Premarital Cohabitation:
Translating Basic Science into Clinical Practice

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Historically, cohabitation has been studied mainly by researchers in sociology and demography, professions that are typically not occupied with the development of interventions. Therefore, little information is available regarding the practice implications of what basic science tells us about cohabitation. The purposes of this paper are to briefly review what is known about premarital cohabitation and to translate major findings regarding premarital cohabitation into tangible ideas for clinical practice.

What We Know

Why do couples cohabit? Although many have speculated that couples cohabit as a way to test their relationships, couples’ own reports suggest that many don’t give the transition from dating to cohabiting that much thought. Instead, they report that living together just sort of happened (Lindsay, 2000) or that they slid into it (Manning & Smock, 2005). In our own research, cohabiting couples most often report that they started living together so that they could spend more time together. In fact, in our most recent study, only about 15% ranked testing the relationship as the top reason for their cohabitations. Nevertheless, the majority of young adults in general believe that cohabitation provides a good test for compatibility (Glenn, 2005).

The cohabitation effect. Premarital cohabitation has been shown to be associated with higher rates of divorce in several U. S. samples (e.g., DeMaris & Rao, 1992; Kamp Dush, Cohan, & Amato, 2003). Further, several studies demonstrate links between premarital cohabitation and lower marital quality. After marriage, those who cohabited premaritally have lower satisfaction (Stanley, Whitton, & Markman, 2004), more negative observed communication (Cohan & Kleinbaum, 2002), higher levels of conflict (Thomson & Colella, 1992), more physical violence (Brownridge & Halli, 2000; Stanley et al., 2004), higher rates of infidelity (Forste & Tanfer, 1996), and higher perceived likelihood of divorce (Thomson & Colella, 1992) than those who did not cohabit premaritally. This association between premarital cohabitation and marital distress and divorce has been termed the cohabitation effect.

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Hello everyone! Let us introduce ourselves. Will just finished his third year as a graduate student in the Clinical Program at UNC-Chapel Hill, where he works with Don Baucom in the UNC Marital Lab. Diana is beginning her third year in the Clinical Psy.D Program at PCOM, while she works with families and children in various mental health settings.

We hope that you enjoy our first edition of the Couples SIG Newsletter as co-editors! Several authors have contributed pieces that reflect a diversity of issues facing us as researchers, clinicians, and professionals. Also, David Hill has reviewed Helping Couples Change, by Richard Stuart.

The authors and reviewer featured in this edition have been a pleasure with which to work, and we thank them for their time and efforts! We’d also like to thank all who contributed items for the “Kudos” and “In Press” sections. Keep them coming!

In the next edition of the SIG Newsletter, expect to see important information about the upcoming ABCT convention in Chicago. We also hope to tie much of the newsletter content to our pre-conference meeting on dissemination of evidence-based couples and family interventions.

We’re look forward to three more newsletters with the SIG! Please feel free to contact us with your ideas.

- Will and Diana

**Comments? Criticisms? Suggestions? Crazy ideas? Send them to the editors!**

*Contact Will at will_aldridge@unc.edu and Diana at dianabr@pcom.edu*
to committee members. The committee website, hosted by the Fetzer Organization, will hopefully be up and running in the next several weeks and will be used for discussion and development of early drafts of position papers for the DSM-V working groups.

3. At this year’s APA convention, a draft of the position papers will be presented as part of an accepted panel discussion. This panel, sponsored by Division 43, will present the position papers and solicit feedback from the larger APA community. Co-chairs: Erika Lawrence and Brian Doss; discussants: Nadine Kaslow, Mike Gottlib, Terry Patterson, Jay Lebow & Steve Sayers

4. We submitted a SIG-sponsored panel discussion for this year’s ABCT convention. Co-chairs: Erika Lawrence and Brian Doss; discussants: Terry Patterson, Amy Holtzworth-Munroe, Rick Heyman & Miriam Ehrensaft

5. By early 2007, we will submit policy papers to the DSM-V planning committees.

b) SIG Best Practices Committee:  Co-Chairs: Barb Kistenmacher and Jaslean La Taillade. Purpose: to establish a “best practices” database, including best-practice assessment procedures for couple therapy and establish a Research Practice Network in the SIG.

Updates:

The 2005 Couple SIG pre-conference presentation by Dr. Tom Borkovec was successful in outlining constructive guidelines for establishing and maintaining a Couples Practice Research Network (PRN) within the SIG. More specifically, through both his presentation and the small group discussions, initial ideas were generated for: 1) building a knowledge base and consensus for the Couples PRN within the SIG; 2) creating possible research questions to be addressed; 3) selecting appropriate measures of both couple and individual functioning, as well as progress across treatment sessions; 4) dealing with ethical issues; 5) establishing a PRN database; and 6) establishing a link between researchers and practitioners participating in the Couples PRN.

We have decided to keep Dr. Borkovec, as well as members of the SIG, updated on the sub-committee’s progress. The Couples PRN committee had their first online meeting on 3/30/06 to discuss next steps in the establishment of the PRN. We encourage members to contact either Barb Kistenmacher (bkistenmacher@yahoo.com) or Jaslean La Taillade (jaslean@umd.edu) for additional information about the subcommittee, to provide suggestions, and/or to join the subcommittee.

c) APA Division 43 Task Force for Identification of Empirically Supported Couples and Family Treatments

Update from Kristi Gordon:

The task force is continuing to develop a very nice position paper that defines levels of evidence and provides guidelines for evaluation of the existing research and suggestions for improvement of future research. Our latest development is the identification of overarching principles across empirically validated therapies and how best to present these principles, as well as the implication of the principles for existing treatment models. To date we have presented preliminary work to AFTA/IFTA members, to this Board, and briefly to the ABCT Couples Special Interest Group. We submitted a symposium to present our work at APA this August that has just been accepted. Amy Holtzworth-Munroe and I will also head up another similar symposium to present our work at ABCT. The paper is almost finished and will be submitted to the American Psychologist after approval from the advisory panel, from the Division 43 Board, and from the Division 43 and AABT Couple SIG listservs. The next task will be collecting examples of existing research that represent each level for a full-length report. We also plan to make this material available on-line in a format that will be useful to researchers, clinicians, and consumers.

5) Preconference meeting:

Based on votes from SIG members, we have decided to use this year’s pre-conference meeting to focus on Dissemination of Empirically Supported Treatments. We are happy to announce that Dr. Matt Sanders of the University of Queensland will be our esteemed presenter. In his talk, “The dissemination of evidence-based family interventions: Lessons learned” (see abstract in sidebar), Dr. Sanders will discuss issues involved in disseminating evidence-based interventions, drawing from his extensive experience with the wide-spread dissemination of his Triple-P Positive Parenting Program. He has also graciously agreed to tailor his talk to address any particular issues and/or questions that our SIG members may have related to dissemination. So, after you read the abstract, email us (Beth or Sarah) with particular issues that you would like Dr. Sanders to address, and we will pass them on to him. The pre-conference SIG meeting will be held from 6:30-8:30 p.m. on Thursday, November 16th. This time appeared to work well with people’s travel schedules last year, and allows us to reserve a large room (which workshops prohibit us from doing earlier in the day). More details to follow in the fall newsletter!

Again, feel free to contact us with any feedback or comments that you may have. Have a great summer!

- Sarah and Beth
PREMARITAL COHABITATION
FROM PAGE 1

Selection vs. experience. There exists a debate in the cohabitation literature as to whether it’s the type of people who cohabit (i.e., the selectivity perspective) or the experience of cohabitation itself that accounts for the cohabitation effect (e.g., Brown & Booth, 1996). (As more couples cohabit in the United States, this debate may become less interesting, for it becomes harder to say that it’s something specific about those who cohabit that can account for the cohabitation effect when at least 60 or 70% of couples marrying today live together first (Bumpass & Lu, 2000; Stanley et al., 2004)). Nevertheless, there is evidence that selectivity can account for at least part of the association between premarital cohabitation and divorce. For example, Woods and Emery (2002) found that the association between premarital cohabitation and divorce was negligible after controlling for variables that were connected to both premarital cohabitation and divorce (i.e., ethnicity, religiousness, and a history of delinquency).

On the other hand, as traditionally conceptualized, selectivity does not account for all of the cohabitation effect. For example, Cohan and Kleinbaum (2002) and Kamp Dush et al. (2003) carefully controlled for a number of possible selection variables and continued to find that those who had cohabited premaritally were at higher risk for distress and divorce (also see Amato & Rogers, 1999; Stanley, Amato, Johnson, & Markman, in press). Thus, while there are known differences between couples who live together before marriage and those who do not (e.g., religiousness; Stanley et al., 2004), the differences do not fully explain the cohabitation effect. It appears that there is more to the story. Could there be something about the experience of cohabitation that accounts for another portion of the cohabitation effect? Next, we describe our perspective on how the experience of cohabitation may increase risk for divorce in some couples.

Inertia. We detail our theory (inertia theory) of how the experience of cohabitation may account for part of the cohabitation effect elsewhere (see Stanley, Kline, & Markman, in press), but in brief, we hypothesize that there are some couples who live together and then marry who would not have married if they had not cohabited. Commitment theory (e.g., Johnson, Caughlin, & Huston, 1999; Stanley & Markman, 1992) distinguishes between constraints, such as financial investments or the difficulty of the steps one would need to take to end a relationship, and dedication (i.e., an intrinsic desire for relationship continuance). Theoretically, constraints can keep couples together, even when times are tough and when dedication may be low. Thus, all other things equal, the average couple would likely find it harder to break up if they were cohabiting than if they were dating and not cohabiting because cohabitation involves a higher level of constraints. For example, cohabitation may involve increased financial commitments (e.g., a lease) and increased social pressure to stay together. Thus, we believe that cohabitation increases the likelihood of marriage, even among couples who are already at higher risk for divorce or marital distress. If this reasoning holds, it could be part of the explanation for the cohabitation effect. We are currently pursuing related research hypotheses in a number of studies.

The timing of the decision to marry. When considering the cohabitation effect, there is evidence that it is important to distinguish between couples who had made mutual decisions to marry before they starting cohabiting and those who develop plans for marriage during cohabitation. Brown and Booth (1996) found that the relationship quality of cohabiting couples with plans for marriage was similar to married couples’ relationship quality. More directly, in a study we conducted, married couples who lived together before engagement had more negative interactions, lower relationship quality, and lower relationship confidence than those who did not
cohabit until after engagement or marriage (Kline et al., 2004). In the same study, there were no significant differences between couples who lived together only after engagement and those who did not cohabit premartially. These findings demonstrate that couples who make a decision to marry before cohabitation may not be at increased risk for marital distress. They are consistent with inertia because couples who cohabited before engagement would be the ones most at risk for sliding into marriage because of the increased constraints associated with cohabitation.

Gender differences in commitment. In two studies that we have conducted, we have found that married men who cohabited with their partners before marriage have lower levels of dedication than men who did not cohabit premaritally (Kline, Stanley, & Markman, in press; Stanley et al., 2004). In one of these studies, we had access to longitudinal data from both partners and we found that for couples who cohabited before engagement, the men were significantly less dedicated than their partners. This within-couple gender difference was apparent both before marriage and several years into marriage and it could have implications for couples’ power dynamics and the quality of their relationships (Kline et al., in press).

Limitations to what we know. Before we move on to practice implications, it’s important to note three limitations to the cohabitation literature (and therefore to the conclusions we draw here about the risks associated with premarital cohabitation). First, many studies published on cohabitation have been based on a single data set, the National Survey of Families and Households. While it comprises a random sample of the United States population, it is now somewhat outdated, for the first wave occurred in the late 1980s. Given the quickly changing nature of cohabitation in terms of both its popularity and its meaning in the United States (Smock, 2000), replication studies are very important to this field, but they are not widely published.

The second limitation is that it is difficult to isolate the relative contributions of variables to the cohabitation effect. For example, it impossible to know from the current literature how religiousness (Stanley et al., 2004), the number previous of cohabitation partners (Teachman, 2003), a history of delinquent behavior (Woods & Emery, 2002), and living together before engagement (Kline et al., 2004) may interact in explaining the cohabitation effect because not all of these constructs have been measured in a single study. Longitudinal studies that follow participants from very early in relationship development through cohabitation to break-up or marriage and that include comprehensive measurement of a multitude of variables are needed to fully understand the relative risks related to cohabitation.

Third, good estimates of the strength of the association between premarital cohabitation and divorce are not available. For example, studies have shown that those who cohabited premaritally experienced a divorce rate that was somewhere between 1.29 and 1.86 times greater than the rate for those who did not cohabit premaritally (DeMaris & Rao, 1992; Kamp Dush et al., 2003; Teachman, 2003). However, these estimates are based on couples who married as early as the 1960s and none of these studies included participants who married later than the 1990s. Updated samples will be necessary before steadfast conclusions can be drawn about the degree of risk for divorce.

Practice Implications

It is clear that the literature does not contain all the answers regarding the association between premarital cohabitation and marital distress and divorce. As the field moves forward, research will further elucidate the circumstances under which cohabitation is a risk factor for distress and divorce and more precisely characterize the mechanisms that explain the cohabitation effect. In the meantime, we (the authors) cannot ignore the fact that we are both researchers and practitioners, and we believe that enough knowledge exists to begin incorporating research on cohabitation and the cohabitation effect into interventions and relationship education efforts.

Relationship education with individuals. With regard to relationship education efforts, it seems clear to us that individuals should be made aware of research demonstrating links between cohabitation and subsequent marital distress and divorce. As noted earlier, the majority of young adults believe cohabitation is a good way to test a relationship before marriage (e.g., Glenn, 2005). It is our impression that most young adults are unaware of the cohabitation effect. Providing basic information in relationship education programs on what is known from research may help some young adults think more carefully about what is right for them with regard to cohabitation. Does this mean that those delivering relationship education programs should dissuade couples from cohabiting? Not necessarily. However, that approach may fit when conservatively religious individuals are working with conservatively religious practitioners because the people least likely to cohabit (and perhaps most likely to be conflicted about it) are those who are more religious. More broadly, we believe that practitioners of all backgrounds will be most effective in psychoeducational contexts if they help individuals consider their expectations about cohabitation, their religious perspectives, their own circumstances, and the available research evidence.

In our own relationship education program geared toward individuals (Within My Reach; Pearson, Stanley, & Kline, 2005), we frame these ideas as “sliding versus deciding” (also see Stanley, Kline et al., in press). We briefly research on cohabitation and encourage individuals to make a decision about cohabitation rather than sliding through what could become a life-altering transition. We advise that they think carefully about their reasons for wanting to live together and that they talk with their partners about the future of their relationships, their commitment levels, and the meaning of cohabitation. Given the commitment differences between men and women based on cohabitation history, such
psychoeducational efforts may pique the interest of women in particular. Most women likely would not want to find themselves in relationships in which they are more committed than their partners.

Relationship education with couples. The selection perspective suggests that individuals who tend to cohabit tend to also have characteristics that put them at increased risk for divorce. Thus, cohabiting couples may be good candidates for couple relationship education or premarital training programs. In particular, we know that those who cohabit premaritally are more prone to negative marital communication (Cohan & Kleinbaum, 2002), especially if they lived together before becoming engaged (Kline et al., 2004). Communication skills training is typically included in premarital training programs and could be particularly beneficial for those who are cohabiting. At the same time, their lower level of religiousness means that they are not likely to have easy access to such services (Stanley, Amato et al., in press). Thus, better access to relationship education could be very beneficial to cohabiting couples.

Couple therapy with cohabiting couples. Therapeutic interventions could also benefit from greater consideration of cohabitation dynamics and patterns. Many couple therapists have mentioned to us that they are seeing more and more cohabiting couples in their practices. Cohabiting couples are likely very different from married couples in a number of ways (as research suggests), but the biggest difference may be in terms of the salience of commitment issues. In the United States, cohabitation represents an ambiguous commitment between partners and to their communities (see Heuveline & Timberlake, 2004). Cohabiting partners may have unidentified or unspoken differences about the meaning of cohabitation and future goals for the relationship. Hence, couple therapists who are used to working with married couples need to realize that cohabiting couples may have special needs with regard to commitment. Few cohabiting couples who enter a therapy office will have decided what their futures will look like. Or, one partner may have decided while the other is ambivalent. In our experience, it is sometimes difficult for a couple to directly acknowledge this core relationship issue; the less dedicated partner may not wish to upset the status quo and the more dedicated partner may wish to retain some level of denial about the reality of the situation. Of course, the therapy issues will depend on the specific needs of the couple, but therapists seeing cohabiting couples may need to make space for conversations about commitment, differences in partners’ commitment levels, and plans for the future of the relationship.

Marital therapy. In terms of therapy with couples who are already married, the research and ideas presented here may have important implications, as well. A colleague recently asked us whether we would do anything differently in marital therapy based on a couple’s premarital cohabitation history. On the surface, it seems as though what we know from research about cohabitation would be rather irrelevant to couples who are already married. Yet, couples who cohabited before marriage may have special needs around commitment dynamics and the ways in which they make decisions in their relationships. If it is true that some cohabiting couples slide into marriage because of constraints, they could encounter problems related to commitment later on in their marriages. In particular, we know that the men may be less committed than their wives, which could spark not only conflict over commitment, but also power struggles, as it is generally believed that he or she who is least committed has the most power (Stanley, 2005). Additionally, we’ve wondered whether a couple who experienced a significant number of constraints around the transition to marriage might benefit from making a recommitment to their decision to be married. If a decision was never fully made, it may be more difficult to follow through on the commitment to marriage when times are tough.

Of course, there are many more ways that research on cohabitation and the cohabitation effect might influence clinical practice. We hope that this paper has provided a clear picture of several relevant implications and, most of all, that it generates new ideas for both research and practice.

References


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**Kudos to the following people...**

Jean-Philippe Laurenceau moved this past Fall from University of Miami to University of Delaware.

Richard E. Heyman has been promoted to Research Professor at the State University of New York at Stony Brook.

The first Summit in EFT for individual, couple and family therapists was conducted in Ottawa on May 11-13th, 2006. You may visit [www.eft.ca](http://www.eft.ca) for further details.

Gary R. Birchler would like to thank all those Couples SIG members who attended the SIG Cocktail Hour at the recent ABCT Convention in November. Special thanks to Bob & Barbara, Tim O’Farrell, John McQuaid, Bill Fals-Stewart, and Lorelei Simpson for their care and comments and the videotape of my surprise ROAST, but a special thanks to all in attendance who had the opportunity (or captive audience necessity) of observing 40 minutes of tattle-tales regarding my career. I do appreciate your support for this special event in my life. May you each be so fortunate to experience the same sort of KUDOS! See you in Chicago!
Multilevel Models Can Be So Confusing, On So Many Different Levels

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Author Note. My sincere thanks go to Galena Kline, Sarah Whitton, Brian Doss, and Brian Baucom for helping me to choose which topics to focus on in this article. Sherry Steenwyk provided helpful feedback on a draft that greatly improved the manuscript.

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Multilevel modeling (Snijders & Bosker, 1999) is rapidly becoming one of the most frequently used data analytic techniques in couple therapy and relationship research, as recent issues of the Journal of Consulting and Clinical Psychology and the Journal of Family Psychology can attest. Part of the appeal of these models (also called Hierarchical Linear Models, HLM; Raudenbush & Bryk, 2002) is their flexibility in modeling correlated data, such as data from couples and families as well as longitudinal data (see Atkins, 2005). However, the added flexibility of HLM comes at a price: HLM is significantly more complex than traditional methods. In this brief article, I attempt to illuminate two issues that can be challenging to new users of HLM: How to define “levels” in HLM and when is autocorrelation a concern — and what is it anyway?

Nested Data, Levels, and Random-Effects

As the name implies, multilevel models are statistical methods for data with multiple levels (Luke, 2004); however, it is not always clear what constitutes a “level” within our data. Offentimes, levels are described with reference to nested data:1 When participants or data points are organized within groups — spouses within couples, students within classrooms, and repeated-measures within individuals — we can view the data as having an inherent hierarchy, or multiple levels. HLM uses random-effects to capture the correlation in the data due to the groups. Thus, levels are quite critical. If we incorrectly specify the levels, the standard errors in our model, and our inferences based upon them, may be biased. Let’s take two examples that will help elucidate the nuances and pragmatics of specifying levels in HLM.

Imagine a couple therapy study comparing Behavioral Couple Therapy (BCT) to a no-treatment control group. Couples saw one of six therapists, and their marital satisfaction was measured repeatedly during therapy. What levels should be included in our HLM analyses? Two clear choices would be repeated-measures and spouses; random-effects for these groups reflect that our data are correlated due to time points nested within individuals who are nested within couples. However, consider two other possibilities: therapies and therapists.

Each couple receives a single therapy so we can think of couples as being nested within therapies. We should definitely not include therapy as a level in our analysis, but let’s be quite clear about why not. Fixed and random-effects within HLM share many similarities with fixed and random factors within analysis of variance; the classic distinctions between fixed and random factors can assist us in considering therapy as a predictor in our HLM analysis. Fixed factors have levels that are explicitly set by the experimenter (and I am using level here to refer to the separate categories of the factor). Random factors have levels that represent a random sampling of all possible levels. There are clearly therapies besides BCT, but in no way did we randomly sample from the universe of therapies in designing our study. Our choice was explicit and purposeful to test the efficacy of BCT against a no-treatment control. Thus, therapy is a fixed-effect in our model based on the classic distinction between fixed and random factors.

What about therapists? The therapists in our study are not a random sample of all possible therapists, yet therapist is quite different from therapy as a variable. We do not plan to make inferences about these six specific therapists, another classic distinction of fixed factors; we desire to infer that the effects we find with these six therapists are representative of similar therapists who were not in the study.2 Thus, therapists as a variable in our model is closer to a random factor as opposed to a fixed factor, based on our reasoning above. As it turns out, we likely would not include therapists as a level in

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1 However, HLM is not limited to nested data and can be used with non-nested designs that lead to correlated groups, such as cross-classified or multiple membership data (Raudenbush & Bryk, 2002).

2 Whether our therapists are representative of the larger world of therapists has little to do with our choice of statistical model. We would need additional data to effectively make that argument.
our HLM analysis, though the decision is largely a pragmatic one.

Designating a grouping variable as a level in our HLM analysis means that we will assign one or more random-effects to that variable in our statistical model. If we designate therapists as a level, HLM will estimate a variance term describing the variability between our six therapists on our outcome measure. Here is the critical, pragmatic issue: With only six therapists, that variance estimate will be very imprecise if it can be estimated at all. In fact, this is a scenario in which the iterative algorithms that HLM uses to obtain estimates of our model might fail; the program might either fail to obtain estimates at all (i.e., failure of the algorithm to converge to a single solution) or might generate impossible solutions (i.e., correlations among random-effects are outside of the typical bounds of –1 and 1). A more simple answer is that a sample size of six is just too small to generate reliable estimates in virtually any statistical method.

So, what do we do with therapists in our study? If we are unable to estimate a variance term for therapists, we should include therapists as a fixed-effect in the HLM analysis (i.e., a predictor). It is far easier for HLM to get reliable estimates for a categorical predictor with six levels as opposed to estimating a variance component based on six data points. In fact, entering dummy variables for each group was an early method for dealing with nested data (Luke, 2004). With a small number of groups, this can be a reasonable approach, but as the number of groups increases, so do the number of dummy variables. The advantage of HLM is that it will only have a single variance component regardless of the number of groups whereas entering dummy-variables becomes very unwieldy.

Thus, therapists would be included as a fixed-effect rather than a random-effect based on the number of therapists. With more therapists (e.g., 50 or 100), we should definitely include therapist as a random-effect. A logical question then is how many groups are needed to include a variable as a random-effect? As with most tricky questions, there is no simple answer. However, a very rough guide might be that variables with less than 10 units should probably be treated as fixed-effects and those with more than 20 should probably be treated as random-effects. With between 10 and 20 estimates, we might experiment with treating the variable in both manners.

Autocorrelation: What is it and what to do with it?

Diary studies in which participants take daily – or more frequent – assessments of the primary variables is another recent trend in psychology (Laurenceau & Bolger, 2005). Originally, these assessments were kept in diaries (hence the name); now, assessments are often conducted with personal digital assistants (PDAs) using experience-based sampling designs (e.g., after a panic attack or self-harm, the participant completes measures on the PDA.). These designs lead to many repeated-measures, often 30 to more than 100 assessments. HLM’s strengths are uniquely suited to data like these, which often have irregularly spaced time intervals and considerable missing data. However, there is an additional consideration with data such as these, called autocorrelation.

Longitudinal data share two common properties: 1) assessments within an individual tend to be correlated, and 2) assessments closer in time tend to be more highly correlated than those farther apart. The first property is simply a restating of nested data, but the second property is unique to longitudinal data and is often called autocorrelation because it reflects that a variable is correlated with itself when measured repeatedly. Autocorrelation can violate assumptions of HLM, and we might need to extend our HLM analysis to properly incorporate its effects. In theory, longitudinal data of any length may have autocorrelation, but in practice, autocorrelation only needs to be explicitly modeled in HLM when time-series have more than a few repeated-measures (e.g., greater than five or six).

In HLM, we assume the level-1 residuals from our model are conditionally independent, given our predictors and other random-effects. With many repeated-measures, data may violate the conditional independence assumption. More specifically, there may be residual autocorrelation over and above the correlations implied by the random-effects of HLM.

Ignoring residual autocorrelation can bias standard errors in the same way that ignoring correlated data can. With nested data, standard errors are almost always too small when we ignore the correlated data (e.g., using standard regression as opposed to HLM). With longitudinal data, the effects are harder to predict, and standard errors could be either too small or too large depending on the nature of the correlations among repeated-measures and the random-effects structure. Let’s consider how to diagnose and handle autocorrelation.

The correlations due to repeated-measures can be seen in a number of ways. First, we can estimate a correlation matrix of the outcome at each time point with every other time point (i.e., with data at five time points, we could create a 5 x 5 correlation matrix). Similarly, a scatter plot matrix will visually display correlations and are easier to assess when there are many time points; however, with more than 20 or 30 time points, scatter plot matrices are very hard to read, though examining subsets of time points can give a feel for the level of correlation in the data. In addition, our primary concern is with autocorrelation among the level-1 residuals as the random-effects will model some of the correlation among repeated-measures. To assess the residual

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3 It is interesting that writers on HLM rarely show how the random-effects imply a correlation model, except for the trivial case that a single random-effect implies a compound symmetry model. I do not have the space to review this here, but see chapter 7 of Singer and Willett, 2003, for a readable discussion.

4 In fact, explicitly modeling autocorrelation will “fight” with the random-effects to explain the correlations among
autocorrelation, we can use either a scatter plot matrix or correlation matrix of the level-1 residuals from the HLM analysis. Typically, the residuals will first need to be saved and then the file transposed to have each time point in a different column.

An additional method is to examine the empirical autocorrelation function (see Diggle et al., 2002 or Pinheiro & Bates, 2000), which estimates the average correlation at each lag of the repeated-measures (i.e., the average correlation between time points that are one assessment apart, two assessments apart, and so on). Moreover, the average correlations can be tested against zero, providing a statistical test for residual autocorrelation. If the options above are not available or challenging to implement for a specific dataset (e.g., more than 30 repeated measures), there is also a blind empiricism approach: We can add a correlation model for the level-1 error term and see if it improves the fit of the model.

As the previous discussion implies, HLM can be extended to include a correlation model for the level-1 error term, typically assumed to be independent and identically distributed (i.e., homoskedastic). There is a huge variety of possible correlation models (see, for example, the SPSS syntax guide for the MIXED function or Singer & Willett, 2003), many of which were developed in the statistical literature on time-series. Visualizing the residual autocorrelation as mentioned above can help decide the most appropriate method. However, in most longitudinal data examples, an autoregressive, lag1 (AR1) model provides an improved and sufficient fit. An AR1 model fits an average correlation between pairs of adjacent time points (i.e., lag 1). With each successive lag (i.e., time points farther apart), the correlation is raised to an additional power. As an example, if our lag 1 correlation is .40, lag 2 correlation based on AR1 would be .16 (i.e., .40²), lag 3 correlation would be .06 (i.e., .40³), and so on. The AR1 correlation model decays by a power with each lag, reflecting that more distant time points have less influence than closer time points. The AR1 model is very parsimonious in that it uses a single degree of freedom, whereas other models can require many degrees of freedom (e.g., the Toeplitz or banded model fits a separate correlation at every lag).

Whether or not the correlation model improves the fit of the model to the data can be assessed via a deviance test – the same test that is used to assess the necessity of random-effects (see Atkins, 2005). Additionally, we could use an information criterion (e.g., Akaike Information Criterion or Bayesian Information Criterion; see Singer & Willett, 2003) to determine whether the improved fit of the data offsets the additional degree of freedom. Although I do not have the space to provide a tutorial on how to model correlation structures in different software packages, all of the major software packages with HLM functions can include level-1 correlation models (e.g., SPSS, HLM, R, SAS, MLWIN).

As I noted at the start, multilevel models are flexible but complex. For those of you who are struggling to learn and use multilevel models, I hope the current discussion further clarifies the role of levels and autocorrelation in HLM and how to implement each in your own analyses.

References


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This is available in the nlme library of HLM functions (Pinheiro, Bates, DebRoy, & Sarkar, 2005) in the R statistical package (R Development Core Team, 2005); however, it is not available in the HLM program or SPSS at the present time.
Book Review: *Helping Couples Change*, by Richard Stuart
Reviewed by David C. Hill
Millersville University

Being asked to review a book that venerable authorities have intensively reviewed, read, and utilized in their teaching, supervision, and clinical work over the past 25 years is at once a humbling and exciting opportunity. The new release of Richard Stuart’s *Helping Couples Change* (1980; 2004) in paperback version provides this opportunity. Stuart’s book is clearly an enduring classic that is, at the same time, as practical and relevant today as it was when it first appeared in 1980. On the very day that I found out that this was the book I was to review, I discovered that my lesson plan for that day in my “Family Systems” course involved lecturing on “Behavioral Couples Therapy” based on Stuart’s book. The fact that it provided the basis for my lecture before I had any idea that it had appeared in a new paperback version is testament to its undying authority and relevance.

Richard Stuart’s impressive integration of a coherent philosophical foundation, a thorough empirical base, and a practical set of interventions and techniques remains a very impressive contribution and makes this book exemplary in terms of the scientist-practitioner model. The philosophical foundation rests squarely on a combination of humanism, pragmatism, and idealistic positivism, while the more therapy-specific theoretical bases include social-cognitive learning theory, social exchange theory, systems theory, and interactionism. In the contemporary world of integrative approaches to the practice of individual, couples, family, and group therapy, Stuart’s choice of philosophical and theoretical influences is one that most current practitioners will find compatible with their own ideas.

The empirical support that Stuart offered in 1980 is still relevant today, and 25 years of additional work have only contributed to our knowledge of the efficacy and effectiveness of this social learning approach. For the interested reader, Stuart has thoughtfully provided in his preface to the paperback edition, an excellent review of the empirical and theoretical support that has accrued over the past quarter-century since *Helping Couples Change* first appeared.

This book contains a detailed practical set of interventions and techniques clearly outlining the core components of the program—assessing troubled relationships, structuring the therapeutic process, the “caring days” technique for building commitment, communication skills training, structuring behavior exchange, allocating the authority to make decisions, and conflict containment. An additional chapter authored separately by Freida Stuart and D. Corydon Hammond focuses on sex therapy and the significant convergence of sexual problems and relationship problems in troubled relationships.

Reviewers do not generally characterize books of this kind as “page turners”, but I challenge any reader to complete the following exercise that I conducted with myself. I selected 10 numbers at random and turned to those pages in the book to see if I could read that page only without continuing with material before or after that page. I found it to be impossible; I indeed had to continue turning pages! I randomly found the following topics in the following order and could not stop pursuing them: (a) how to facilitate the caring days activity complete with detailed examples; (b) structuring the therapeutic process; (c) approaches to treating male orgasmic disorder; (d) the critical importance of evaluating depression, anxiety, parenting effectiveness, work functioning, and leisure in the assessment stage; (e) specific instructions and examples regarding the dynamic process of allocating decision-making authority in the relationship; (f) helping clients self-monitor, record, and maintain progress; (g) techniques for assessing communication problems and processes in relationships; (h) negotiating the stages of development in a marriage including issues of money, children, and cultivation of intimacy; (i) boundary conditions and mate selection; and (j) the interrelatedness of sexual problems and relational-communicational problems. I found every page I selected compelling and fully as current and relevant today as it was in 1980.

In his preface to the 2004 paperback edition, Stuart himself discussed what changes he might make if he had to write the book again. He wrote that he would add updated information on the research on marriage that has accumulated since 1980; expand on the integrative nature of the model; provide additional information on mate selection and family of origin issues; and include a new chapter on cohabitation, premartial counseling, remarriage, and postmarital relationships. While this would all be wonderful, none of it is crucially necessary because the book has withstood the test of time as it is.


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**Visit the ABCT Couples SIG website:**

www.aabtcouples.org

**Thanks to Nikki Frousakis for serving as our new webmaster!**
The vast majority of members of ABCT and the Couples’ SIG are faculty and students from psychology programs from across the U.S. and other countries, so many members may not be aware that CBT is alive and thriving in other types of clinical programs. Recent surveys of members of the American Association for Marriage and Family Therapy (AAMFT) indicated that CBT was the most frequently used theoretical approach. Although AAMFT clinical training programs have not participated much in ABCT conventions and other functions in the past, the Marriage and Family Therapy (MFT) program at the University of Maryland, College Park has been increasingly involved during the past several years. MFT programs offer another educational path for individuals who want to focus on research and treatment with couples and families. This article describes the purpose and structure of our MFT master’s degree program and the Family Studies Ph.D. program. It outlines the programs’ curricula, MFT clinical requirements, professional interests of faculty and students, and career opportunities for students post-graduation. The 13 authors contributing to this article represent an ideal balance of faculty, first- and second-year MFT students, and students pursuing the combined MFT/Ph.D. track. Our goal is to share the experiences and perspectives of faculty and students at multiple training levels within the program.

**Purpose/Structure of the MFT Program**

The MFT master’s degree program is designed to educate and train clinicians from a systemic perspective in this full-time two-year program. Two cohorts of students with about ten students in each class serve as the staff of the Department’s outpatient Family Service Center (FSC) while they complete the academic aspects of the program. First-year students begin sitting in on client sessions with second-year student mentors as co-therapists within two months of beginning the program, and participating in therapy sessions gradually. Co-therapy teams continue throughout the first semester until first-year students are cleared by their supervisor to conduct therapy alone. The MFT program at the University of Maryland, College Park was ranked among the top three MFT master’s programs in the nation by AAMFT in 2000 and is nationally accredited by the Commission on Accreditation for Marriage and Family Therapy Education.

**Curriculum**

The Department of Family Studies offers the MFT master’s degree and a Ph.D. in Family Studies. The MFT curriculum includes practicum courses associated with students’ internships in the FSC, as well as didactic courses in family theories, family therapy theories and approaches, couple therapy, research methods, quantitative statistical methods, gender and ethnicity in family therapy, sexual issues in family therapy and service delivery, and electives such as family mediation, clinical assessment and testing, and substance abuse treatment. Many students pursue only the master’s degree and then either enter the field in clinical positions or continue their education in various doctoral programs elsewhere. Some students who are completing the MFT program decide to apply to the Family Studies Ph.D. program, which focuses on quantitative and qualitative family research, family program development and evaluation, and public policy. Alternatively, students can apply jointly to the two programs initially, receiving their master’s degree in MFT on the way to completing the Family Studies Ph.D. program. The combined program usually takes students about five years to complete.

Weekly practicum seminars are a part of every student’s curriculum throughout the program. These courses, taught by the clinical faculty members, are integral to acquainting students with theoretical models and therapeutic techniques, as well as a variety of client presenting problems and common issues in the practice of couple and family therapy. Practicum classes allow students to learn and practice therapy in a variety of ways, such as videotaped role plays with classmates (during the first semester) and multimedia class presentations, which include video clips and sound bites, the creation of detailed treatment plans, and the application of DSM-IV-TR diagnoses to clinical cases.

MFT students may choose to complete a master’s research thesis or a non-thesis option – a clinical case study in which they provide an in-depth analysis of the clinical work conducted with one client family over at least twelve therapy sessions. The clinical case study is presented both through a paper and a 1-hour presentation to the faculty and students, using video clips from
sessions to illustrate use of the student’s theoretical model. In both thesis and non-thesis options, students work closely with a faculty mentor. MFT students interested in pursuing a Ph.D. are strongly encouraged to complete a research thesis.

Clinical Work
The MFT program at the University of Maryland provides students with extensive clinical training. Consistent with national accreditation standards, students are required to complete a minimum of 500 client contact hours with families, couples, individuals, and therapy groups. Additionally, students receive about 250-310 supervision hours in weekly 3-hour meetings with AAMFT approved supervisors; extra ad hoc supervision is available as needed. Therapy conducted at the FSC is conceptualized from a systemic perspective. Training is provided in multiple theoretical models of relational therapy including (but not limited to) strategic, narrative, experiential, Bowenian, cognitive behavioral, and emotionally focused frameworks. Students are encouraged to experiment with a variety of therapy models during their training. MFT programs across the country vary in the range of theoretical models that are taught, and our program provides more CBT training than most. At any one point in time, students may carry a caseload of 10-30 cases.

In addition to working at the FSC on the University of Maryland’s campus, students are encouraged to complete part-time externships with local agencies focusing on more specific populations and presenting concerns, such as Second Genesis, an adolescent and drug rehabilitation program. Students participate in externships working with a broad range of clients from women in domestic violence shelters to clients diagnosed with schizophrenia and their families. In this way, MFT students gain experience in applying a relational perspective to treat psychological disorders and medical illnesses that have traditionally been treated individually. MFTs use a systemic perspective to conceptualize these problems and to examine their effects on the entire family.

Family Service Center
The FSC client base includes an ethnically and socioeconomically diverse group of families, couples, and individuals from nearby Maryland, Washington, D.C., and Northern Virginia. Clients are referred to the FSC for services by, among others, schools, the county court system, and mental health services on campus. The FSC operates on a sliding fee scale on which the fee per 45-minute session ranges from $20 to $100.

The FSC serves approximately 500 families, couples, and individuals per year with a variety of presenting diagnoses and problems and conducts specific problem-focused groups on an as needed basis. Presently there is an ADHD group being held for both parents and children. In the past, therapists have also conducted groups for court-ordered males struggling with anger management.

In the spirit of combining clinical training, service, and research, the FSC is presently conducting the Couples Abuse Prevention Program (CAPP), a treatment program for couples who have experienced problems with anger control and have a history of psychological and/or mild to moderate physical violence in their relationship. The CBT-oriented CAPP treatment program focuses on psychoeducation, anger-management skills, communication and problem-solving skills, relationship recovery from prior domestic abuse and trauma, and enhancement of relationship strengths and satisfaction. In a controlled outcome study, the CBT approach is being compared to treatment as usual at the FSC, which consists of the various systemically-oriented forms of couple therapy described earlier. All of the interns at the FSC participate in the project by treating couples either with the CBT protocol or usual treatment. Extensive assessments are conducted before treatment, after the standard ten sessions of treatment, and at a 4-month follow-up.

Faculty
The MFT clinical faculty has rich and diverse backgrounds and research interests. The clinical faculty members are Dr. Norman B. Epstein, Dr. Carol Werlinich, Dr. Leigh Leslie, and Dr. Jaslean LaTaillade. The faculty teaches the master’s level courses and provides supervision to therapist interns seeing clients in the FSC. They also teach courses within the larger Family Studies curriculum to undergraduate and doctoral students and supervise student research. The faculty is a highly qualified group of experienced family therapists who bring a variety of theoretical approaches and a broad experiential base to their supervision of graduate students. Additionally, the majority of the clinical faculty members have their own private practice.

Students
The MFT Program and the larger Department of Family Studies have a long tradition of rich diversity among its student both in their educational and ethnic backgrounds. Students enter the MFT program with a broad range of undergraduate degrees. As interns at the FSC, students collaborate on clinical and research projects, gain experience in carrying out a variety of clinic duties, and have extensive experience conducting co-therapy and well as treating families on their own. In classes, clinical supervision, and at FSC staff meetings students are encouraged to share skills and viewpoints from their diverse backgrounds. They also are encouraged to become involved with national associations to develop their professional identities and networks, and to be abreast of the latest research. Each year many students present their research at national conferences including AAMFT, ABCT, and NCFR.

Career Opportunities
Licensed MFTs with a master’s degree or Ph.D. are qualified to treat families, couples, groups, and individuals with a variety of relational and individual presenting problems. They may work within larger systems or agencies including family therapy clinics, the
foster care and criminal justice system, schools, and the prison system, as well as in private practice. Forty-eight states presently offer licensure for MFTs, with requirements for licensure varying from state to state, although all use the standardized national exam and typically require at least two years of supervised post-degree clinical work.

In the state of Maryland, MFT graduates can become Licensed Graduate Marriage and Family Therapists (LGMFTs). This preliminary graduate license allows MFTs to practice under the supervision of an AAMFT approved supervisor. In order to qualify for the LGMFT designation, an individual must complete an accredited program that meets the specifications set by the state of Maryland as well as pass the licensure exam. The LGMFT status allows graduates to practice in a wide range of settings following graduation, to work toward full clinical licensure. After completing 2,000 hours of supervised clinical experience within a minimum of two years post-graduation, LGMFTs are eligible to receive their Licensed Clinical Marriage and Family Therapist (LCMFT) license that allows them to practice autonomously without supervision.

Students who complete the combined MFT/Ph.D. programs find their training to be excellent preparation for careers involving both therapy and research, providing clinical training and supervision in university settings, pursuing academic careers at research universities, directing clinical agencies, evaluating and analyzing public policy, and assessing the effectiveness of developing programs.

Closing Comments
Overall, MFT programs are an excellent source of extensive clinical and research training. Both the faculty and students at the University of Maryland highly value our involvement in the Couples Special Interest Group. Please visit the department’s website for more information on its programs, faculty, and students at www.hhp.umd.edu/FMST.

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**Letter from the Student Co-Presidents**

Dear Couple SIGer’s,

One of the things that were most memorable for us from last year’s conference was the retirement tribute for Gary Birchler that took place during the SIG cocktail hour. While the tribute varied from being funny to serious, it was poignant throughout. It was hard not to see the fondness and affection that Gary’s many colleagues and students had for him as a collaborator, a mentor, and a friend.

The sense of community that exists within our SIG is one of its most valuable qualities. It makes conferences enjoyable not only because of the research presentations and posters, but also because of the time that will be spent with friends and colleagues catching up, exploring the host city, and planning future collaborations. In between conferences, the only contact the most of us have with each other is through the listserv. The listserv is a valuable medium for posing research and clinical questions that allow us all to immediately tap the vast, collective experience of our members, who represent over 4 decades of experience at more than 50 colleges, universities and organizations in 7 countries and who have produced well over 1000 scholarly publications. However, there are occasions when members of the SIG may have a question that is not germane to the entirety of the SIG’s membership. As students, there are frequently times when it would be beneficial to get input and advice from fellow students, but there is currently no readily accessible method for doing so.

We would like to propose a solution to this condition by suggesting that we create a student Couple SIG listserv. The purpose of the student listserv would be to function as vehicle for students to discuss topics uniquely relevant to being a student, such as but not limited to internship, post-doctorate positions, and junior faculty openings. Additionally, we hope that the student listserv will foster our sense of community as students. It is often times difficult to meet and get to know your fellow students at our annual conferences simply because of our sheer numbers. While we do not mean to suggest that the student listserv would primarily be a social outlet, we do think that it would serve as a way for us to get acquainted with one another outside of the conferences.

We would like to invite all current students to join the student Couple SIG listserv. If you interested in joining this listserv, please send an email to either Brian Baucom at bbauc@ucla.edu or Eric Gadol at gadol@unc.edu.

-Brian and Eric
Dear SIGers,

It was great to see so many of you in DC! Below is a summary of the changes in our treasury since my last report in October. Our pre-conference balance was $1612.34. Since then, conference and mailed receipts totaled $1985 in current dues ($1060), back dues ($285) and cocktail party receipts ($640). For the current 2005-2006 year, we have 98 members, of which 45 are professionals, and 52 paid as student, postdoc, or retired members. Retired is a new category created in honor of Gary Birchler. Eighty-two of our members paid dues at the conference.

Pre-Conference (95 2004-5 members: 50P and 45S, 4P prepaid 2005-6) +$1612.34
Receipts
At conference (35P, 47S [82] = $1120, party = $625) $1745.00
Mailed (6P, 6S) $ 240.00
(Total 2005-6 members = 98; 41P & 52S + 4P prepaid) $1985.00 +$1985.00
Disbursements
Cocktail party (food, cash bar, bartender) $1448.00
Pre-conference speaker ($300 honorarium plus expenses) $ 545.13
Student awards and retirement plaque $ 345.00
$2338.13
$2338.13
CURRENT BALANCE (including $.77 dividend) +$1259.98

As usual, dues are $20 for faculty members/professionals. Students, 1st year postdocs, and now retired persons pay $5. If you haven’t yet paid your dues, please mail a check made out to Shalonda Kelly, with “ABCT Couples SIG” in the memo line, to the address at the end of my report. I will send you a receipt of payment via mail or email.

If you recently made a transition, or are planning for upcoming transitions in your work or life, please be sure to email me your new contact information. Currently, we try to keep track of your Name, Professional Title, Department, University or Organizational Affiliation, Address, Email, Website, and Phone/fax. If you are unsure if I have any of this information, or want to determine your membership status, feel free to check with me.

If you’re not already on our listserv, please go to the SIG website at http://www.couplessig.net/ and on the left you can click on ‘joining the Couples SIG listserve’ and that should take care of everything.

If you have any other suggestions please email me at skelly@rci.rutgers.edu. Also, please encourage your colleagues and students to pay dues if they haven’t already.

Take care, and I hope to hear from many of you soon!

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