

Mini-Markers: A Brief Version of Goldberg's Unipolar Big-Five Markers

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Goldberg (1992) developed a robust set of 100 adjective markers for the Big-Five factor structure found in phenotypic personality description. Because an even briefer marker set might be advantageous under certain assessment conditions, the performance of these 100 markers in 12 data sets was scrutinized, leading to the selection of an optimally robust subset of only 40 adjectives. This "Mini-Marker" subset demonstrated unusually impressive features for an abbreviated inventory, consisting of five scales that show, in comparison to the original scales, less use of difficult items, lower interscale correlations, and somewhat higher mean inter-item correlations; alpha reliabilities are somewhat lower. A format for administering this briefer inventory is appended.

In response to the need in personality research for simple-structured measures of the Big Five, five domains that subsume most English-language terms for personality attributes, Goldberg (1992) developed a set of 100 unipolar adjective markers of the Big-Five factor structure. Each of the five factors is indexed by a 20-item scale, for which Goldberg reported alpha reliabilities ranging from .82 to .97 in various data sets. The 100 adjectives reproduce the expected five-factor structure with extraordinary robustness (Goldberg, 1992; Goldberg & Rosolack, in press) and have already provided a standard Big-Five representation in other studies (e.g., Hofstee, de Raad, & Goldberg, 1992; Johnson & Ostendorf, 1993; Saucier, 1992, 1994). Goldberg (1992) noted that relatively small sets of variables can serve as markers of the Big-Five structure and that variables administered in the unipolar format appear to be more robust across samples than are bipolar scales.

Compared to the best-known personality measures, an inventory with only 100 items is rather brief, requiring about 10 to 15 min of subject time. But for some research, teaching, and assessment purposes, even a 100-item inventory is too lengthy. Sometimes research calls on a subject to rate a number of people individually or to rate the relevance of attributes to a number of different concepts (or the attributes to one another). In these instances, the compounding of 10 to 15 min parcels can lead to a large load on rater time and patience. And conceivably, the fatiguability or short attention span of some subjects could make very brief measures desirable even in single-target ratings.

Moreover, a well-constructed shorter set might correct two problems in the larger inventory. First, as with other previous Big-Five measures (Block, in press; Parker, Bagby, & Summerfeldt, 1993), the 100 markers are beset by moderately high interscale correlations (as high as .58, Goldberg, 1992, Table 5). Second, the 100 markers include a number of difficult (e.g., *Imperturbable*) and negation (e.g., *Uncharitable*) terms that add user-unfriendliness to an otherwise attractive measure.

Goldberg (1992) developed a shorter bipolar inventory for the Big Five consisting of only 35 bipolar scales, but this inventory proved less robust than the 100 unipolar markers. To date no shorter Big-Five marker set has been published that can match the robustness of the 100 unipolar markers.

An abbreviated measure almost inevitably suffers from a loss of reliability compared to the full measure. This study seeks to provide a shorter Big-Five marker set with robustness equal to that of the 100 unipolar markers, making up for the loss of reliability with improved item and scale characteristics.

METHOD

Overall Strategy

Goldberg set as a goal "the discovery of a relatively small set of variables that will uniformly produce the Big-Five factor structure; such a marker set should include five reasonably homogeneous subsets of variables, each subset being roughly orthogonal to all the others" (1992, p. 27). Homogeneity promotes high reliability; reliability and orthogonality promote factorial robustness across samples. This study reflects the same goal, except that in this study the 100 unipolar adjectives themselves constitute the sample of variables from which a still smaller set of variables is derived. This strategy, in deriving a brief set to compare to the full set of 100 markers, is to maximize brevity while minimizing loss of reliability. To this end, factor analyses of the 100 markers in various samples of moderate size (N from 132 to 320; total $N = 1,458$) were examined to select first the tightest subset of factor-marker items.

Data Sets

One sample consisted of 489 college students who described themselves using a 9-point rating scale (Goldberg & Rosolack, in press). This large sample was split into two subsamples, one consisting of 207 men, the other of 282 women. A second sample consisted of 132 community-college students who described themselves using a 9-point scale, identical to that used by the first sample.

Three of the four remaining samples were described in Goldberg (1992). These included (a) a Self-rating sample of 320 college students who used a rating scale with seven steps from -3 to +3, (b) a Liked-peer sample of 316 of the same students using the same response format, who described someone of their sex and approximate age whom they knew well and liked, and (c) a Pooled-peer sample of 205 students who were randomly assigned to describe either a liked peer, a peer they neither liked nor disliked, or a disliked peer, in each case someone of their own sex and approximate age.

A final sample consisted of 187 college students who described themselves using an eight-step rating scale, with omitted responses given a middle (5) value in a transformed rating scale (Goldberg, 1990, Study 1); only 99 of the 100 markers were included in the stimulus set administered to this sample (*neat* being omitted).

For each of these samples, the original ratings of each subject were *z* scored on the basis of the full set of terms in each inventory. These analyses are based on the 7 *z* scored data sets as well as 5 of the original-rating data sets, 12 data sets in all.

In each sample, the Big-Five markers were embedded within a larger inventory ranging from 198 adjectives (second sample) to 1,710 adjectives (sixth sample).¹

Analyses

As Goldberg (1990) showed, in typical collections of personality adjectives Big-Five factor structures emerge in similar form regardless of factor-extraction or factor-rotation method. For my purposes, a very common method was employed: The sets of 100 Big-Five markers (99 in the fourth sample) were analyzed by extracting five principal components and rotating them by varimax.

¹Having been embedded in larger inventories seems to have had few consequences on item responses; in analyses available from myself, the 40-item subset selected by these procedures produced the Big-Five factor structure with ease, even in samples of fewer than 100 subjects. In very small samples ipsatized (*z*-scored) subject responses to the 40 items produced a considerably clearer factor structure.

For each marker term in each data set, factor purity was assessed according to two definitions. Using a broad definition, a suitably factor-pure adjective was one that had its highest loading on the expected Big-Five factor. Using a narrow definition, a suitably factor-pure adjective not only had its highest loading on the expected factor, but also had a loading on that factor that was at least double the loading on any other factor. For each marker term, the frequency of samples in which it failed to meet either the broad or the narrow definition of factor purity was noted. A briefer set of marker terms was then selected primarily on the basis of the factor purity of each of the 100 terms. This briefer set was then subjected to factor analyses, reliability analyses, and comparisons to the factors derived from the full set of 100 markers.

RESULTS

Table 1 depicts the factor purity of each of the 100 items across the 12 data sets. Across these 12 data sets, Goldberg's marker items loaded most highly on the expected factor in 1,112 out of 1,198 cases (93%). Only 37 items loaded most highly on an unexpected factor in any data set, and thus 63 (63%) of the items met the broad definition of factor purity in all 12 data sets. Moreover, the highest loading on the expected factor was at least double that on any other factor in 838 out of 1,198 cases (70%). Some 79 of the items failed to meet this narrower definition of factor purity in at least 1 data set, so there remained 21 items that were factor pure across all 12 data sets even by the narrow definition.

Eight items were selected for each Big-Five factor. Initially, a brief marker subset was straightforwardly selected by including the items for each scale showing the highest factor factor purity. This initial 40-item subset included all of the adjectives that had met the "narrower" definition of factor purity. However, this initial marker subset was revised with three goals in mind: (a) increasing "user-friendliness" by reducing the number of terms beginning with the prefix *un-*; (b) decreasing the number of root-negation pairs (e.g., *kind-unkind*) within the marker subset; and (c) increasing the already high correlation of the scales with scales from the full set of 100 markers, by incorporating terms correlating highly with residuals from the regression of the initial subset scales onto the full scales.

In this revision, 9 substitutions were made, so that terms beginning with *un-* were reduced from 8 to 4 and root-negation pairs were reduced from 9 to 6. The number of terms in the full set of 100 that correlated over .40 with residuals from the regression of the subset scales onto the full scales was reduced from 17 to 6, the 6 remaining each being among the least factor-pure marker terms in Table 1.

Four items each were selected to mark the positive and negative poles of Factors I (Extraversion), II (Agreeableness), and III (Conscientiousness). As

TABLE 1
Factor Univocality of 100 Big-Five Marker Items Across 12 Data Sets

Item	A	B	Item	A	B
Factor I			Factor III		
Bold	12	12	Efficient	12	12
Extroverted	12	12	Organized	12	12
Talkative	12	12	Prompt	12	11
Verbal	12	10	Systematic	12	11
Assertive	12	9	Thorough	12	10
Daring	12	6	Careful	11	9
Vigorous	11	9	Practical	11	8
Energetic	11	5	Neat (of 10)	10	10
Unrestrained	10	8	Steady	8	0
Active	10	1	Conscientious	7	1
Factor II			Factor IV		
Kind	12	12	Unenvious	11	9
Sympathetic	12	12	Imperturbable	10	6
Considerate	12	11	Relaxed	10	4
Warm	12	11	Undemanding	9	1
Generous	12	10	Unemotional	5	1
Helpful	12	10	Unexcitable	5	1
Pleasant	12	10			
Cooperative	11	8	Anxious	12	12
Agreeable	10	9	Fretful	12	11
Trustful	10	8	Envious	12	10
			Jealous	12	10
Cold	12	11	Nervous	12	10
Unsympathetic	12	11	Moody	12	9
Harsh	12	10	Touchy	12	9
Unkind	11	10	High-strung	12	8
Rude	11	8	Fearful	12	7
Uncooperative	11	8	Self-pitying	12	5
Uncharitable	10	8	Insecure	12	4
Distrustful	10	4	Temperamental	11	7
Selfish	8	3	Irritable	7	6
Demanding	5	2	Emotional	7	1

(Continued)

TABLE 1 (Continued)

Item	A	B	Item	A	B
Factor V			Factor V (Continued)		
Creative	12	12	Uncreative	12	12
Imaginative	12	12	Unimaginative	12	11
Intellectual	12	12	Unreflective	12	10
Philosophical	12	12	Unintellectual	12	8
Artistic	12	11	Unintelligent	12	8
Deep	12	9	Uninquisitive	12	4
Innovative	12	8	Imperceptive	11	7
Bright	12	7	Shallow	11	4
Introspective	12	4	Simple	11	4
Complex	11	10	Unsophisticated	7	1

Note. A = Number of data sets in which item has highest loading on the expected factor; B = Number of data sets in which loading on expected factor at least doubles loading on any other factor. Factor I = Extraversion; Factor II = Agreeableness; Factor III = Conscientiousness; Factor IV = Emotional Stability; Factor V = Intellect, Openness, or Imagination.

seen in Table 1, for Factor IV (Emotional Stability), few positive items showed a strong performance, so two positive-pole items were combined with six negative-pole items. The same pattern was followed for Factor V (Intellect or Openness), for which six positive-pole items were combined with two negative-pole items. Overall, the marker set consisted of a roughly equal number of adjectives, respectively, for desirable and undesirable attributes (with reference to values from Hampson, Goldberg, & John, 1987).

Table 2 presents these 40 Big-Five "Mini-Markers," along with their rotated factor loadings in the combined Self and Liked samples. The simple structure is obvious. Not only do all 40 items load most highly on the expected Big-Five factor, but for each of the 40 the highest loading was more than double the second highest loading, fulfilling even the narrow definition of factor purity employed earlier.²

Factors from the Mini-Marker scales corresponded closely to those derived from the full set of 100 markers. In the same combined self-peer sample on which the solution in Table 2 was based, factors derived from the Mini-Markers correlated .92 to .96 (raw data) and .91 to .96 (z scored data) with the corresponding factors derived from the full marker set; of course we should expect these values to be high, given that the two marker sets are scored from the same inventory and include 40 common items. Off-diagonal correlations in absolute value were all .07 and under (raw data), or .10 and under (z scored data).

²Available from myself are replications of the Big Five from the Mini-Markers in two additional independent samples, one of 689 self- and peer-descriptions by college students, another of 710 self-descriptions by community rather than college-student subjects. In each sample at least 39 of 40 items loaded most highly on the expected factor and at least 36 of these had the highest loading more than doubling the second highest loading.

TABLE 2
Varimax-Rotated Factor Loadings of 40 Mini-Marker Scale Items

Item	I	II	III	IV	V
Talkative	<i>.73*</i>	.14	-.12	-.05	-.05
Extroverted	<i>.70*</i>	.07	-.07	.11	-.01
Bold	<i>.51*</i>	-.17	.00	.24	.03
Energetic	<i>.44*</i>	.18	.18	.18	.02
Shy	-.79*	.15	.04	-.08	-.03
Quiet	-.76*	.02	.13	.05	.07
Bashful	-.73*	.19	.04	-.06	-.06
Withdrawn	-.71*	-.15	-.07	-.10	.02
Sympathetic	-.05	<i>.72*</i>	-.06	-.03	.00
Warm	.20	<i>.67*</i>	.08	.00	-.01
Kind	.02	<i>.66*</i>	.14	-.01	-.01
Cooperative	-.11	<i>.52*</i>	.21	.20	-.06
Cold	-.21	-.65*	.03	-.05	-.02
Unsympathetic	-.02	-.64*	.03	.07	-.10
Rude	.14	-.55*	-.18	-.03	-.04
Harsh	.10	-.54*	.00	-.14	-.06
Organized	-.06	-.01	<i>.83*</i>	-.01	-.02
Efficient	.01	.04	<i>.65*</i>	.07	.05
Systematic	-.11	-.02	<i>.63*</i>	.13	.02
Practical	-.08	.13	<i>.51*</i>	.15	-.10
Disorganized	.01	.02	-.82*	.05	-.02
Sloppy	-.01	-.10	-.62*	.13	.02
Inefficient	-.16	-.05	-.62*	-.01	-.05
Careless	.09	-.10	-.61*	-.05	-.05
Unenvious	-.03	.00	.00	<i>.68*</i>	.08
Relaxed	.11	.16	.07	<i>.49*</i>	-.10
Moody	-.06	-.12	-.04	-.64*	.12
Jealous	-.04	-.01	-.03	-.63*	-.15
Temperamental	.03	-.17	-.03	-.62*	.03
Envious	-.10	.07	-.03	-.61*	-.15
Touchy	-.09	.01	.04	-.59*	-.01
Fretful	-.17	.09	-.07	-.54*	-.08
Creative	.05	.01	.01	.15	<i>.69*</i>
Imaginative	.11	.03	.01	.07	<i>.65*</i>
Philosophical	-.08	.04	-.03	.07	<i>.56*</i>
Intellectual	-.03	-.01	.12	.15	<i>.54*</i>
Complex	-.09	.01	-.10	-.13	<i>.51*</i>
Deep	-.13	.22	-.09	.03	<i>.44*</i>
Uncreative	-.13	.06	-.01	.00	-.66*
Unintellectual	-.02	.01	-.09	.09	-.52*

Note. $N = 636$. Loadings of .30 and above are listed in italic type. *Indicates highest factor loading of each item. I = Extraversion, II = Agreeableness, III = Conscientiousness, IV = Emotional Stability, V = Intellect or Openness.

In comparison to the full marker set, the Mini-Markers contain a much lower percentage of negation terms (e.g., *Inefficient, Uncreative*): 15% as compared to 28% for the full set. The number of terms beginning with the prefix *un-* was reduced from 20 to only 4. Moreover, in the selection process the most difficult items from the full set (e.g., *Imperturbable, Imperceptive*) were naturally eliminated, because familiar adjectives tended to outperform difficult ones.

Table 3 summarizes the reliability characteristics for the 40-item Mini-Marker subset, with a comparison to those reported by Goldberg (1992). Mean inter-item correlations for the Mini-Marker scales are always higher than those for the 100 Markers (typically by .05 to .10), whereas alpha coefficients are consistently lower (typically by .05 to .10).

Notably, moving from the full set to the brief set there is a decrease in interscale correlations. In the Self-Liked sample described before, Goldberg (1992, Table 5) reported mean 100-marker interscale correlations of .24, .12,

TABLE 3
Internal Consistency of the Mini-Marker Scales as Compared With Goldberg's Marker Scales

Sample	Subset					M
	I	II	III	IV	V	
Mean interitem correlation						
Liked						
Raw	<i>.41</i>	<i>.43</i>	<i>.43</i>	<i>.28</i>	<i>.31</i>	<i>.37</i>
z	<i>.34</i>	<i>.35</i>	<i>.34</i>	<i>.19</i>	<i>.26</i>	<i>.29</i>
Self	<i>.38</i>	<i>.33</i>	<i>.40</i>	<i>.27</i>	<i>.22</i>	<i>.32</i>
Raw	<i>.31</i>	<i>.26</i>	<i>.31</i>	<i>.18</i>	<i>.18</i>	<i>.25</i>
Self	<i>.38</i>	<i>.36</i>	<i>.38</i>	<i>.31</i>	<i>.32</i>	<i>.35</i>
Raw	<i>.31</i>	<i>.29</i>	<i>.30</i>	<i>.21</i>	<i>.23</i>	<i>.27</i>
z	<i>.37</i>	<i>.29</i>	<i>.36</i>	<i>.28</i>	<i>.27</i>	<i>.31</i>
Raw	<i>.30</i>	<i>.22</i>	<i>.27</i>	<i>.20</i>	<i>.19</i>	<i>.24</i>
Coefficient alpha						
Liked						
Raw	<i>.85</i>	<i>.85</i>	<i>.86</i>	<i>.76</i>	<i>.78</i>	<i>.82</i>
z	<i>.91</i>	<i>.91</i>	<i>.91</i>	<i>.83</i>	<i>.87</i>	<i>.89</i>
Self	<i>.83</i>	<i>.79</i>	<i>.84</i>	<i>.74</i>	<i>.69</i>	<i>.78</i>
Raw	<i>.90</i>	<i>.87</i>	<i>.90</i>	<i>.82</i>	<i>.81</i>	<i>.86</i>
Self	<i>.83</i>	<i>.81</i>	<i>.83</i>	<i>.78</i>	<i>.78</i>	<i>.81</i>
Raw	<i>.90</i>	<i>.88</i>	<i>.90</i>	<i>.84</i>	<i>.85</i>	<i>.87</i>
z	<i>.83</i>	<i>.75</i>	<i>.81</i>	<i>.75</i>	<i>.74</i>	<i>.78</i>
Raw	<i>.90</i>	<i>.84</i>	<i>.88</i>	<i>.83</i>	<i>.82</i>	<i>.85</i>

Note. Self sample, $N = 320$; Liked sample, $N = 316$. Coefficients for Mini-Marker scales are listed in italic type, those for Goldberg's scales in plain type.

.13, and .08 in Liked-raw, Liked-z, Self-raw, and Self-z data sets, with high coefficients of .42, .29, .37, and .24. For Mini-Markers in the same data sets, the corresponding mean interscale correlations are always lower: .18, .10, .11, and .07 respectively, with high coefficients of .34, .21, .27, and .15.

DISCUSSION

This study serves in part as a demonstration of an extreme phenomenon in personality measurement, the relative ease with which the Big-Five personality factors can be measured. So well-represented are these factors among personality adjectives that remarkably short scales can measure them with reasonable reliability. Goldberg (1992) had noted that small sets of variables can serve as markers of the Big Five; this study shows just how small such a set can be, if carefully selected.

Primarily, the Mini-Markers include variables relatively close to the prototypical cores of the five factors, leaving out variables whose factor purity is questionable. On the benefit side, the result is more homogeneous scales that may also prove closer to Johnson and Ostendorf's (1993) consensual definitions of Big-Five factor axes. On the cost side, the Mini-Markers sacrifice broad sampling of variables in order to achieve high fidelity to factors. This cost may not prove extreme; the item-revision described previously surely reduced the extent of the sacrifice, and the variables most undersampled (highest correlation with residuals obtained by regressing brief scales onto full scales) turned out to be those least factor pure in Table 1.

Nonetheless, in moving from the full set to the Mini-Marker subset, one engages in a classic trade-off: One gains somewhat tighter scales, but scales with somewhat lower overall reliabilities. Tightening and abbreviating scales may produce "too much" homogeneity, leading to the "attenuation paradox" (Loevinger, 1954; Tucker, 1946; cf. DuBois, 1970), a possible decrease in validity as item intercorrelations increase. In this study, by incorporating terms correlating highly with residuals from the regression of the initial subset scales onto the full scales, this attenuation was undoubtedly reduced, but future studies should examine consequences for validity in greater detail; obviously the Mini-Markers can be isolated and studied as a subset whenever the full inventory is used.

Burisch has asked, "If very short and simple questionnaire scales do the same job, why use long and elaborate ones?" (1984, p. 82). The comparative virtues of the longer 100-adjective inventory appear to be (a) increased reliability, and probably, (b) a broader sampling of Big-Five adjectives beyond those close to the core of the factor. The comparative virtues of the 40-item Mini-Marker subset appear to be (a) fewer difficult items and (b) lower interscale correlations. A third virtue, (c) decrease in subject time

required, becomes salient in brevity-demanding situations, such as the rating of multiple targets.

Overall, though the Mini-Marker subset has the typical disadvantage of abbreviated inventories (lower reliabilities), it appears to stand above most abbreviated inventories in the degree to which it improves on the original inventory. Measuring the Big Five with personality adjectives seems to afford us the rare luxury of using short and simple scales with some confidence.

The Appendix provides one possible format for administering the Mini-Markers, based on the format provided by Goldberg (1992). A 40-item inventory can be completed by most subjects in approximately 5 min and can be expected to produce reasonable Big-Five factors even in rather small samples. The availability of this extremely short set of Big-Five markers widens the potential application of the Big Five to assessment situations where brevity is an unusually high priority.

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APPENDIX
The 40-Item Mini-Marker Set

How Accurately Can You Describe Yourself?

Please use this list of common human traits to describe yourself as accurately as possible. Describe yourself as you see yourself at the present time, not as you wish to be in the future. Describe yourself as you are generally or typically, as compared with other persons you know of the same sex and of roughly your same age.

Before each trait, please write a number indicating how accurately that trait describes you, using the following rating scale:

Inaccurate				?	Accurate			
Extremely	Very	Moderately	Slightly		Slightly	Moderately	Very	Extremely
1	2	3	4	5	6	7	8	9
<input type="checkbox"/> Bashful	<input type="checkbox"/> Energetic	<input type="checkbox"/> Moody	<input type="checkbox"/> Systematic		<input type="checkbox"/> Organized	<input type="checkbox"/> Talkative		
<input type="checkbox"/> Bold	<input type="checkbox"/> Envious	<input type="checkbox"/> Philosophical	<input type="checkbox"/> Temperamental		<input type="checkbox"/> Practical	<input type="checkbox"/> Touchy		
<input type="checkbox"/> Careless	<input type="checkbox"/> Extraverted	<input type="checkbox"/> Quiet	<input type="checkbox"/> Uncreative		<input type="checkbox"/> Relaxed	<input type="checkbox"/> Unenvious		
<input type="checkbox"/> Cold	<input type="checkbox"/> Fretful	<input type="checkbox"/> Rude	<input type="checkbox"/> Unintellectual		<input type="checkbox"/> Shy	<input type="checkbox"/> Unsympathetic		
<input type="checkbox"/> Complex	<input type="checkbox"/> Harsh	<input type="checkbox"/> Sloppy	<input type="checkbox"/> Warm		<input type="checkbox"/> Sympathetic	<input type="checkbox"/> Withdrawn		
<input type="checkbox"/> Cooperative	<input type="checkbox"/> Imaginative							
<input type="checkbox"/> Creative	<input type="checkbox"/> Inefficient							
<input type="checkbox"/> Deep	<input type="checkbox"/> Intellectual							
<input type="checkbox"/> Disorganized	<input type="checkbox"/> Jealous							
<input type="checkbox"/> Efficient	<input type="checkbox"/> Kind							

Early Memories, Normal Personality Variation, and Coping

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Relationships between earliest childhood memories (EMs) and normal-range personality traits and coping variables were assessed with data provided by 134 undergraduates. Subjects completed an EM questionnaire, the NEO Personality Inventory-Revised (Costa & McCrae, 1992), and the Constructive Thinking Inventory (Epstein, 1992; Epstein & Meier, 1989). EMs were scored via the Early Memory Relationship Scoring System (EMRSS; Acklin, Bibb, Boyer, & Jain, 1991) and the Transparent Bipolar Inventory (Goldberg, 1992). Factor analytic results supported the EM Relationship scale of the EMRSS. Correlational analyses suggested that the EM Relationship scale was inversely related to negative expectations of the future and dichotomous thinking, but unrelated to general neuroticism and coping ability in this nonclinical sample. The EM protagonist's level of activity was associated with subjects' general coping ability, the ability to avoid emotional upset, and inversely related to general neuroticism.

Early Memory (EM) analysis has been used sparingly in psychological assessment. This is in part because no EM data collection or scoring methods have been widely accepted (Bruhn, 1985). Researchers studying EMs have generally used a data collection form first outlined by Mayman (1968), with various modifications, or the Early Memories Procedure (Bruhn, 1989, 1992a, 1992b). A variety of scoring systems have been designed to code EMs (cf., Acklin, Bibb, Boyer, & Jain, 1991; Bruhn & Schiffman, 1982; Tobey & Bruhn, 1992).

Acklin and colleagues (1991) developed a particularly promising EM contextual scoring system termed the Early Memory Relationship Scoring System (EMRSS). The EMRSS is based on the view that interpersonal relationships form the foundations of personality, a point emphasized by