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# National Collaborative Research on How Students Learn Integration: Final Report

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A relational attachment model of how students learn integration at Rosemead and Fuller was replicated with clinical psychology doctoral students at George Fox University and Wheaton College (Illinois). Structural equation modeling of multitrait-multimethod matrices tested how well faculty members could recognize what students readily identify in professors as most useful to students' integration, and Latent Semantic Analysis interpreted what students found most important.

This is the fifth in a series of five articles on how students learn integration. In scope, focus, and approach, this programmatic research on integration is groundbreaking. Its scope is national collaborative research spanning 10 years and more than 5,000 data points drawn from student perceptions of over 80 faculty members at the four evangelical schools with the longest-standing accreditation by the American Psychological Association (APA). Its focus is a relational model for integration that emphasizes process as much as content, in contrast to more typical integrative models that tend to focus almost exclusively on content. And its approach is something that has never been done before: research that starts from the students' experience and builds inductively from there, using quantitative measures that recognize students as consumers of integrative training.

The Swiss physician and Christian counselor Paul Tournier once remarked that we avoid listening to others because if we do, even briefly, people speak up so immediately and honestly that we find what they have to say disturbing. In short, we don't listen as a defense so that we won't hear anything upsetting. The present program of research is based on an attempt to listen to integrative clinical psychology doctoral students and to try and hear from them about how they say they actually learn integration. If anything is at all disturbing about what they

have to tell us, it is that how they say they learn integration and how we think to teach it are often not the same, and are sometimes even inimical. This is because our various substantive models of integration—whether these involve the relationship between Christ and culture, psychology and theology, philosophical hermeneutics and postmodernism, brain physiology and the existence of the soul, and so forth—offer nothing by themselves to assure us that students exposed to these models will encounter the relational process that students say is necessary for integration to occur.

Our program of research investigated what this relational process is, how it works, and how well we as faculty are able to identify it in our colleagues and ourselves. To introduce our final report we summarize the four studies that preceded it, to which we now turn.

## ***The First Four Studies***

The pilot project for what eventually became our national collaborative research began with an unintended observation. An instructor noticed that it seemed possible to match student essays on: (1) how students worked with issues of faith with their own clients; (2) the student's experience of parents, faith, and God from the student's family of origin; and (3) how the student's own therapist worked with the student in his or her personal therapy (Sorenson, 1994b). Matching student essays on these topics did not seem to be based simply on a particular typeface or style of prose, and seemed instead to be more about what the students had to say, as well as an appreciation of the students as people. The

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study hypothesized, for example, that “if persons had a representation of God as a distant and cold figure, they seemed to be much less comfortable hearing about religious issues from their clients.” Likewise, if faith was “avoided when they were the patient, these same people as therapists seemed to avoid it with their clients” (Sorenson, 1994b, p. 328).

To test these impressions empirically, 12 faculty members from Fuller Graduate School of Psychology (Fuller) or Rosemead School of Psychology (Rosemead) were presented with anonymous, laminated 8 1/2 x 11” cards that excerpted students’ written comments about these issues. Each card was formatted with the same type font and line spacing, and analyses of variance indicated no significant differences between the protocols on a wide variety of lexical criteria (i.e., lines of text, words per sentence, letters per word, syllables per 100 words, percent of sentences in the passive voice, and level of reading difficulty;  $p > .05$  for all).

The most striking finding of the first study was that, in the eyes of professors at Fuller and Rosemead, the student’s personal therapist had a greater impact on the student’s integration than did even the student’s parents from the student’s family of origin. Professors at the two schools concurred that integration is as much about a who as a what; affectively engaged relationships seemed to shape how students learn integration, with current mentoring relationships (in this case, the student’s therapist) eclipsing earlier ones, including the student’s childhood experience of parents and faith.

This result was replicated in a second study with a sample five times larger, using structural equation modeling (SEM) to test explicitly the judgments that Fuller and Rosemead professors in the first study said had been implicit (Sorenson, 1997c, pp. 166-199; revised and updated in Sorenson, 2004, pp. 73-103). The second study found that how students worked with others integratively had to do with how their own therapist worked with them on these issues, but their therapist’s behavior was uncorrelated with students’ faith prior to therapy, including students’ accounts of their developmental experience in childhood. This outcome is not what a wide array of clinical theories predicts. Most clinical theories—whether cognitive-behavioral, psychoanalytic, family systems, and others—emphasize the enduring significance of early learning and early life experience, so much so

that contemporary interactions (including contemporary interactions with a psychotherapist) are presumably filtered through old patterns of perception that resist modification, thereby constraining or confining how any therapist can intervene when it comes to integrative issues. That, however, was not what the second study found. Instead, it found that an affectively engaged relationship with a significant person in a student’s current life became personally formative for that student’s integration of psychology and faith in ways that are difficult to overstate and were impossible to predict based on the client’s past. That is, a student could enter therapy with a warm and inviting God representation arising from childhood, and then exit therapy with a punitive or deistic God representation, or vice versa. Similarly, a student could exit therapy with a God representation unchanged from what it was before therapy, whether the God representation was wrathful or gracious. Everything hinged on what the therapist did.

Specifically, the second study identified six therapist behaviors that were crucial in the current relationship and had a differential impact (favorably or detrimentally) on the student’s subsequent integrative development. Favorable outcomes were associated with therapists who: (1) made interventions that treated the student’s relationship with God as real, as opposed to a psychological projection only; (2) approached integrative issues in an open and nondefensive manner, as opposed to an approach that was more conflicted and inhibited; (3) made connections between the student’s experience of his or her parents, the therapist, and God, and did so at the therapist’s own initiative, as opposed to remaining passively open to the topic that was the student’s responsibility to broach, and otherwise viewing integrative inquiry as fraught with special peril; (4) saw the student’s relationship with God as something at least partially positive and a potential resource for healing, as opposed to emphasizing the exclusively pathological elements in faith; (5) expected that integrative issues would come up in therapy and belonged there as appropriate topics of investigation, as opposed to thinking that they had no legitimate place in psychotherapy; and (6) showed a personal openness to mystery and an orientation to the transcendent that the student admired and wanted to emulate personally.

The results of the first two studies were consistent with a finding of the Rech Conference pub-

lished several years earlier (Jones, Watson, & Wolfram, 1992). After surveying nearly 1,500 alumni from integrative graduate programs, the Rech study found that when graduates reflected on their integrative training, they said their personal psychotherapy had a greater impact on their faith than did anything else, including their integrative courses on psychology and theology (p. 153).

From this, several questions naturally arise. What about integrative coursework? How does it relate to the integration that students learn? If the upshot of the first two studies was that how students learn to work with integrative issues clinically depends on current figures with whom students have close personal attachments, what about integrative teachers in the classroom? Might not students have similar attachments with professors? A faculty colleague who had seen these early studies on the impact of students' personal therapists once teased that it's also possible students may actually learn something from us in classes. To this, Sorenson (1994a) responded:

I hope so. Whatever they learn from us, I also hope it's something students will deem positive. I know that theological education, for example, with all its good intentions, often robs graduating students of a personal sense of transcendence. I hope our work can train critical thinkers, but also develop gentle and courageous souls, persons who are as reluctant to foreclose experience of the numinous as they are the experience of its opposite, the dark night of the soul (p. 350).

Arising from this concern, the third study in our programmatic research was the first to explicitly investigate how students say they learn integration from professors who teach at APA-accredited clinical psychology doctoral programs with evangelical Christian affiliations. This shift from therapists to teachers was politically risky. What if, apropos Tournier's earlier quip about listening, what students had to say about their teachers was disturbing? If student perceptions of faculty proved damaging to the school's reputation for how well it was fulfilling its expressed mission to integrate psychology and faith, not to mention how the school compared with rival programs, what then? And what if students said that some professors were more helpful than others? Wouldn't this fuel intra-staff rivalry and bruise academic egos?

In light of these fears, and in order to limit others' exposure to potential fall-out or embarrassment due to the political risks involved, the third study was once more solo-authored (Sorenson, 1997a) and conducted on the author's own institution (Rosemead). Forty-eight doctoral students sorted 19 Rosemead faculty members according to how much they seemed to be similar to each other, and the resulting dissimilarity matrix was submitted to multidimensional scaling (MDS). Traditional multivariate techniques like factor analysis work well in domains whose substantive content is well established, but for research in areas previously unexplored there is a limitation: factor analysis only works on the items the researcher includes in the study. If important items are omitted, the resulting factor structure omits important variance. MDS offers an advantage for exploratory research because it builds a model of the latent dimensions by which students are evaluating faculty without requiring either the researcher or the student to define in advance the criteria employed to make these judgments. In short, MDS is akin to factor analysis without items, or, more accurately, a factor analysis whose items are tacit and inexplicit.

Results showed that Rosemead students were evaluating faculty across three latent dimensions, one of which correlated with how exemplary and helpful the professor was to students' integration ( $r = .729, p < .01$ ). Canonical correlation showed that this dimension loaded on the professor's Evidence of an Ongoing Process in a Personal Relationship with God (.847), Emotional Transparency (.827), and Sense of Humor (.736). Individual differences scaling (INDSCAL) revealed that this dimension was crucial to all students, but women put a greater priority on it than did men, and women toward the end of their doctoral training placed an even higher value on this dimension than did those in the initial years.

These findings were replicated in a fourth study (Staton, Sorenson, & Vande Kemp, 1998), which found that clinical psychology doctoral students at Fuller learn integration the same way Rosemead students do. Not only were Fuller students evaluating Fuller faculty along three latent dimensions, but the dimension that correlated most highly with students' integration ( $r = .40, p < .01$ ) loaded on a canonical variate involving the same variable that loaded the most highly in the Rosemead data: the professor's Evidence of an Ongoing Process in a Personal Relationship with

God (.967). Even more compelling, SEM of the multivariate model from the Rosemead data fit the Fuller data (Comparative Fit Index = .992, average off-diagonal absolute standardized residuals = .0130,  $N = 585$ ). While this relational dimension to learning integration was valued by all Fuller students, for the nearly three out of four students who chose to attend Fuller primarily because of its specialization in integration, they placed an even higher value on this dimension than did the remaining students for whom integration was a penultimate concern or less.

Staton, Sorenson, and Vande Kemp (1998) concluded: "From the students' point of view, the most salient dimension to contribute to their own integration was how well they could determine that a given professor had an authentic, lively, and growing relationship with God, coupled with the professor's nondefensive, emotionally unguarded, and even vulnerable relationship with students" (p. 348). This conclusion fit another summary of the previous studies:

Too often we think that teaching students our integrative models is what they need in order to learn integration. Often what they want, however, is not our models but ourselves—or perhaps more accurately, they want us to model our own integration, and to give them access to our own relationship before God in an open and nondefensive manner. It is as though when they have access to us as not just professors but persons, and to our ongoing life before God—doubts and all, our joys and terrors—students are well served in finding their own integrative pilgrimage. (Sorenson, 1997b, p. 257)

It should be stressed that students were evaluating something other than mere professorial piety. Professors could be estranged from God, angry with God, confused by God—and still be of great use to students' integration. What mattered were not the contours of the professor's relationship with God per se, so much as students being able to tell what those contours were. And according to students, not all professors were equally accessible in this regard; those who were less so were of less use to students' integration.

### ***This Final Report***

This fifth and final report expands the decade-long programmatic research in three areas. First,

the results from Rosemead and Fuller were tested for replication at the next two clinical psychology integrative doctoral programs with the longest-standing APA accreditation after Fuller and Rosemead, George Fox University (GFU), and Wheaton College (Illinois), using exploratory MDS and confirmatory SEM. Second, a whole new round of student perceptions of faculty at Rosemead—using all-new students and many new faculty members five years after the Sorenson (1997a) data—was submitted to SEM analysis of multitrait-multimethod matrices. By this it is possible to compare how well faculty members are able to recognize in themselves and in their faculty peers what students see. Third, in order to flesh out what students mean by the most salient feature of this research—a faculty member's ongoing process in a personal relationship with God—excerpts of student qualitative interviews on this topic were subjected to Latent Semantic Analysis, as detailed in the following Method section.

### **Method**

First, we sampled 48 upper-division students (27 male, 21 female) from the Graduate School of Clinical Psychology at GFU who voluntarily participated in card-sorting and questionnaire data on 18 GFU faculty members, replicating the research protocol detailed in Sorenson (1997a) and Staton, Sorenson, and Vande Kemp (1998).<sup>1</sup> This protocol instructs students to sort faculty members' names on note cards into stacks according to how the student thinks the professors seem to be similar to each other, using as many different stacks as the student wishes, but no fewer than two stacks and at least two faculty names in each stack. After this, students rate faculty on criterion variables presented on five-point, paper-and-pencil Likert scales. How many times each professor is not paired with another professor generates a dissimilarity matrix, which is then submitted to multidimensional scaling. The resulting dimension scores are correlated with a pooled Integration variable of how exemplary and helpful the professor was to students.

Because MDS only generates dimensions that are orthogonal and never oblique, a particularly elegant solution for empirical interpretation of the resulting dimensions is to regress criterion variables on dimension scores via canonical correlation because this provides an omnibus solution of multiple, multiple regressions orthogonally. We did this using the Evidence, Transparency, and

Humor criterion variables from the Rosemead and Fuller studies, along with new variables that included Approaches Career as a Spiritual Vocation (abbreviated hereafter as Calling), Emotionally Secure, Self-Confident and Non-Threatened, and Socially Conscious and Respectful of Others. Replication, ad infinitum, using exploratory MDS on other integrative doctoral programs in the United States offers limited utility, however, because exploratory studies capitalize on chance associations in a particular data set and offer no means by which to compare results between studies with explicit levels of statistical probability. Accordingly, after exploratory MDS on the GFU data, we also employed confirmatory SEM to test if the relational model of integration derived from the Rosemead and Fuller data fit the GFU data. Next, we performed a second, revised SEM analysis on a large data set that combined all the GFU data with 23 Wheaton College clinical psychology doctoral students' perceptions of 16 professors in Wheaton's program, plus new data from Rosemead students, described below.

Up to this point, all the studies in our national collaborative research had measured how students learn integration from the students' point of view as consumers of integrative training, an approach that is consistent with outcomes-based educational trends in the training of psychologists (APA, 2000). The accumulating evidence from MDS and SEM that students demonstrate high concordance in their assessment of what they find helpful in faculty members for integration raises an important question: How accurately are faculty members able to assess this relational dimension in each other and themselves that students so readily identify? The empirical approach for answering this question is known as multitrait-multimethod matrices (MTMM). Originally presented by Campbell and Fiske (1959), this approach parses variance into trait factors about which different raters concur, and method factors that are a function of who's making the rating.

Although MTMM make intuitive sense, their limitation has been that there was no good way to determine the presence of method or trait factors objectively. In the 1950s, all Campbell and Fiske could recommend was to look at the correlation matrices and to use ambiguous and subjective criteria to determine if trait and method factors were present. As exploratory factor analysis arose in prominence in the 1960s and 1970s, two-step factor-analytic procedures were pro-

posed as a more objective alternative to the Campbell and Fiske criteria. In this procedure, traits were subjected to orthogonal rotation prior to assessing method factors (Golding & Seidman, 1974; Jackson, 1975), but this strategy also suffered from conceptual and statistical liabilities (Golding, 1977; Jackson, 1977) and it still offered no way to compare method and trait factors according to explicit probability levels. By the 1980s and 1990s, however, SEM surfaced as the treatment of choice for handling MTMM because nested models of traits and methods can be objectively compared using difference Chi-square tests (Widaman, 1985; see also Byrne, 1994), thereby finally affording adjudication of trait and method factors at quantifiable levels of probability (such as  $p < .05$ ).

For the next portion of our research we therefore used SEM and nested models to measure MTMM. Eighteen Rosemead students rated 19 Rosemead faculty members on the criterion variables that were used in the pooled SEM analysis of the GFU and Wheaton data mentioned earlier in the present study. Following this, the Rosemead faculty members rated themselves and their faculty peers on how they thought students rated them on the same criterion variables. Because the challenge to faculty was to see how well they could recognize what students knew about them, it is important to note that faculty members made their ratings based not on how *they* rated themselves or their peers, but on how they thought their *students* rated the professor and his or her peers.

Our programmatic research indicates that the single most important variable in how students learn integration is that the professor "gives evidence of an ongoing process in a personal relationship with God." Until now, however, we had not scrutinized what students meant by this phrase in any detail. So for the last part of our final report we took excerpts from transcribed interviews with 12 fourth-year integrative doctoral students who had been participants in a qualitative dissertation on integration (Graham, 2002), and submitted these excerpts to Latent Semantic Analysis (LSA). LSA is a theory and method for extracting and representing the semantic meaning of words (Landauer, Foltz, & Laham, 1998), and its capacities are remarkably sophisticated. For example, the grades that LSA assigned college students' essays agreed with the grades marked by professional readers at Educational Testing Service (Landauer, Laham, Rehder, &

Schreiner, 1997). As Foltz, Kintsch, and Landauer (1998) explain, "Unlike methods which rely on counting literal word overlap between units of text, LSA's comparisons are based on a derived semantic relatedness measure which reflects semantic similarity among synonyms, antonyms, hyponyms, compounds, and other words that tend to be used in similar contexts" (p. 4). LSA uses singular value decomposition to generate a similarity matrix, which can be input into MDS for interpretation. At one point in the two-hour interviews, Graham asked students what they thought of the research about professors giving evidence of an ongoing process in a personal relationship with God and these excerpts were subjected to LSA, which was not a part of Graham's dissertation.

As with the previous four studies in our programmatic research, all data in our final report were collected in a double blind fashion such that the identities of students, researchers, and other faculty members were unobtainable. Research was approved by university ethics committees for research with human participants.

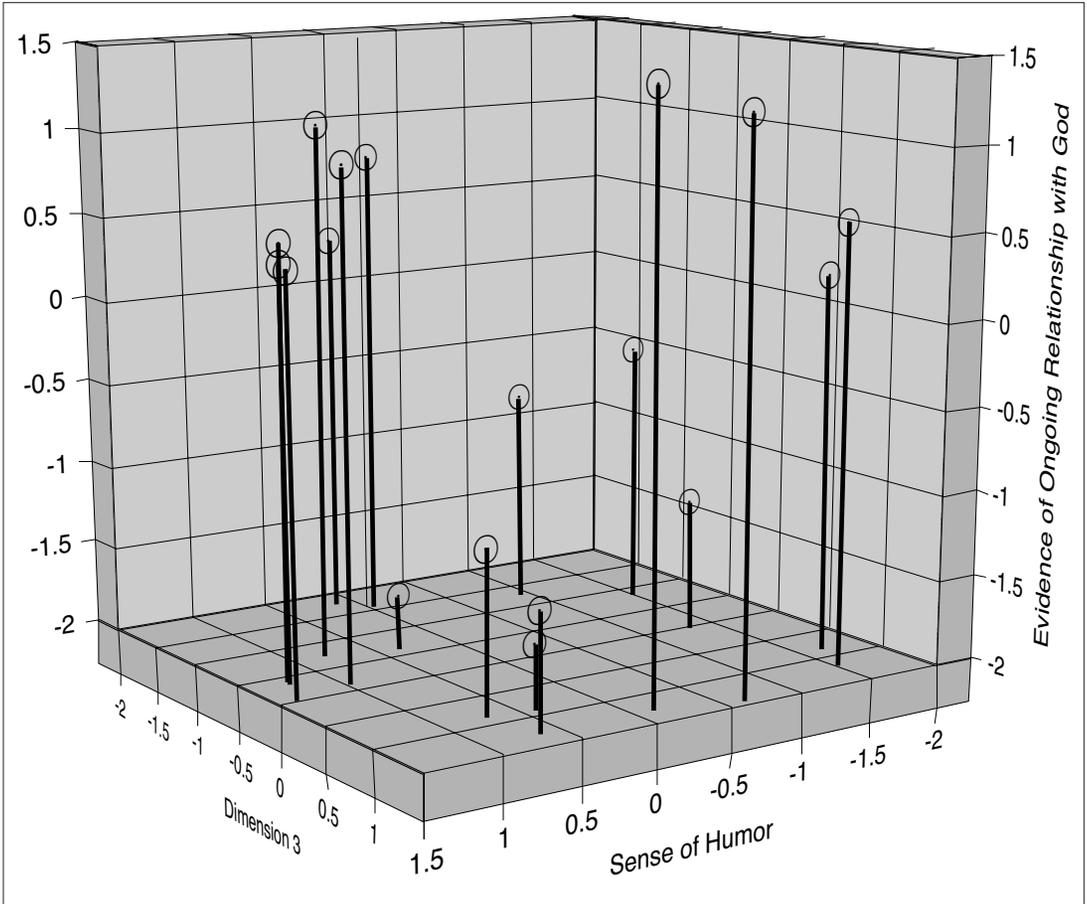
### Results

Compared with factor analysis, MDS tends to produce fewer dimensions (typically the number of variables divided by six), and the value of .2 for model stress, although an arbitrary threshold, has proven a good balance between parsimony and dispersion accounted for.<sup>2</sup> In the GFU data, a three-dimensional model (stress = .206, accounting for 75% of the dispersion) best fit the .2 criterion, the "elbow" in the scree test, and the expected number of dimensions ( $18 / 6 = 3$ ). Dimension 2 correlated most strongly with Integration ( $r = .520$ ), Dimension 1 less so ( $r = .344$ ), and Dimension 3 least of all ( $r = -.115$ ;  $p < .01$  for all). As in the previous studies, the professor's Evidence of an Ongoing Process in a Personal Relationship with God loaded highly (.877) on the dimension most correlated with Integration. Other variables that also loaded on this dimension were Secure (.829), Socially Conscious (.675), and Transparent (.556). A new variable for the GFU sample, Calling (.895), loaded even a little higher than the Evidence variable on Dimension 2. Humor (.799) was the sole variable to load on Dimension 1, which was the next most significant dimension for Integration. Dimension 3, which had the weakest connection with Integration, had no criterion variables load most highly on it, and thus was not interpreted.

The 18 GFU professors are represented in three-dimensional space in Figure 1. On the graph in Figure 1, those professors who are highest on the Evidence dimension, and to a lesser extent, to the left on the Humor dimension, are the ones students deemed most helpful for integration. As with the previous Rosemead and Fuller studies, GFU students readily concurred that they learned integration the same way from professors, and that professors' capacities varied in this regard.

SEM showed that the relational model from the Rosemead and Fuller studies (Staton, Sorenson, & Vande Kemp, 1998, p. 348, Figure 4) also fit the current GFU data (CFI = .968, average off-diagonal absolute standardized residuals = .0314,  $N = 790$ ). Because Humor loaded on a separate dimension that correlated less strongly with Integration in the GFU data, and Calling loaded even more highly on the same dimension as Evidence, we adjusted the model slightly by replacing Humor with Calling and tested this revised model on the combined data from GFU, Wheaton, and a new Rosemead sample. This model fit the data very well (CFI = .997, average off-diagonal absolute standardized residuals = .0187,  $N = 1574$ ), indicating that students at all four schools learn integration the same way, through a relational process with their professors. In the revised model, Evidence loaded most highly on faculty relational attachments (.866), followed by Calling (.764) and Transparency (.662).

An SEM application for MTMM is depicted in Figure 2. The latent factors are ovals and the measured variables are rectangles. The trait factors are the two ovals on the top of the graph that model how faculty relational attachments account for students' integration, irrespective of ratings' sources. The method factors are the three ovals on the bottom of the graph that represent: (1) students assessments of faculty members; (2) what faculty think students think of faculty peers, and (3) what faculty think students think of the professors themselves. The full model includes causal traits and oblique methods ( $\chi^2 = 208.404$ , 71 *df*, CFI = .950). A second model having only method factors and no trait factors can be seen as a nested version of the full model because the two trait factors and their respective paths are now removed. This second model (methods only and no traits) fit the data less well ( $\chi^2 = 403.380$ , 87 *df*, CFI = .886), and the difference Chi-Square ( $\Delta\chi^2 = 194.976$ , 16 *df*,  $p < .001$ ) indicates that the second model is significantly worse than the first. A third model that

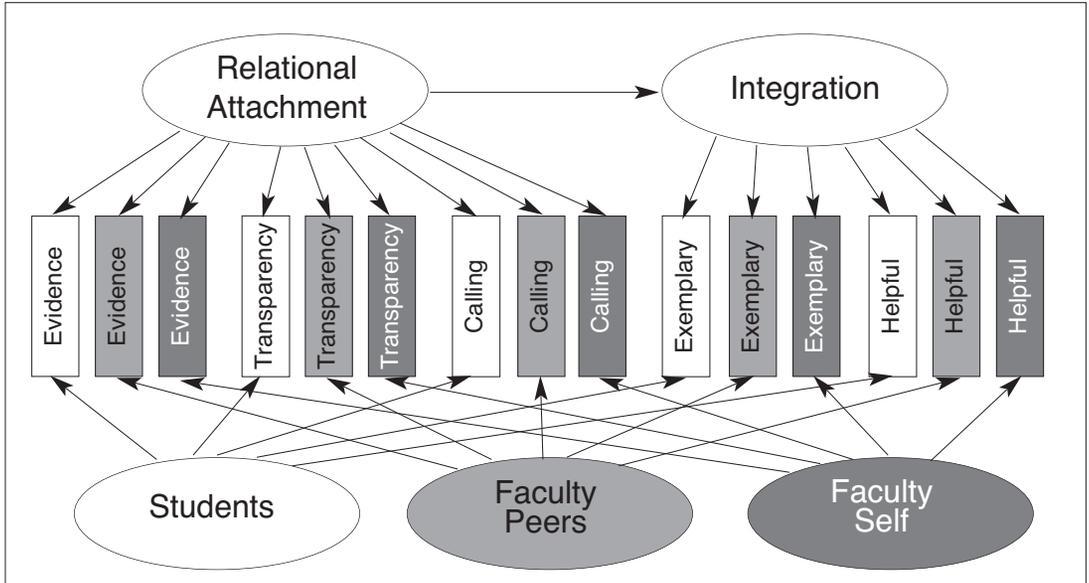


**Figure 1.** Eighteen George Fox University Professors in three-dimensional space. Numbers on axes represent actual dimension weights.

assumes causal traits only and no method factors fits the data even worse ( $\chi^2 = 1617.097$ , 89 *df*, CFI = .448), and is significantly worse than the second model ( $\Delta\chi^2 = 1213.717$ , 2 *df*,  $p < .001$ ).<sup>3</sup> Therefore, only the full model that includes both traits and methods (as depicted in Figure 2) is an adequate fit, and models that assume only traits or only methods are inadequate and a significantly worse fit with the data.

The results of the MTMM mean that while there was some convergence between the various sources (student, faculty-peer, and faculty-self), faculty had a hard time guessing what students thought of them. What is more, professors believed that relational attachments with students pertained more to other faculty than to themselves. For example, students saw a strong connection between relational attachment with a professor and how useful that professor was to students' integration ( $r = .72$ ), and faculty mem-

bers concurred so long as it involved faculty peers' relationships with students ( $r = .75$ ), but professors could not see the same connection when it came to their own personal relationships with students ( $r = .29$ ). What students actually thought of a professor's usefulness to students' integration correlated only .21 with faculty impressions of what they thought students must think of other faculty peers, and just .25 with the faculty member's fantasy of what of students thought of the professor himself or herself. Correlations with what students actually thought of the professor's quality of relational attachment were similarly modest:  $r = .33$  for faculty impressions of peers and  $r = .26$  for self. One account for why faculty had a hard time guessing what students thought of them is that faculty members were excessively humble and could not bring themselves to rate themselves highly. The data do not support this explanation, however. On a



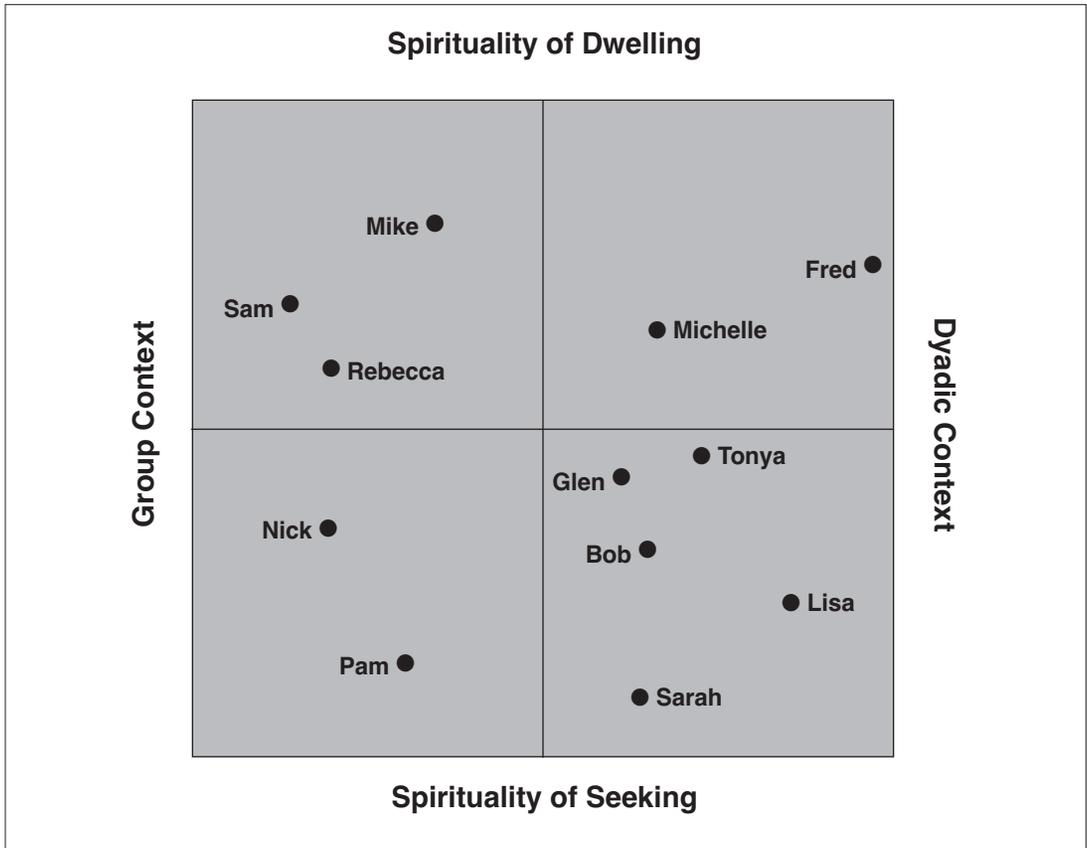
**Figure 2.** Structural equation application of multitrait-multimethod matrices. Traits are Relational Attachment causing Integration. Methods are perceptions of faculty by Students, Faculty Peers, and Faculty Self. CFI = .950, average off-diagonal absolute standardized residuals = .0452,  $N = 342$ . Error terms for dependent variables (measured or latent) are not depicted in graph.

scale ranging from 2 to 10 that measured how Exemplary and Helpful faculty members were to students' integration, the mean student ratings of faculty was almost perfectly at the scale's midpoint: 5.97. By contrast, faculty members rated their faculty peers to be 7.44 on average, and rated themselves even more highly at 7.89. This is a significant difference between the three sources of measurement (student, faculty-peer, faculty-self; ANOVA between groups  $F$  Ratio = 41.17,  $p < .001$ ), and a Scheffé's Test indicates the faculty-self and faculty-peer ratings were significantly higher than student ratings of these same faculty members ( $p < .05$ ).

LSA generated a similarity matrix which, when subjected to MDS, produced the 2-dimensional solution shown in Figure 3. Inspection of the interview transcripts (Graham, 2002, pp. 152-356) suggests that the horizontal axis pertains to the context (ranging from groups to dyads) in which the professor's evidence of an ongoing personal relationship with God occurred, and the vertical axis relates to the professor's spirituality (dwelling versus seeking). According to sociologist Robert Wuthnow (1998), a spirituality of dwelling reflects an expression of faith that is more settled and stable, and whose archetype is the cathedral. A spirituality of seeking, by contrast, reflects a faith that is in the throws of

doubt, reformulation, and transition that is better symbolized by a tent. Neither style of spirituality is more legitimate or authentic than the other, but people tend to gravitate toward one expression or the other.

Students in the upper left quadrant of the graph like Mike, Rebecca, and Sam appreciate professors whose expression of faith is reassuringly pastoral and typically occurs in group contexts such as leading group prayer in classes, attending a voluntary school chapel regularly, or visible participation in a local church. Students in the upper right quadrant like Michelle value the same spiritual steadiness in faculty members as the previous quadrant, only here its expression occurs in dyadic contexts such as one-on-one interactions in hallways or faculty offices where professors greet students and engage in expressions of faith. (One student, Fred, was so extremely to the right on the graph that his context was barely dyadic to the point of being practically unaccompanied.) Students who identify with a spirituality of seeking tend to learn integration best from professors who are more tortured souls in their faith. In the lower left quadrant, for students like Nick and Pam this takes the form of professors admitting their doubts and struggles in front of groups of students, and in the lower



**Figure 3.** Latent Semantic Analysis of 12 integrative doctoral students' qualitative interviews on what it means for a professor to "give evidence of an ongoing process in a personal relationship with God." Stress = .0469, Dispersion Accounter For = .9531, raw interview data available in Graham (2002, pp. 152-356).

right quadrant it shows up with faculty who are open to one-on-one dialogues with students after hours in a candid fashion that is like a clinical encounter. For example, Lisa, who is located toward the right on this quadrant, appreciated conversations with a professor that "lasted into the wee hours at times ... because he would often work in the office late at night" (Graham, 2002, p. 218). Sarah, who was located the farthest toward the spirituality of seeking, and was approximately midway along the continuum spanning dyadic and group contexts, described a professor she admired most as someone who seemed "very inviting, very encouraging" and who offered "a holding environment" that included classroom "disclosure of her personal struggles from life, her relationships with her kids, her husband, everything. It just kind of felt like, gosh, that's integration right there" (p. 336).

### Discussion

Data from our 10-year collaborative research indicate three things: (1) students from all over the country—and the world, if international students in integrative programs are representative—learn integration the same way; (2) faculty have a hard time recognizing what students know in this regard; and (3) although all students' integration is relational, its optimal context and style varies from student to student. The way students learn integration is through relational attachments with mentors who model that integration for students personally. These mentors may be professors, but they don't have to be. They may also be students' therapists, as our two pilot studies and the Rech study found, or other figures. Whoever they are, what counts is that the mentor is affectively and personally present for the student. The word integration comes from the same Latin root from which we get the

word integrity. It does not work for the mentor to say, "Do as I say, not as I do." Instead, students want personal access to someone who is modeling integration before them as a living, breathing, flesh-and-blood manifestation of integration-in-process. Students want broad and candid access to integrators so they can see how their mentors think, weigh choices, make clinical judgments, pursue courses of research, and, most importantly, how they interact with themselves and others, including God.<sup>4</sup>

Our research indicates that what is transformative for students is not reducible to Christian belief, not creedal orthodoxy, and not even professorial piety. It's not that students exclaim, "Gosh, Professor X sure does believe that Jesus was born of a virgin!" or "It's obvious that Professor Y believes the Bible is God's Word." Professors X and Y may indeed believe both those things, but that's not the point of our research, and in fact our research includes no measure of Christian belief per se (even though we think it's valuable and important). Instead, our research shows that what is crucial to students' integration is a dynamic, ongoing process that a mentor is modeling before the students' eyes in ways to which students feel they have real access personally, perhaps even as collaborators in the project together. The "gives evidence" part of the most salient variable means that students are saying, "Show me." The "ongoing process" means that it's something that's still in formation and not a completed achievement. And the "personal relationship with God" means this whole process is also something that for students is profoundly theological.

### Notes

1. Unlike factor analysis, which assumes that the underlying data are distributed as multivariate normal and that the relationships are linear, MDS imposes no such restrictions and can work with fewer than factor analysis' minimum of 5-to-1 subjects-to-variables ratio. As Kruskal and Wish (1978) affirm, "A rough rule of thumb is that there should be at least twice as many stimulus pairs as parameters to be estimated, to assure an adequate degree of statistical stability" (p. 34). Our study exceeds this criterion. It also subjects the resulting dimensional structure to replication on a new data set via SEM that employs hundreds of observations.

2. Stress is a measure of how much error there is in the model. The lower the stress value, the less error and greater the dispersion accounted for.

3. In SEM, the higher the Chi-Square and the lower the CFI, the poorer the proposed model fits the data. A

rule of thumb is that the CFI must exceed .9 in order for a model to be an adequate fit for the data.

4. An empirical study in preparation on how GFU students learn integration found that 80% of the outcome variance was accounted for by faculty modeling (Bufford, Gathercoal, Williams & Pearson, 2004).

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