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APPLYING THE CONCEPTS – PART 4

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Assessing the Impact of Parent Involvement Programs

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I'd like to talk to you this afternoon about four themes that I think are emerging and have emerged from empirical work that have come from outside program evaluation, but that have important implications for program evaluation. The first theme of involvement is co-constructive. In other words, involvement is not solely determined by the family, but it is an interaction between families, schools, and communities. The second theme is that involvement is a dynamic process that can vary within families. That is, in the past, family involvement was treated as a family characteristic, because families were either high in involvement or families were low in involvement. But it's becoming increasingly apparent that involvement varies within families and that we need to characterize involvement as a dynamic process, not as a family characteristic. The third theme is that involvement often has indirect effects on children's achievement. That is, there are often intermediate mechanisms that link involvement practices with how children are performing, for example, on literacy or mathematics. And those intermediate mechanisms are an important piece of the process. And then fourth, involvement effects can vary across children. And I think it's important to point out here that involvement can matter for all children and at the same time the ways in which it matters and the type of involvement and the meaningfulness of involvement can vary across children.

Because I'll be using examples from the research that we've completed, I want to tell you about the data from which the findings have been generated. These findings are from the School Transition Study. The School Transition Study was a follow-up investigation of 390 low-income children and their families who participated originally in the Comprehensive Child Development Program. They were approximately equally divided among African-American, European-American, and Latino-American families, and the children were followed in the School Transition Study from kindergarten through fifth grade. One of the key points here is that we're going to be talking about a low-income sample. Our operational definition of involvement for the analyses includes indicators of involvement in the home, indicators of involvement in the school, home-school communication, and what we call unconventional involvement—perhaps not unconventional for the family, but unconventional from a measurement standpoint because we're talking about things like parent-to-parent communication. Following Bronfenbrenner's ecological model and others that have followed up on that model, there has been a large body of research across the social sciences interested in the ways in which families and contexts outside the home, such as schools, neighborhoods, communities, are interdependent such that families influence the contexts outside the home and the contexts outside the home influence the family. One synergistic outcome of these interactions, it appears, is family involvement in education. This is, in fact, what we're saying when we say involvement is co-constructed. Schools that have higher levels of support and services, like specialized learning services, schools that have, according to the principals—high levels of staff and community investment in their children performing at high levels tend to promote higher levels of family educational involvement, and those higher levels of family educational involvement then

50 explain in part the higher levels of child achievement that you see in those schools. There's a direct effect of
51 staff investment in children on those children's achievement in that school. Not surprising. Teachers who are
52 invested have children who are performing higher. But there's also an indirect effect such as teachers who are
53 more invested have parents who are more invested and, in turn, children who are performing higher in
54 literacy achievement. We consider this some evidence of co-construction; but what's the implication for
55 evaluation? If you have intervention, you want to change families in some way to increase family
56 involvement. You could have intervention at a different levels. It could be school level, it could be multiple
57 levels. Let's just consider, though, for this example that it's at the level of the family. Ultimately, the statistical
58 and practical significance of whether your intervention works is going to rely on one thing, and that's going to
59 be the ratio of how much variance in family involvement your program can explain. So families are going to
60 be involved for a number of different reasons. Well, hopefully, some of those reasons are going to be related to
61 your program. That's indicated by what I've labeled A here. But the practical and statistical significance of
62 that area A depends on its ratio to area B. What's left over? The error variance. All the other reasons that a
63 family is involved. And so if we know one of the determinants is this co-constructive process and you're
64 evaluating a family-level program, you need to be assessing those other determinants of involvement to the
65 extent that you can. Because when you begin to control, for example, for school context, notice now that the
66 ratio of A to B has gotten larger. Your program, if you were conducting this experimental program, would
67 appear more important in statistical and practical significant terms, because you've reduced the error variance.
68 And we could flip this example around, if you are interested in a school-level program. Well, then you're
69 probably going to want to assess some family level characteristics that you think might be determinants of
70 involvement to help you recognize how effective your program has been. Because without it, if you
71 only assess those things that are within your program, you're going to miss much of the variance in
72 involvement, and as a result, your program's going to look less effective. So we know that family involvement
73 is determined through co-construction. We need to think about that when we're measuring and evaluating a
74 program.

75
76 The second theme is that involvement is a dynamic process that varies within families. It's not a characteristic
77 of families. What you're looking at here is a graph of involvement over time between kindergarten and fifth
78 grade. The actual assessments times were at kindergarten, at third grade, and at fifth grade. The two lines
79 represent children whose mothers were teenagers when they were born—that's the blue line. And children
80 whose mothers were 20 years or older when they were born, again all low income. And what I'd like you to
81 consider is the difference in the implications of the information you have right here about what family
82 involvement looked like in these homes compared with, for example, if you only assessed involvement at
83 kindergarten, at that time point in these data, that is a statistically significant difference. And it, in fact,
84 appears to be quite large in terms of effect size. That is, if I were to just go look at kindergarten, I could say to
85 you that teenage mothers are less involved than those who are not teenage mothers. And the data would
86 support that. But now consider if I had measured it at fifth grade. These two points are statistically
87 indistinguishable from one another, so as a researcher, I would have to say they are for all practical purposes,
88 they are identical. And so I would conclude that teenage mothers are just as involved as those who aren't. Of
89 course the story is much more complex than either of those stories. Because involvement is a dynamic process,
90 it can vary within families. To hammer that home, I'm going to give you some of the findings we have based
91 on assessing the effect of changes in family involvement on changes in child literacy. That is, what happens
92 when we begin to capture this dynamic process and ask how does that affect child achievement? And first of
93 all, just remember that there are between-family differences in average level of involvement across the study
94 that were positively associated with average differences in literacy. That is, if I just average across
95 involvement and said how highly involved were you as a family and then looked at your child's literacy, we
96 would find an effect in those between-family differences. Above and beyond those between-family
97 differences, when we control for the fact that on average there are families who are more involved than others
98 increased involvement within families was associated with increased literacy performance for children. So
99 when involvement goes up, literacy performance goes up. When involvement goes down, literacy
100 performance goes down. This is within families. The within-family effect size, that is, the increases and
101 decreases within a family, regardless of where they started, was nearly twice as large as that between-family
102 difference. In other words, these are meaningful effects. Families can change in terms of involvement, and
103 those changes have implications for involvement. These are not experimental data, and we have some
104 causality issues. But involvement and achievement are co-varying over time. And that says a lot for someone
105 who's interested in evaluating the effectiveness of a program. If you want to know whether your program
106 would, if you make one or two assessments or rely entirely on averages, you may miss something that's

happening within families. And something that has relatively large practical importance within those families as well.

The third theme I'm going to refer to now as the mousetrap theme. When I was a kid, we had this game, Mouse Trap. And the basic goal of the game was to set up all of these little gizmos that ultimately led to a causal pathway of effects. So you turn the crank, which rotates a gear, causing a lever to move and push a stop sign against a boot. The boot tips the metal bucket, etc., etc. Ultimately the goal of that causal pathway was to drop a net on a plastic, unsuspecting mouse. If you imagine program evaluation as being turning the crank ultimately you want to capture child achievement. In between, though, there's a lot of potential for error. There's a lot that can go on that could undermine your attempts to evaluate the effects of turning that crank. One of the intermediate mechanisms that we've been focusing on, like the boot, has been children's feelings about literacy. So, when family involvement moves up and down, I told you that it affects literacy achievement. Literacy achievement responds. One of the reasons we're finding that that happens is because children's feelings about literacy change. Children start feeling more efficacious. Children start feeling better about literacy. They like it more and they think they're better at it. And because of that, family involvement is associated with literacy achievement in large part. In our data, this accounts for more variance than that direct path of family involvement. That is, in our data, it is not that family involvement is directly leading to children doing better in school, for example, the parent does a good job teaching them a math problem. Instead, it's that there's an indirect effect of being involved. Children start feeling better about school, in particular about their literacy. And as a result, they perform better in the area of literacy. The implication for program evaluation here is—and what I was alluding to with the mouse trap—is that there's so much in between. If you don't try and capture some of these in-between mechanisms, you are in fact statistically and methodologically minimizing the probability that you will find effects that are there. You improve your chances of detecting the effects of your program when you begin to consider some of the potential mediators, for example, parent efficacy in terms of both how efficacious they feel about their ability to get involved and make a difference, but also how they feel about their children's abilities to succeed in school as well as children's self-efficacy. These both appear to be two important intermediate mechanisms that evaluators may want to be thinking about.

Next point is that involvement effects can vary across children. What you're looking at here are changes in average literacy performance across varying levels of family involvement. So at the left end of the graph are low levels of family involvement. At the right end are high levels. The solid line is children from families with mothers with a high school education or more. The dotted line is children from families with less than a high school education. Those two associations between involvement and achievement are statistically different from one another. Those children whose mothers have less than a high school education are making more rapid gains with increases in family educational involvement. In fact, you can see that statistically speaking at least they've caught up with those children whose mothers are more educated. The point is that the effects of involvement can vary across children. And in this particular case, we think it is children who are at exceptional educational risk are also at exceptional likelihood of benefiting from family educational involvement. So what are the implications for evaluation? If you fail to search for potential moderators of your effects, that is, those factors that may vary the effects of your program, you may miss for whom your program matters most. Other potential moderators that have been demonstrated empirically include the quality of the parent-child relationship, ethnicity, and child age. And I just want to point out what you're looking for in a moderator is something that theoretically should strengthen or weaken effects, or something that is going to modify the meaningfulness of the constructs of interest. So, for example, with regard to ethnicity, Nancy Hill at Duke has done a good job of showing that intermediate mechanisms connecting involvement with achievement vary by ethnicity. That is, family involvement is equally productive in terms of child achievement across ethnic groups. But the ways it gets from involvement to child achievement varies by ethnic group.

To wrap up, I want to reiterate the four themes. First, assessment of contexts that affect children's family involvement can improve the precision of estimated program effect. That is, you need to measure and assess things outside the realm of what you're actually trying to change. Longitudinal assessments of within-family variations in family involvement can improve the ecological validity of involvement indicators. Things vary within families and we need to capture that. And assessing intermediate mechanisms, relating program effects to children, can help capture program effectiveness as well. It's more difficult to capture the effectiveness if we don't grab those things that are in between. And then, finally, estimating variations across children can help clarify for whom involvement matters most in following a program.

