their relationships with parents, siblings, children, as well as partners and significant others, as they answered the CDS questions. No compensation for participation was offered. Complete responses were obtained from 918 participants.

To narrow the number of items on the scale, we conducted a principal-components analysis using a nonorthogonal oblimin rotation. The resulting scree plot revealed a large break between the sixth and seventh components; consequently, a six-factor solution was deemed acceptable. The six factors accounted for 45.39% of the variance. Items with factor loadings of 0.40 or greater were retained; highly intercorrelated items were eliminated. Six components were identified. Three represented high differentiation: Solid Self ($\alpha = 0.84$), Anxiety Regulation through Self-Soothing ($\alpha = 0.92$), and Tolerating Discomfort for Growth ($\alpha = 0.77$). Three factors represented low differentiation: Reactivity through Avoidance ($\alpha = 0.93$), Reactivity through Arguments ($\alpha = 0.79$), and Anxiety Regulation by Accommodation ($\alpha = 0.84$). Overall reliability for the resulting CDS Global scale was high ($\alpha = 0.96$).

STUDY 2

The factor structure of the original CDS was retained in Study 2. Three experts in differentiation and the Four Points of Balance generated 13 additional items to better cover our understanding of differentiation especially in the area of tolerating discomfort for growth. The resulting 68-items were administered online, together with the Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983). Our sample of 774 participants was recruited from students, faculty, and employees of a six-campus university within the United States who responded to a broadcast email, in addition to visitors to the Marriage and Family Health Center Website. Of these, 76% were women and 81.9% were European American. African American (2.9%), Asian (4.9%), Hispanic/Latino (7.4%), and multiethnic (2.9%) participants comprised the collective minority.

A principal-components analysis was conducted using a nonorthogonal oblimin rotation. The resulting scree plot revealed a large drop between the sixth and seventh components; consequently, a six-factor solution was deemed acceptable. The six factors accounted for 50% of the variance. Scale items with factor loadings of 0.40 or higher were retained. The same six components were identified: Solid Self ($\alpha = 0.86$), Anxiety Regulation through Self-Soothing ($\alpha = 0.90$), Tolerating Discomfort for Growth ($\alpha = 0.81$), Reactivity through Avoidance ($\alpha = 0.84$), Reactivity through Arguments ($\alpha = 0.71$), and Anxiety Regulation through Accommodation ($\alpha = 0.79$). Overall, reliability for the resulting CDS Global scale was high ($\alpha = 0.91$).

Correlations among subscales were small to moderate, ranging from 0.21 to 0.62. Because the factors were skewed, Spearman correlations were computed and compared to the Pearson correlations. Differences between the two sets of correlations were negligible (i.e., never exceeding .04).

Pearson correlations were then computed between subscales of the CDS, the Global CDS measure, and HADS Anxiety and Depression subscales. In support of CDS construct validity, anxiety correlated significantly and negatively with Global CDS ($r = -.48$), and with the CDS subscales representing high differentiation: Solid Self ($r = -.44$), Anxiety Regulation through Self-Soothing ($r = -.67$), and Tolerating Discomfort for Growth ($r = -.29$). Anxiety correlated significantly and positively with three CDS subscales representing low differentiation: Reactivity through Avoidance ($r = .39$), Reactivity through Arguments ($r = .28$), and Anxiety Regulation by Accommodation ($r = .28$), all $ps < .001$. Depression correlated significantly and negatively with Global CDS ($r = -.43$), and with CDS subscales representing high differentiation: Solid Self ($r = -.36$), Anxiety Regulation through Self-Soothing ($r = -.52$), and Tolerating Discomfort for Growth ($r = -.31$). Depression correlated significantly and positively with the CDS subscales representing low differentiation: Reactivity through Avoidance ($r = .42$), Reactivity through Arguments ($r = .28$), and Anxiety Regulation by Accommodation ($r = .14$), all $ps < .001$.

STUDY 3

In Study 3, we sought a subscale that would tap the dimension of connectedness. Part of having a solid and flexible self is the ability to invest in relationships and maintain them through collaboration and cooperation. We generated 17 items based on our theoretical knowledge of the ability to make emotional investments in others. When added to the 53 items

resulting from Study 2, this yielded a new 72-item CDS. Participants were recruited as before and complete responses from 778 participants were obtained. Seventy-five percent of respondents were women and 82% were European American. African American (2.7%), Asian (5%), and Hispanic/Latino (6.2%) participants comprised the collective minority.

A principal-components analysis using a nonorthogonal oblimin rotation was conducted. The resulting scree plot revealed a large break between the seventh and eighth components; consequently, a seven-factor solution was deemed acceptable. Overall, the seven factors accounted for 50% of the variance. Items with factor loadings of 0.40 or higher were retained, resulting in a new eight-item connectedness subscale. The following seven components were identified: Solid Self ($\alpha = .86$), Connectedness ($\alpha = .78$), Anxiety Regulation through Self-Soothing ($\alpha = .89$), Anxiety Regulation through Accommodation ($\alpha = .73$), Reactivity through Avoidance ($\alpha = .84$), Reactivity through Arguments ($\alpha = .71$), and Tolerating Discomfort for Growth ($\alpha = .81$). Overall reliability for the CDS scale was high ($\alpha = .92$).

STUDY 4

The purpose of Study 4 was to revise the Anxiety Regulation through Accommodation subscale and further examine CDS construct validity. Review of item content of this subscale revealed that it was measuring the willingness to compromise, whereas it was intended to assess the tendency to feel dominated by others' needs and preferences or to appease or please others, ultimately leading to resentment. We eliminated some items based on results of Study 3 and generated 20 new items as in the previous studies. The online survey included the 80-item CDS, demographic questions, the Socially Desirable Response Set Five-Item Survey (SDRS; Hays, Hayashi, & Stewart, 1989), the Kansas Marital Satisfaction Scale (KMS; Schumm et al., 1986), and the Quality of Life Scale (QLS; Flanagan, 1978).

Students, faculty, and staff of a six-campus university in the United States, as well as visitors to the Marriage and Family Health Center website, were asked to participate. A total of 1,037 subjects responded; 9.8% of the sample reported participating in our prior studies. Seventy-two percent were women and 82% were European American. A minority of the sample indicated they were Asian-Pacific Islander (3.2%), Asian-Indian subcontinent (1.1%), Hispanic/Latino (2.7%), African American (2.2%), American Indian or Alaskan Native (0.5%), or multiethnic (0.3%). Overall, 23.7% of the sample was between 45 and 54 years of age, 25.5% were between ages 35 and 44, and 24.4% were between ages 26 and 34. A minority ranged in age from 18 to 25 (12.5%), 55 to 59 (7.4%), 60 to 64 (4.4%), or older (2.2%). Most respondents were employed or attending school full time (63%). Eighty-one percent were in an emotionally committed relationship, 10.6% were single or never married, and 8.5% were divorced or separated. Eighty-nine percent were heterosexual, 2.5% were lesbian, 1.7% were gay men, 5.2% were bisexual, 0.2% were transgendered, and 1.7% described themselves as "other."

Results

Factors, reliabilities, and construct validity. The resulting scree plot revealed a large break between the seventh and eighth components; hence, a seven-factor solution was deemed acceptable. Overall, the seven factors accounted for 50% of the variance. Items with factor loadings less than 0.40 on a single factor were eliminated. The resulting 63-item CDS contained seven subscales. Sample items in each subscale are shown in Table 1. Summary statistics and internal alpha coefficients for the Global CDS score and subscales are presented in Table 2. Reliability of the Global CDS measure was high ($\alpha = .94$) and subscale reliability ranged from acceptable to high. Intercorrelations between subscales ranged from 0.13 to 0.57 (see Table 3).

Forty respondents completed the CDS a second time 14–21 days after the initial self-administration. Results indicated high Global CDS test–retest reliability (Pearson correlation = 0.90; Spearman Rho = 0.86); subscale test–retest reliabilities were also high ranging from 0.72 to 0.89.

Correlations between the CDS and the Socially Desirable Response Set Survey (SDRS) were negligible to moderate ($r = .09$ to $.43$). We hypothesized the CDS would be highly correlated with the QLS and moderately correlated to the KMS. Results presented in Table 4

Table 1

Sample Items for Crucible Differentiation Scale Factors Organized According to Crucible Four Points of Balance

Factor 1: Solid Self (Solid Flexible Self, 14 items)

I tell people what I think they want to hear (R)

I have held on to principles and values when it did not make me popular

Factor 2: Connectedness (Solid Flexible Self, 9 items)

My relationships are as much about caring for others as getting my own needs met

Factor 3: Anxiety Regulation through Self-Soothing (Quiet Mind & Calm Heart, 14 items)

I remain calm and cope with anxiety-provoking situations

My feelings control me too much (R)

Factor 4: Anxiety Regulation through Accommodation (Quiet Mind & Calm Heart, 5 items)

I am less focused on myself than I am on others (R)

I put up with more than I should in order to keep things as pleasant as possible (R)

Factor 5: Reactivity through Avoidance (Grounded Responding, 5 items)

When people disappoint me, I move away emotionally or physically (R)

Factor 6: Reactivity through Arguments (Grounded Responding, 5 items)

I often try to argue people out of their point of view (R)

Factor 7: Tolerating Discomfort for Growth (Meaningful Endurance, 9 items)

I have made changes in my life that have been extremely difficult to make

I am able to take criticism and learn from it

Note. Higher scores on 5, 6, and 7 equate to lower differentiation. Higher scores on Factors 1, 2, 3, & 4 equate to higher differentiation. R = Reversed Score.

Table 2

Study 4 Subscales of the Crucible Differentiation Scale (CDS), Global Score, Reliabilities, and Summary Statistics (N = 1,037)

Subscale	Alpha	M	SD	Skew/standard error
Solid Self	0.91	4.63	0.70	-8.01
Connectedness	0.78	4.57	0.65	-7.24
Anxiety Regulation: Self-Soothing	0.91	4.21	0.83	-9.51
Tolerating Discomfort for Growth	0.80	4.43	0.71	-3.82
Reactivity through Avoidance	0.77	2.77	0.85	-9.21
Reactivity through Arguments	0.74	2.30	0.66	-9.99
Anxiety Regulation: Accommodation	0.83	3.03	0.79	-7.63
Global CDS	0.94	4.40	0.50	-5.39

support these hypotheses. The CDS Global score and high differentiation subscales were significantly positively correlated with the QLS ($r = .27$ to $.55$) and the KMS ($r = .16$ to $.28$). The CDS low differentiation subscales were significantly negatively correlated with the QLS ($r = -.29$ to $-.33$) and the KMS ($r = -.14$ to $-.24$).

Demographic Comparisons and Correlations

Gender. Global CDS scores were not significantly correlated with gender $t(1035) = -1.69$, $p = .091$. However, female participants had significantly lower Regulating Anxiety through Self-Soothing scores ($M = 4.13$) than men ($M = 4.41$; $t(1035) = -5.04$, $p = .000$) and lower

Table 3
Study 4 Pearson Correlations between Crucible Differentiation Subscales

Subscale	1	2	3	4	5	6	7
1 Solid Self	—						
2 Connectedness	0.13	—					
3 Anxiety Regulation: Self-Soothing	0.57	0.15	—				
4 Tolerating Discomfort for Growth	0.48	0.37	0.43	—			
5 Reactivity through Avoidance	−0.31	−0.16	−0.46	−0.33	—		
6 Reactivity through Arguments	−0.42	−0.24	−0.54	−0.30	0.37	—	
7 Anxiety Regulation: Accommodation	−0.51	−0.20	−0.40	−0.17	0.26	0.26	—

Note. Higher scores on Solid Self, Connectedness, Anxiety Regulation through Self-Soothing, Tolerating Discomfort for Growth, and Global Score reflect higher differentiation. Higher scores on Reactivity Thorough Avoidance, Reactivity through Arguments, and Anxiety Regulation through Accommodation equate to lower differentiation. All correlations are significant at $p < .001$.

Table 4
Study 4 Pearson Correlations of the Crucible Differentiation Scale (CDS) with Published Scales

Subscales of the CDS	QOL ($N = 1,024$)	KMS ($N = 1,021$)	SDRS ($N = 909$)
Solid Self	0.37***	0.16***	0.28***
Connectedness	0.27***	0.20***	0.19***
Anxiety Regulation: Self-Soothing	0.51***	0.22***	0.26***
Tolerating Discomfort for Growth	0.35***	0.16***	0.27***
Reactivity through Avoidance	−0.29***	−0.19***	−0.24***
Reactivity through Arguments	−0.33***	−0.14***	−0.43***
Anxiety Regulation: Accommodation	−0.30***	−0.24***	−0.06
Global Crucible Differentiation Score	0.55***	0.28***	0.37***

Note. Higher scores on Solid Self, Connectedness, Anxiety Regulation through Self-Soothing, Tolerating Discomfort for Growth, and Global Score reflect higher differentiation. Higher scores on Reactivity through Avoidance, Reactivity through Arguments, and Anxiety Regulation through Accommodation equate to lower differentiation. QOL = Quality of Life Scale; KMSS = Kansas Marital Satisfaction Scale; SDRS = Socially Desirable Response Scale Five-Item Survey.

*** $p < .001$.

Regulating Anxiety through Accommodation scores ($M = 2.99$) than men ($M = 3.14$; $t(1035) = 2.70$, $p = .007$). Female participants scored significantly higher on Regulating Reactivity through Avoidance ($M = 2.30$) than men ($M = 2.29$), $t(1035) = -2.01$, $p = .045$).

Age. Global CDS scores varied significantly across age groups $F(7, 1029) = 3.13$, $p = .003$. Post hoc Tukey tests did not yield significant age group comparisons. Self-soothing factor scores also varied significantly across age groups $F(7, 1029) = 5.06$, $p = .000$. Respondents aged 22–25 years had significantly lower self-soothing scores ($M = 4.05$) than those aged 45–54 ($M = 4.32$; $p < .049$), 55–59 ($M = 4.40$; $p = .037$), and 65 years or older ($M = 4.58$;

$p < .035$). Likewise, participants aged 26–34 years had significantly lower self-soothing scores than those aged 45–54 ($p = .026$), 55–59 ($p = .032$), and 65 years or older ($p < .042$).

Connectedness scores also varied significantly across age groups $F(7, 1029) = 3.14$, $p = .003$. Respondents aged 22–25 years had significantly higher mean connectedness scores ($M = 4.73$) than those 35–44 ($M = 4.51$; $p = .047$) or 45–54 ($M = 4.50$; $p = .020$). Participants aged 26–34 years had significantly higher connectedness scores ($M = 4.68$) than those aged 45–54 ($p = .030$). Reactively locking into arguments scores also varied significantly across age groups $F(7, 1029) = 2.84$, $p = .006$. However, post hoc Tukey tests did not yield statistically significant group comparisons. Scores related to Regulating Reactivity by Avoiding varied significantly across age groups $F(7, 1029) = 3.88$, $p = .000$. Respondents aged 22–25 years had higher scores ($M = 3.97$) than those 45–54 ($M = 4.33$; $p = .003$), 55–59 ($M = 4.32$; $p = .048$), 60–64 ($M = 4.40$; $p = .043$), and 65 or older ($M = 4.52$; $p = .038$).

Tolerating Discomfort for Growth subscale scores also varied significantly across age groups $F(7, 1029) = 4.45$, $p = .000$. Respondents aged 22–25 years had lower scores ($M = 4.16$) than those 35–44 ($M = 4.42$; $p = .023$), 45–54 ($M = 4.53$; $p = .000$), 55–59 ($M = 4.56$; $p = .001$), and 60–64 years old ($M = 4.56$; $p = .017$).

Relationship status. Respondents who were married or in an emotionally committed relationship did not have significantly different Global CDS scores than those who were single $t(1035) = 0.70$, $p = .487$. However, they scored significantly lower on Regulating Reactivity through Avoidance ($M = 2.72$) than singles ($M = 2.85$), $t(1035) = 2.33$, $p = .020$ and significantly higher ($M = 3.09$) on Regulating Anxiety through Accommodation than single participants ($M = 2.40$), $t(1035) = -3.03$, $p = .003$.

Ethnicity. Ethnic comparisons between European Americans, Asian-Indian subcontinent, Hispanic/Latino, African American, American Indian or Alaskan Native, or multiethnic participants did not yield statistically significant findings $t(1034) = 1.38$, $p = .167$. However, among the small sample of Asian-Pacific Islanders, Sense of Self scores were significantly lower, Regulating Anxiety through Accommodation scores were significantly higher, and Connectedness scores were significantly higher than other ethnic groups ($M = 4.19$) versus ($M = 4.65$), $t(1034) = -3.80$, $p = .000$; ($M = 3.65$) versus ($M = 3.98$), $t(1034) = -2.44$, $p = .015$; ($M = 4.81$) versus ($M = 4.56$), $t(1034) = 2.22$, $p = .026$. As a result, their overall CDS Global scores were significantly lower ($M = 4.21$) than other ethnic groups ($M = 4.41$), $t(1034) = -2.24$, $p = .025$. Also, European Americans scored significantly lower on Regulating Reactivity through Avoidance ($M = 4.25$) than other ethnic groups ($M = 4.09$), $t(1034) = 2.01$, $p = .045$.

STUDY 5

A final study was conducted to confirm the factor structure of the 63-item CDS used in Study 4. This version of the online survey was administered to a sample of 622 participants recruited from diverse websites, Facebook, Craigslist, as well as from the six-campus university in the United States; 69.2% were women, 86.9% were heterosexual and 79.6% were European American. Asian (1.8%), Hispanic/Latino (4.7%), African American (3.6%), American Indian or Alaskan Native (0.2%), and multiethnic (9.0%) represented a collective sample minority. Seventy-two percent were married, in a domestic partnership, or in an emotionally committed relationship. Confirmatory Factor Analysis (CFA) procedures were conducted using the AMOS 7 program. (Pearson Correlations for Indicator Variables are available from the authors.) Multiple indices were used to evaluate the factor model: the Adjusted Goodness of Fit Index measuring absolute fit, the incremental Comparative Fit Index, Normed Fit Index, and the Root Mean Squared Error. Values >0.80 on the Adjusted Goodness of Fit Index (Joreskog & Sorbom, 1993) and >0.90 on the Comparative Fit Index and Normed Fit Index indicate good model fit (Hu & Bentler, 1999). Values <0.06 on the Root Mean Squared Error indicate good fit (Hu & Bentler, 1999) while values ranging from 0.08 to 0.10 indicate mediocre fit, and those >0.10 indicate poor fit (Byrne, 2001). The fit of this seven-factor model was acceptable ($\chi^2 = 817.66$, $p = .000$; Comparative Fit Index = 0.91; Normed Fit Index = 0.90; Adjusted

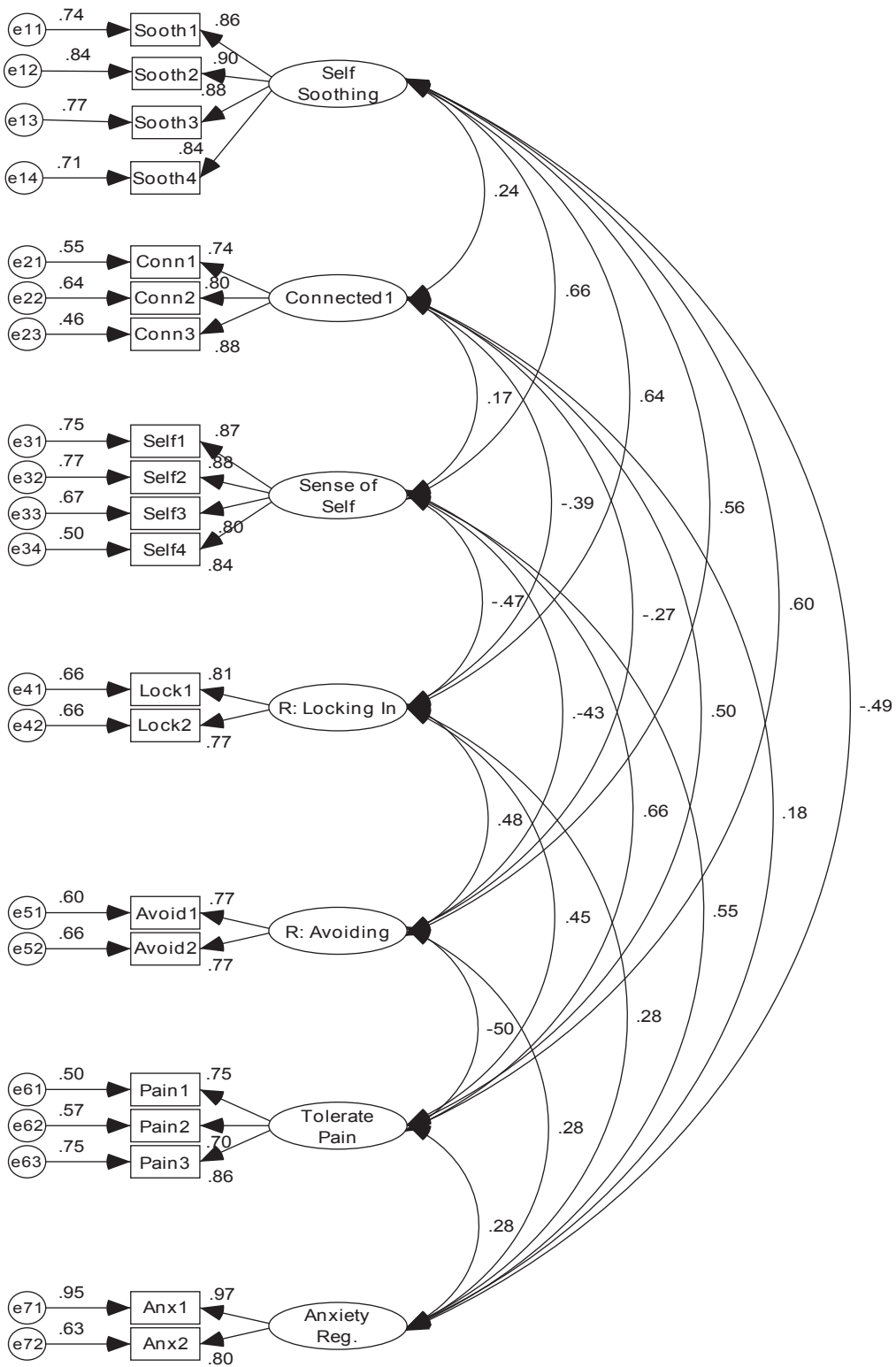


Figure 1. Study 5: Seven Factor Confirmatory Factor Loadings, error variance and correlations among the latent variables.

Goodness of Fit Index = 0.82; Root Mean Squared Error = 0.08). The indicator variables loaded highly and significantly with their respective constructs (see Figure 1).

DISCUSSION

Results of the five studies suggest we have developed a reliable and valid measure of differentiation, worthy of use now and ongoing further development. The CDS revealed seven factors of differentiation demonstrating acceptable to high internal consistency. Confirmatory factor analyses demonstrated support for the seven-factor model yielded by CFA procedures. These seven factors map out the Four Points of Balance used by the Crucible approach to operationalize differentiation. The First Point of Balance, Solid Flexible Self, is measured by two high differentiation factors. *Solid Self* centers on holding onto yourself in close physical and/or emotional contact with important people in your life, despite pressure from them to conform. This clearly defined self involves an accurate identity, intrinsic self worth, and lasting values and goals. It develops through difficult self-confrontation rather than internalizing positive affirmations from others. It is both stable and flexible over time, allowing you to change, adapt, and learn from experience. This is the basis of what Bowen said about differentiation being the ability to make rational decisions based on values developed over time, and not be overly influenced by your or other people's emotions, feelings, and anxieties. The factor *Connectedness* measures your ability to have profound connections to others, which involves the personal solidity to emotionally invest and be caring and compassionate toward others, and the flexibility to collaborate and cooperate. Both factors are important parts of Solid Flexible Self.

The Second Point of Balance, Quiet Mind and Calm Heart, is measured by two factors assessing high and low levels of differentiation. *Anxiety Regulation through Self-Soothing* is the ability to soothe your own feelings, regulate powerful emotions, and control your own anxieties. *Anxiety Regulation through Accommodation* is the tendency to regulate your own and other people's anxiety by compromising yourself to keep the peace. Bowen said relationships become stale or brittle when partner use their relationship or each other to regulate their anxiety, simultaneously increasing the togetherness pressure between them, and increasing their impulse to blow apart. Anxiety regulation through accommodation is the mechanism underlying his stunning observation. This pattern is normal, everyone does it, and sometimes it is adaptive, but depending on anxiety regulation through accommodation limits your autonomy as well as the stability and vibrancy of your relationships.

The Third Point of Balance, Grounded Responding, is measured by two factors assessing low differentiation. *Reactivity through Arguments* measures overreacting by reflexively locking into arguments and maintaining a fixed position. *Reactivity through Avoidance* looks at the tendency to overreact by avoiding difficult situations or people. Bowen said well-differentiated people make modulated reactions to other people's anxiety and reactivity. The Fourth Point of Balance, Meaningful Endurance, reflects high differentiation and is measured by a single factor, *Tolerating Discomfort for Growth*. Bowen thought being able to tolerate hard times and do difficult things distinguished people who could improve their differentiation. This was Bowen's key factor that distinguished people in Quadrant Two from those in Quadrant One. Global CDS scores provide the best overall measure of differentiation and the best assessment of the Four Points of Balance.

Results indicate high reliability of the CDS Global measure of differentiation and moderate to high subscale reliabilities. Construct validity was demonstrated in that Quality of Life scores were strongly positively correlated with CDS Global scores and the Anxiety Regulation through Self-Soothing subscale. Global CDS scores were strongly negatively correlated with anxiety and depression. CDS Global scores and high differentiation subscales were positively correlated with marital satisfaction. As expected, low differentiation subscales were negatively correlated. This supports Bowen's (1976, 1978) and Schnarch's (1991) contention that highly differentiated people are less depressed, better able to self-soothe, tolerate and regulate anxiety and thus live healthier and happier lives. The more a clinician can help clients increase their Four Points of Balance, the more they may seek happiness and fuller meanings in life.

Subgroup Results

Results indicated older individuals score higher on differentiation as one might expect from life span research on emotional regulation (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000). This is also consistent with the Crucible approach's view that going through emotional gridlock (Schnarch, 1991) and other predictable life crucibles prod us to develop greater clarity of self, self-regulation, non-reactivity, and distress tolerance. Younger people scored higher on Connectedness, lower on Anxiety Regulation through Self-Soothing and Tolerating Discomfort for Growth, and higher on Reactivity through Avoidance. Although connectedness is an integral part of differentiation, connectedness without self-regulation is emotional fusion. It is possible that younger people cling to relationships because they are less able to self-soothe and less willing to tolerate pain for growth, while also having greater tendency to overreact by locking into arguments and avoiding difficult situations.

Likewise, we found no difference in overall differentiation between singles and people who are married or in committed relationships. This is consistent with the Crucible approach's assertion that all relationships are people-growing machines, whether with partners, close friends, children, parents, siblings, or colleagues. However, people in relationships were less likely to avoid difficult issues and more likely to accommodate to keep the peace. This finding is not surprising given that people in relationships who lack these traits are more likely to end up single.

Our samples were heavily biased toward European American heterosexual women. Accordingly, interpretations regarding gender, ethnicity, and sexual orientation are speculative at best. As Bowen (1978) and Schnarch (1997/2009) would predict, men and women did not differ in differentiation as measured by CDS Global scores. There were no differences on Solid Self, Connectedness, Reactivity through Arguments, and Tolerating Discomfort for Growth subscales. However, men in our sample were *better* able to self-soothe and *less* likely to avoid difficult situations or people than women. Conversely, women were *less* likely than men to regulate their anxiety through accommodation. These findings contradict conventional gender stereotypes. This may be an artifact stemming from the small number of men and the large number of women in our sample. Interpretation of gender differences should be postponed pending further research with an equal sample of men and women of diverse education and socio-economic levels.

No differences in Global CDS scores were found between European Americans, Asian-Indian subcontinent, African American, American Indian or Alaskan Native, Hispanic/Latino, and multiethnic participants. This is consistent with Bowen's (1978) notion of differentiation being a universal process. However, Asian-Pacific Islanders were more connected with others and more conforming to group pressure when compared to other ethnic groups. Unquestionably, some ethnicities value conformity and emphasize the collective more than others. Differentiation most likely transcends race and ethnicity in how the brain deals with the disorganizing effects of anxiety and strong emotions; yet, there is no reason to think a well-differentiated person looks exactly the same in all cultures. Given the small and unequal ethnic subgroup sample sizes, interpreting ethnic differences would be unwise at this point. We hope researchers and clinicians will use the CDS with diverse populations and establish norms to enhance its clinical utility. Provided that the Four Points of Balance are thought to be universally important aspects of differentiation, this is critical future research.

Research Limitations

Besides the problems noted above, samples across the five studies were not independent. Some people participated in more than one study and may have inordinately influenced our results. Further testing with independent samples of more equal subgroup sizes is required to demonstrate that the obtained factor structure and CDS scores are valid across genders, cultures, and sexual orientations.

Developing a reliable and valid self-report measure of differentiation is difficult because poorly differentiated people, who depend on a reflected sense of self, cannot be counted on to acknowledge traits and behaviors of low differentiation. A social desirability response set is to be expected and it was moderately found in the CDS. Additional research cross-validating CDS scores with clinical ratings derived from structured interviews conducted by experts trained in

Bowen theory and the Four Points of Balance is needed. Likewise, if CDS scores are subsequently shown to covary with severity of psychological symptoms, this would provide further construct validity. Norms for distressed populations with psychological and relationship problems, and couples in treatment, need to be established.

Future Directions

We hope the CDS will be a clinically useful tool. The Four Points of Balance were developed to make the complex nature of differentiation simpler to understand and more practical to apply. The CDS encourages clients and therapists to identify life's struggles as problems of differentiation surfacing in developing a self and keeping one's emotional balance in important relationships. The Four Points of Balance break this abstract idea into four basic abilities that people need to develop. The Four Points of Balance also provides a mantra of four internal and interpersonal things to do in difficult times. The Four Points of Balance promulgate and elucidate Bowen's emphasis on differentiation as an ongoing balancing process, wherein individuals and relationships change as they become more differentiated while the need to balance self-development and relationship investment remains constant. More clinically useful therapies and instruments may arise by embracing the genius of Bowen's ideas rather than by trying to operationalize his words.

Crucible Four Points of Balance offer a practical, straightforward way for clients to implement the esoteric concept of differentiation in daily life. They promote resilience when client's focus on them in their darkest moments. Clients readily learn them, creating a conceptual framework for differentiation-based therapy. The Four Points of Balance create a powerful way for therapists to look at clients and themselves. They provide a crucible for personal self-scrutiny. Another basic tenant of Crucible therapy states: "A therapist cannot bring a client to a higher level of differentiation than he or she personally has developed." (Schnarch, 1991).

The CDS Global score and subscales reveal the presence or lack of emotional balance and identify strengths and weaknesses in terms of the Four Points of Balance. Subscale scores pinpoint which aspects most require development to enhance resilience, emotional functioning, and relationship stability. Difficulty with one Point of Balance often goes hand in hand with difficulty with the others, but sometimes one ability is particularly weak or strong.

Additional research is required to demonstrate that the CDS is sensitive to changes in clients' differentiation over the course of therapy. If this is born out, the CDS could and should be used to explore how the Four Points of Balance help clients organize and implement their efforts to raise their differentiation. Future investigations could test Schnarch's (1991, 1997/2009, 2002, 2009) proposition that Crucible therapy can increase clients' differentiation and pinpoint the factors involved. The CDS could be used in a wide variety of process research ranging from how the self evolves and people become better differentiated in adult relationships, to the interrelationship of differentiation, interpersonal neurobiology, and neuroplastic training in therapy (Schnarch, 2009).

The CDS may be useful in premarital counseling and therapy with individuals, couples, and families. It could be used to assess styles of coping with differentiation issues and identify problematic relationship patterns. The CDS could provide clinicians with useful ways of conceptualizing treatment by organizing it around a client's overall differentiation level and delineating his or her weakest and strongest aspects. There can be variations among someone's Four Points of Balance although they are not often drastically different. Moreover, it could be used in outcome research examining best practices in differentiation-based therapy, as Crucible therapy and Bowen therapy differ markedly. Much research remains to be carried out to demonstrate the efficacy of the CDS, but a promising foundation has been established.

REFERENCES

- Anderson, S. A., & Sabatelli, R. M. (1992). The Differentiation in the Family Systems Scale (DIFS). *American Journal of Family Therapy*, 20, 77–89.
- Bartle-Haring, S., Glade, A., & Vira, R. (2005). Initial levels of differentiation and reduction in psychological symptoms for clients in marriage and family therapy. *Journal of Marital and Family Therapy*, 31, 121–131.

- Bowen, M. (1976). Theory in the practice of psychotherapy. In P. J. Guerin. (Ed.), *Family therapy*. New York: Gardner.
- Bowen, M. (1978). *Family therapy in clinical practice*. New York: Jason Aronson.
- Bray, J. H., Williamson, D. S., & Malone, P. E. (1984). Personal authority in the family system: Development of a questionnaire to measure personal authority in intergenerational family processes. *Journal of Marital and Family Therapy*, 10, 167–178.
- Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. New Jersey: Lawrence Erlbaum Associates.
- Carstensen, L., Pasupathi, M., Mayr, U., & Nesselroade, J. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*, 79, 644–655.
- Flanagan, J. C. (1978). A research approach to improving our quality of life. *American Psychologist*, 33, 138–147.
- Haber, J. E. (1993). A construct validity study of a Differentiation of Self Scale. *Scholarly Inquiry for Nursing Practice: An International Journal*, 7(3), 165–178.
- Hays, R. D., Hayashi, T., & Stewart, A. L. (1989). A five-item measure of socially desirable response set. *Educational and Psychological Measurement*, 49, 629–636.
- Hovestadt, A. J., Anderson, J. T., Piercy, F. P., Cochran, S. W., & Fine, M. (1985). A Family-of-Origin Scale. *Journal of Marital and Family Therapy*, 11(3), 287–297.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1–55.
- Joreskog, K. G., & Sorbom, D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*. Chicago: Scientific Software International.
- Kerr, M. E., & Bowen, M. (1988). *Family evaluation*. New York: W. W. Norton.
- Licht, C., & Chabot, D. (2006). The Chabot Emotional Differentiation Scale: A theoretically and psychometrically sound instrument for measuring Bowen's intrapsychic aspect of differentiation. *Journal of Marital and Family Therapy*, 32(2), 167–180.
- McCullum, E. E. (1991). A scale to measure Bowen's concept of emotional cutoff. *Contemporary Family Therapy*, 13, 247–254.
- Schnarch, D. M. (1991). *Constructing the sexual crucible*. New York: W. W. Norton.
- Schnarch, D. M. (1997/2009). *Passionate marriage*. New York: W. W. Norton.
- Schnarch, D. M. (2002). *Resurrecting sex*. New York: HarperCollins.
- Schnarch, D. M. (2008). *Preliminary report of a pilot domestic violence intervention program*. Evergreen, CO: Marriage & Family Health Center.
- Schnarch, D. M. (2009). *Intimacy & desire*. New York: Beaufort Books.
- Schnarch, D., & Regas, S. (2008). Four points of balance parenting workshop. Workshop given for School of Choice Scholarship Program, Louisville, Kentucky.
- Schnarch, D., Regas, S., & Morehouse, R. (2009). Strengthening families through the Crucible® approach. Paper presented at the annual conference of the American Association for Marriage and Family Therapy, Sacramento, California.
- Schumm, W. R., Paff-Bergen, L. A., Hatch, R. C., Obiorah, F. C., Copeland, J. M., Meens, L. D., et al. (1986). Concurrent and discriminant validity of the Kansas Marital Satisfaction Scale. *Journal of Marriage and the Family*, 48(2), 381–387.
- Skowron, E. A. (2001). Predicting resiliency among inner-city youth: Family structure, differentiation, and connection. In M. Waldo & J. Romano. (Co-Chairs) (Eds.), *Prevention with children: counseling psychology innovations in system based prevention*. Symposium presented at the annual meeting of the American Psychological Association, San Francisco, CA.
- Skowron, E. A., & Dendy, A. K. (2004). Differentiation of self and attachment in adulthood: Relational correlates of effortful control. *Contemporary Family Therapy: An International Journal*, 26, 337–357.
- Skowron, E. A., & Friedlander, M. L. (1998). The Differentiation of Self Inventory: Development and initial validation. *Journal of Counseling Psychology*, 45(3), 235–246.
- Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica*, 67, 361–370.