

SHANNON DORSEY University of Georgia

KARLA KLEIN University of Massachusetts\*

REX FOREHAND University of Georgia\*\*

FAMILY HEALTH PROJECT RESEARCH GROUP University of Georgia\*\*\*

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## Parenting Self-Efficacy of HIV-Infected Mothers: The Role of Social Support

*Parenting self-efficacy is a crucial component of parenting competence. In this study, we examine differences in parenting self-efficacy and the relationship of social support to parenting self-efficacy for HIV-infected and uninfected mothers. We test competing hypotheses about how social support may relate to self-efficacy in the two groups of women. Participants were 205 African American mothers, one third of whom were infected with HIV. Results indicate that HIV-infected mothers reported lower levels of parenting self-efficacy than did mothers who were not infected. Furthermore, the relationship between social support and parenting self-efficacy differed according to HIV status.*

Since the onset of the AIDS epidemic, researchers have attempted to untangle components associated with physical and psychosocial functioning. Although the epidemic initially was concentrated within populations of homosexuals and intravenous drug users, its reach extends to every part of our society. Minority women are currently the hardest hit and most understudied (Centers for Disease Control, 1997). Among African American women of childbearing age (25–44 years), AIDS is the leading cause of death (Phillips, 1997). In this population, the effects of HIV/AIDS infection reverberate through entire families and particularly influence children of mothers who are parenting under the stress of living with HIV (Kotchick et al., 1997) and the eventuality of their death (Armistead & Forehand, 1995).

Not only are many HIV-infected women mothers, but often they are the primary or sole caretaker for one or more of their children under the age of 18 (Michaels & Levine, 1992). In addition, most of the families of these minority women are in the lowest socioeconomic brackets, a position that exposes them to multiple stressors (Armistead & Forehand, 1995). Maternal HIV infection, then, superimposes a host of additional stresses on already difficult life circumstances. In fact, Quinn (1993) states that “African American women with

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Institute for Behavioral Research, University of Georgia, Barrow Hall, Athens, GA 30602 (sdorsey@arches.uga.edu).

\*Department of Psychology, University of Massachusetts, 100 Morrissey Boulevard, Boston, MA 02125.

\*\*Institute for Behavioral Research, University of Georgia, 111 Barrow Hall, Athens, GA 30602.

\*\*\*University of Georgia, 111 Barrow Hall, Athens, GA 30602.

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HIV disease constitute one of the least powerful and most burdened segments of society" (p. 305).

Families of these women face psychological and practical challenges that accompany chronic and terminal illnesses, including disruptions of family roles, anticipatory grief, escalation of economic stress, and future planning for children in the case of the mother's death. Moreover, they must confront other issues unique to HIV, such as social stigmatization and illness disclosure (Armistead & Forehand, 1995). Given that many HIV-infected women are single mothers, AIDS has the potential to lead to repeated mother-and-child separations, to create disruptions in custody and residence for children, and to leave them orphans (Michaels & Levine, 1992). To optimize the quality of life for these women and their children as they face these profound stressors, it is crucial for psychosocial research to identify variables that may bolster their well-being.

Our study examines one such variable, parenting self-efficacy, which can be viewed as a parent's ability to perform a range of valued behaviors that relate to optimal child development. Parenting self-efficacy is a potentially crucial component of both mother and child well-being for two reasons. First, individuals who perceive themselves as high in parenting self-efficacy exhibit greater competency in parenting behaviors, including increased monitoring of their children and responsiveness to their children (Bogenschneider, Small, & Tsay, 1997). These findings support earlier work by Elder, Eccles, Ardelt, and Lord (1995), who found that African American parents who feel efficacious are more likely to engage in promotive and preventative parenting strategies (e.g., helping children with school work and monitoring). Furthermore, other research suggests that higher levels of parenting self-efficacy are associated with better psychosocial adjustment of children (Rodrique, Geffken, Clark, Hunt, & Fishel, 1994).

An HIV-infected mother may likely be a single parent. Thus, a mother's perceptions about her parenting ability are crucial because children's level of adjustment relate to a mother's feelings of competency (Kotchick et al., 1997). Moreover, interviews with HIV-infected mothers reveal that their children and parenting are top priorities (Armistead & Forehand, 1995; Faithful, 1997). Hence, it follows that the importance of parenting efficacy is twofold. It not only influences child adjustment, but, because most HIV-infected women are neither married nor employed (Forehand et al., 1998), feeling efficacious in the par-

enting role may provide a means for mothers to define themselves and their importance in the family and in society. Their competent performance in this role, in turn, could give them a sense of satisfaction and bolster their self-esteem.

Although research has supported the positive benefits of parenting efficacy, the components that influence self-efficacy are less studied and less well understood. One factor proposed in past research has been the amount of social support received by parents (Elder et al., 1995). There are numerous types of social support, but two types seem to be particularly important for mothers infected by HIV. Instrumental social support provides financial aid, material resources, and needed services, and informational social support provides help defining, understanding, and coping with problems. These types of support may provide the assistance (e.g., help with child care) that mothers need to remain competent in their role as parents as they become increasingly ill.

Kotchick et al. (1997), however, found that HIV-infected women parent less well in certain areas than women who are not HIV infected. Specifically, they reported less monitoring of their children and poorer mother-child relationship quality. This finding is not surprising because the physical stressors of HIV most likely inhibit these aspects of parenting, particularly when health declines (Armistead & Forehand, 1995). Thus, research that examines the intersection of chronic illness (specifically HIV), aspects of parenting, and social support is needed.

Our study has three purposes, which we pose here as questions, regarding parenting self-efficacy. (a) Are there differences in perceived parenting self-efficacy between HIV-infected and uninfected mothers? (b) Is social support related to parenting self-efficacy, and does the relationship differ by HIV status? (c) Does the type of social support, general or specific to parenting, relate differently to parenting self-efficacy, and does that relationship vary by HIV status? We offer specific hypotheses for the first two groups of questions and view the last as exploratory.

The first question investigates whether HIV-infected women perceive themselves as less efficacious parents than do uninfected women with similar sociodemographic profiles.

We hypothesize that HIV-infected mothers will report lower levels of parenting self-efficacy than uninfected mothers.

The second question concerns the role that social support plays in parenting self-efficacy and whether it plays the same or a different role for HIV-infected and uninfected women. In addressing this question, we test three competing hypotheses.

**Main effects hypothesis:** In this case, the positive experiences of social networks will provide a generalized beneficial effect, regardless of the stress experienced (Cohen & Wills, 1985).

If this hypothesis is supported, a main effect will emerge for the relationship between social support and parenting self-efficacy. The second hypothesis regarding social support and maternal HIV status also arises from the theoretical conceptualizations of Cohen and Wills.

**Stress buffering hypothesis:** In this case, we expect different effects, depending on an individual's level of stress. Specifically, those who experience higher levels of stress, such as HIV-infected women (Kimerling, Armistead, Forehand, & Family Health Project Research Group, in press), are likely to experience more benefits from social support than those who are not infected with HIV.

A stress-buffering effect is likely to be evidenced by a significant interaction between level of social support and maternal HIV status (i.e., infected vs. uninfected) that reflects more beneficial effects of social support for the parenting self-efficacy of HIV-infected women than for women who are not infected with HIV.

The stress buffering hypothesis arises from the existing psychosocial literature that addresses social support and HIV-infected individuals. Social support has been recognized as an asset for adult gay men infected with HIV, as well as for hemophilic men who are infected with HIV, their spouses, and their children (e.g., Blaney et al., 1991; Friedland, Renwick, & McColl, 1996; Klein, Forehand, Armistead, & Wierson, 1994; Pakenham, Dadds, & Terry, 1994; Zich & Temoshok, 1987). This research has been conducted primarily with Caucasian samples, although researchers have examined the effects of social support in uninfected African American samples. The social network, typically defined as including kin and others (e.g., neighbors and friends), often serves as a unique and powerful source of social support in African American samples (Burchinal, Follmer,

& Bryant, 1996; Taylor & Roberts, 1995; Wilson & Tolson, 1990). However, this network can both enhance and compromise functioning of African American family members (e.g., Dressler, 1985).

Currently, only one study has examined social support in economically challenged, African American, HIV-infected women and their uninfected children. Klein et al. (1998) found that HIV-infected women received less social support than a sociodemographically similar cohort of uninfected women. Although this study did not examine the relationship of social support to parenting efficacy, it showed that social support (from neighbors and friends) had positive effects for HIV-infected mothers in terms of lowering the psychological distress felt by these mothers.

The third hypothesis regarding the relationship between social support and maternal HIV status also will be evidenced through a significant interaction.

**Interfering stress hypothesis:** Social support is likely to have less of a positive impact on the parenting self-efficacy of HIV-infected women than on that of uninfected women.

Social exchange theory emphasizes that social interaction can result in both rewards and costs (Rook, 1984). For instance, Wortman's (1984) examination of studies of social support within the cancer literature illustrated that social support may not only fail to buffer the stress of illness, but may add to distress. Many behaviors that are meant to be helpful may have detrimental effects. More recently, Barbee, Derlega, Sherburne, and Grimshaw (1998) reported similar findings with HIV-infected individuals. They found that some forms of social support were unhelpful. Assistance (e.g., child care) offered by others often increases the ill individual's feelings of inadequacy because he or she begins to feel incompetent to perform everyday tasks (Peters-Golden, 1982) and it may reinforce the sick role (Kaplan & Toshima, 1990). Furthermore, Bandura (1982) states that those who relinquish control over certain life events (e.g., child care) experience decreased perceptions of their own efficacy. By turning over responsibilities to others, opportunities for building skills to increase efficacious action are reduced. As a result, social support received by HIV-infected women, relative to that received by uninfected women, may be less beneficial or may even be detrimental to their parenting self-efficacy.

Finally, we investigate whether the type of social support, general or specific to parenting, relates

differentially to parenting self-efficacy and whether that relationship differs by HIV status. We examine two different types of social support: general social support and social support that is related specifically to parenting. Collapsing across different types of social support may obscure unique relationships among specific types of social support and outcome measures, in this case, parenting self-efficacy. Thus, we examine whether there are different relationships between these two types of social support and parenting self-efficacy and, if so, whether those relationships are similar or different for HIV-infected and uninfected women. We view this question as exploratory and, therefore, offer no hypotheses about the expected outcome.

## METHOD

### *Overview*

The data from the study presented here are part of the Family Health Project, an ongoing longitudinal investigation that examines the psychological and sociological correlates of HIV infection in inner-city, African American families (Family Health Project Research Group, 1998). The project was designed and is directed by an interdisciplinary team of clinical psychologists, medical sociologists, a social sociologist, and a physician. Specifically, it examines the functioning of women who (at the beginning of the project) were either medically identified as HIV infected or who self-identified as uninfected and had one biological child between 6 and 11 years old at the beginning of the project. In addition to the constructs examined in this study, the Family Health Project assesses the history of the mother's illness and its progression, patterns of disease disclosure, family relationships, social support for children, emotional and cognitive functioning, and sociodemographic variables related to human immunodeficiency disease.

### *Participants*

Participants included 205 mother-child dyads. Sixty-six participating mothers were HIV infected, and the remaining 139 mothers self-reported as uninfected. In research with similar populations, the percentage of women who self-identify as uninfected but who actually are HIV infected is less than 1 (J. Moore, personal communication, February 22, 1996). All participants were African American and were recruited in New Orleans.

Fifty of the participating dyads in the Family Health Project were not included in the study presented here because longitudinal data were not available due to the death of the mother ( $n = 11$ ), our inability to schedule a second assessment because of change in residence ( $n = 3$ ), the refusal of the participant to schedule an assessment ( $n = 9$ ), or missing data for one or more of the constructs examined at the first or second assessment ( $n = 27$ ).

Participants in the HIV-infected group were recruited from the HIV Outpatient Program Clinic at the Medical Center of Louisiana's Charity Hospital (93%) and from private physicians' offices (7%) in Louisiana. Medical staff identified potential participants. When they visited the physician for their regularly scheduled checkups, women who met the inclusion requirements were approached by a project staff member who explained the study, confirmed their eligibility, and obtained consent from them. Ninety-five percent of the HIV-infected women who were approached agreed to participate.

The uninfected group was recruited from the Orleans Parish school system by letters mailed to the mothers of children enrolled in school. Schools were selected from areas where the HIV-infected women lived. We identified predominate zip code areas where the HIV-infected group resided and sampled schools in those areas. Women were asked to return a card indicating their interest in participating in the project. Ninety-four percent of the women returned their cards, and 100% of the women who were selected to participate based on the first return of the cards took part in the study.

Participants met several eligibility criteria. Women were 18–45 years old, and each woman had at least one biological child who was between 6 and 11 years old, who was not identified by the mother as HIV infected, and who attended regular classes in school (i.e., was not in special education). This child lived with the mother and served as the target child in this study. The women reported not having used intravenous drugs in the past 6 months. In order to study women in a relatively advanced stage of infection, we limited the women in the HIV-infected group to those with a CD-4 count under 600. This information was obtained from their medical charts.

Demographic characteristics of the HIV-positive and HIV-negative groups are presented in Table 1. A significant difference emerged only in terms of the mothers' average age,  $t(203) = 2.39$ ,  $p < .05$ , which was approximately 2 years younger for HIV-infected mothers.

TABLE 1. DEMOGRAPHIC CHARACTERISTICS OF STUDY PARTICIPANTS AT TIME 1

Demographic Characteristics	<i>M</i> ( <i>SD</i> ) or Percentage for HIV-Infected Group	<i>M</i> ( <i>SD</i> ) or Percentage for Uninfected Group
Mother characteristics		
Age	31 years (5.25 years)	33 years (5.8 years)
Education		
Less than high school	33%	47%
High school graduate	38%	30%
High School plus vocational training	9%	11%
College	20%	12%
Marital status (married)	11%	20%
Child characteristics		
Age	8.75 years (2.0 years)	9.0 years (1.7 years)
Gender (female)	46%	52%
Family characteristics		
Monthly income	\$670 (\$390)	\$697 (\$495)

### Measures

We followed several procedures to ensure that the measures were culturally sensitive and otherwise appropriate for the participants. These steps included the use of focus groups and piloting measures with demographically similar individuals. (See Family Health Project Research Group, 1998, for details.) To allow for longitudinal analyses, constructs were assessed at the initial assessment (Time 1) and again 12–14 months later (Time 2).

*Demographic information.* Women self-reported their date of birth, marital status, level of educational achievement, and monthly income at the initial assessment.

*Health status.* A treating physician identified the HIV-infected women. Uninfected women self-identified as not infected.

*Social support.* Two sources of social support were assessed: parenting support and support from friends and neighbors.

The Parenting Convergence Scale (Ahrns, 1979) was completed as an assessment of the parenting support received by the mother from a secondary caregiver for her child. The scale assesses the quality of this relationship using 12 items that are rated on a 5-point Likert-type scale, ranging from 1 (*often*) to 5 (*never*). Three areas of the relationship between the mother and secondary caregiver are assessed: support, communication, and conflict. Internal consistency estimates of the three scales range from .75 to .88 (Ahrns, 1981). We modified this questionnaire in response to feedback during the piloting phase of the study. We reworded instructions for verbal administration, deleted one item, made minor wording

changes to some items; and reduced the scale from 5 to 4 points because women in the pilot testing indicated that they could not differentiate between “often” and “a lot,” which represent points 4 and 5, respectively, on the original scale.

We asked women to identify the person who provided the most assistance to them in caring for the participating child. In all cases, the identified person was a member of the immediate or extended family of the child (e.g., grandmother or aunt). Questions tapping the mother’s communication with the secondary caregiver (e.g., “how often do you and [secondary caregiver] make day-to-day decisions together about [target child’s] life?”) and support from this person (e.g., “how often would you say that [secondary caregiver] is a help to you in raising this child?”) were combined to form a single factor of the mother’s parenting support ( $\alpha = .82$ ). In 10 cases at Time 1 and 18 cases at Time 2, mothers denied having a secondary caregiver, and they were assigned a score of 1 (i.e., the lowest score possible) for parenting support. Higher scores on these measures reflect higher levels of support.

To assess the second type of social support (support from neighbors and friends), women completed the Social Support Scale, created for the project from portions of a more extensive social support measure developed by Belle (1982) to use with African American women. Items relating to two domains (i.e., support received from neighbors and from friends) were extracted from Belle’s measure and modified based on feedback from our pilot group. The support from neighbors subscale included five items (e.g., “how easy would it be to have a neighbor help you with something that you couldn’t do yourself?”). When subjected to confirmatory factor analysis, with the specification of one factor, all five items loaded at .40 or above ( $\alpha$

= .77). The support from friends subscale included six items (e.g., "do you have at least one friend that you could turn to for advice if you needed it?"). Confirmatory factor analysis revealed that all six items loaded on one factor at .40 or above ( $\alpha = .81$ ). In the study presented here, the support from neighbors subscale and the support from friends subscale were significantly correlated ( $p < .01$ ) and, thus, after converting each to a  $z$  score, were summed to form a construct of support from neighbors and friends. Higher scores on this construct indicate higher levels of social support.

*Parenting self-efficacy.* We used the Parenting Efficacy Scale (Allen, 1993) to assess each mother's sense of self-efficacy in her role as a parent. The 34-item scale is designed to assess a parent's perception of how she or he is performing with regard to five dimensions of parenting: love (e.g., "I am good at showing my child that I love him/her"), control ("I know how to set the right limits on my child's behavior"), communication ("I am good at communicating my feelings to my child"), education ("I feel that I am doing a good job at teaching my child values"), and general efficacy ("I am confident in my ability as a parent"). In the original Parent Efficacy Scale, items are rated on a 5-point Likert-type scale, ranging from never to always. In factor analysis of the original scale, the five dimensions of parenting were not different from each other, and the overall alpha coefficient was .95 (Allen, 1993). We made the following modifications in the current study. We modified instructions for verbal administration, deleted four items, reworded some items based on feedback from our pilot group, and reduced the Likert-type response scale to 4 points with the same end points because women in the pilot testing indicated they could not differentiate between "not very often" and "some of the time," which represent points 2 and 3, respectively, on the original response scale. Given the modifications made to this instrument, confirmatory factor analysis with the current sample, specifying one factor, was conducted. Twenty-five of the remaining 30 items loaded .40 or above (final  $\alpha = .94$ ). Higher scores on this 25-item measure indicate a more positive sense of parenting self-efficacy.

#### *Procedure*

Each assessment at Time 1 and Time 2 consisted of two structured interviews. Once the woman and her child agreed to participate, we scheduled a

data-collection session. For each HIV-infected woman and her child without transportation, we provided a taxicab to and from the data-collection site at Louisiana State University Medical School. When they arrived, the woman and child were reassured of confidentiality. Subsequently, we interviewed the mother and child separately to obtain social and demographic information. Only the interview with the mother is relevant in this study. The first interview with the mother and child lasted approximately 1 hour and 1/2 hour, respectively. Each mother and child dyad received \$50 in compensation for their time and effort at the completion of the interview.

A second interview followed the first interview between 2 days and 2 weeks later. The purpose of the second interview was to gain information about the psychosocial functioning of each woman and her child. This information was utilized in the current study. The interview lasted approximately 2 hours for women and 1 hour for children. Participants received \$50 in compensation for their time and effort.

Each uninfected woman and her child was interviewed separately in a confidential setting in the child's school on two occasions separated by 2 days to 2 weeks. When they arrived at each interview session, we followed the same procedures, including compensation, as we did for each HIV-infected woman and her child.

In each interview for both groups of women and children, we provided all material, including consent forms, to participants. In addition, cue cards were used in the second (i.e., psychological) interview. These cue cards contained the descriptors (e.g., "not true," "sometimes true," "often true"), their corresponding numeric values (e.g., 0, 1, or 2), and pictorial representations of the descriptors (e.g., thermometers with appropriate proportions shaded).

Twelve to 14 months after to their first assessment, each mother and child dyad was asked if they wanted to participate in the Time 2 assessment. The procedures followed in the second assessment were identical to those in the first assessment, as was the financial compensation. (Additional information about the procedures, including those used in sample retention, can be found in the Family Health Project Research Group, 1998.)

#### *Data Analyses*

This study used longitudinal data collected over two time periods, separated by 12–14 months. Longitudinal data can provide a more stringent test of relationships among variables than cross-

TABLE 2. CORRELATIONS AMONG VARIABLES

Variable	Mother's Age	HIV Status	Parenting Self-Efficacy Time 1	Parenting Support Time 1	Support from Neighbors Time 1	Parenting Self-Efficacy Time 2
Mother's age						
HIV status	-0.19					
Parenting self-efficacy Time 1	0.03	-0.18**				
Parenting support Time 1	-0.07	-0.07	-0.09			
Support from neighbors Time 1	-0.01	-0.08	-0.07	-0.02		
Parenting self-efficacy Time 2	-0.06	-0.16*	0.74**	0.01	-0.09	

\* $p < .05$ . \*\* $p < .01$ .

sectional variables. (See Flick, 1986; Loeber & Farrington, 1994.)

Initially, correlations were conducted among all variables. Next, analyses of covariance, with maternal age serving as the covariate, were conducted to compare HIV-infected and uninfected women on each source of social support and on parenting self-efficacy.

Conservative tests of relationships were conducted with hierarchical regression analysis. The regression analysis examined main effects of social support variables and HIV status  $\times$  social support variables at Time 1 on residualized change in parenting self-efficacy from Time 1 to Time 2. Blocks of variables were entered in the following order: (a) demographic variable (mother's age), parenting self-efficacy at Time 1, and maternal HIV status; (b) social support variables at Time 1; and (c) interactions of maternal HIV status  $\times$  social support variables at Time 1. To eliminate concerns with multicollinearity, each of the two types of social support was centered before conducting the regression analysis.

## RESULTS

The correlations among all variables are presented in Table 2. Of particular interest, maternal HIV

status ( $r = -.16$ ,  $p < .05$ ), but not support from neighbors and friends ( $r = -.09$ ,  $p < .05$ ) or parenting support ( $r = .01$ ), at Time 1 was associated with parenting self-efficacy at Time 2. These findings indicate that HIV infection was associated with less parenting self-efficacy.

The analyses of covariance, with maternal age serving as the covariate, indicated that relative to uninfected women, HIV-infected women had similar levels of parenting support (means of 21.11 vs. 22.12 for infected and uninfected groups),  $F(1, 202) = 1.70$ , but lower levels of support from neighbors and friends (means of  $-.10$  vs.  $.16$  for infected and uninfected groups),  $F(1, 202) = 6.33$ ,  $p < .05$ , and, as shown in the correlational analyses, lower levels of parenting self-efficacy (means of 86.45 vs. 90.28 for infected and uninfected groups),  $F(1, 202) = 6.89$ ,  $p < .01$ , at Time 1.

Table 3 presents the results for the hierarchical regression analysis of mothers' parenting self-efficacy. Not surprisingly, Time 1 parenting self-efficacy was a significant predictor of Time 2 parenting self-efficacy. The Time 1 social support variables failed to account for significant additional variance. When interactions of maternal HIV status  $\times$  Time 1 social support variables were entered, HIV status  $\times$  Time 1 parenting support emerged as a significant predictor. To clarify the

TABLE 3. HIERARCHICAL MULTIPLE REGRESSION ANALYSIS: ASSOCIATIONS AMONG TIME 1 MOTHER'S HIV STATUS, MOTHER'S SOCIAL SUPPORT VARIABLES, AND RESIDUALIZED CHANGE IN MOTHER'S PARENTING SELF-EFFICACY FROM TIME 1 TO TIME 2

Variables Entered in Block	Cumulative $R^2$	$\beta$
Block 1	.56	
Mother's age		-.09
Time 1 parenting self-efficacy		.74**
Mother's HIV status		-.04
Block 2	.56	
Time 1 parenting support		.07
Time 1 support from neighbors and friends		-.03
Block 3	.58	
Mother's HIV status $\times$ Time 1 parenting support		-.38*
Mothers' HIV status $\times$ Time 1 support from neighbors and friends		-.11

\* $p < .05$ . \*\* $p < .01$ .

nature of the interaction, separate regression analyses were conducted for uninfected mothers and for HIV-infected mothers. For uninfected mothers,  $\beta = .18$ ;  $F(1, 134) = 7.85$ ,  $p < .01$ , but not for HIV-infected mothers  $\beta = -.04$ ;  $F(1, 61) = .37$ , the relationship between parenting support at Time 1 and parenting self-efficacy was significant. For uninfected mothers, higher levels of parenting support were associated with a more positive sense of parenting self-efficacy.

#### DISCUSSION

This study examined parenting self-efficacy of HIV-infected and uninfected women. Specifically, we ascertained differences in level of self-efficacy between the two groups. Furthermore, we examined the relationship between two types of social support and parenting self-efficacy, as well as whether these relationships differed by the HIV status of the mother.

Our findings indicate that HIV-infected women report significantly lower levels of parenting self-efficacy than uninfected women. This finding was hypothesized. Armistead and Forehand (1995) and Faithful (1997) reported that parenting is a high priority for HIV-infected women, but Kotchick et al. (1997) found that infected women were less effective in certain domains of parenting than uninfected women. We expected that the discrepancy between the importance placed on parenting behaviors and the ability to perform those behaviors was associated with lower levels of parenting self-efficacy for infected women than for uninfected women.

This finding regarding maternal HIV status and parenting self-efficacy is compelling when considered in the already existing context of the mother's physical illness and psychological distress. (See Biggar, Forehand, & Family Health Project Research Group, 1998.) The finding in the current investigation suggests that HIV-infected women also must cope with compromises to their perceptions of their efficaciousness as parents. These compromises are particularly meaningful, given that the mothering role often has been described as one of the most salient dimensions of self-concept among women who fit the ethnic and demographic profile of our sample, especially when these women are infected with HIV. (See Andrews, Williams, & Neil, 1993; Armistead & Forehand, 1995; Faithful, 1997.)

This study also examined the role of social support in parenting self-efficacy. In particular, we

tested three competing hypotheses: (a) the main effects hypothesis, which argues that the parenting self-efficacy of uninfected and HIV-infected mothers is equally and positively influenced by social support; (b) the stress buffering hypothesis, which argues that, relative to uninfected women, the parenting self-efficacy of HIV-infected women is influenced more positively by social support; and (c) the interfering stress hypothesis, which argues that the parenting self-efficacy of HIV-infected women is influenced less positively by social support. In addition, we examined whether two types of social support—general social support and support specific to parenting—had similar or different relationships with parenting self-efficacy. Our findings help confirm the interfering stress hypothesis for social support that is specific to parenting.

A significant interaction emerged between maternal HIV status and social support received for parenting. Higher levels of social support specific to parenting were associated with increases in parenting self-efficacy only for uninfected mothers. The results for uninfected mothers are consistent with previously reported associations between the quantity of social support and satisfaction with parenting (Crnic, Greenberg, & Slough, 1986; Feiring, Fox, Jaskir, & Lewis, 1987). Our study augments previous findings by showing that the type of social support can qualify these findings. That is, social support specific to parenting—but not general support—was related to increases in parenting self-efficacy. Social support for parenting may provide positive benefits for women who are not ill because they view the assistance as enabling. For example, such support may free them from certain tasks, such as watching young children, and may allow them to assist older children with homework or to complete household tasks. Released from some demands and allowed to concentrate on other tasks, the mother feels more efficacious and capable as a parent. Of primary interest, however, are the contrasting findings for the HIV-infected women. The same social support does not provide positive benefits to a mother who is infected with HIV.

Two theoretical perspectives may inform the interpretation of these findings. HIV-infected mothers who rely on high levels of support from other adults may feel that their parenting capabilities are undermined or diminished across time. The literature presents two divergent paths through which one's self-efficacy can be decreased. First, as Bandura (1982) delineates, an individual who feels less efficacious may seek capable individuals to assume



the roles or tasks perceived as being too difficult. Thus, when an HIV-infected mother solicits social support and assistance, particularly with parenting, she becomes removed from the actual tasks of child care (e.g., assisting with homework and daily maintenance), which diminishes the positive impact of social support and lessens opportunities for efficacious action.

Decreases in self-efficacy also might follow the path posited by Wortman (1984), whereby others take the initiative and offer assistance to the ill individual, regardless of whether she requested or needed aid. The support offered can interfere with a mother's perceived efficaciousness through her potential interpretation of the support as an indication that she is unable to handle her own problems (Brickman, Rabinowitz, Karuza, Cohn, & Kidder, 1982). Alternately, the support may serve as a reminder of her impaired status (DiMatteo & Hays, 1981). Furthermore, the support may be seen as an infringement on the one area of the woman's life that she views as important and over which she still feels she has control—her children. A mother may view this encroachment as testimony to her increasing illness and decreasing ability to function in her normal role.

Although there are two possible paths through which social support may interact with HIV status, both paths yield the same results. Social support, although a positive factor for parenting self-efficacy of uninfected mothers, does not appear to increase positive feelings of parenting self-efficacy in HIV-infected mothers. Given the centrality of the parenting role in the lives of mothers who are HIV-infected (Armistead & Forehand, 1995; Faithful, 1997), these findings have substantial relevance for prevention and intervention efforts with HIV-infected women. Kotchick et al. (1997) found that, relative to uninfected women, HIV-infected women demonstrated deficits in certain domains of parenting. They recommended that parenting programs addressing these deficits be made available to HIV-infected women. The findings from the study presented here stress that such interventions should not only include parenting skills, but should also attend to mothers' sense of parenting efficacy. For example, mothers need to feel efficacious as a result of having found effective alternatives for child care, even when they cannot participate in all aspects of caregiving themselves. In addition, if they are participating in parenting classes, acquiring and implementing parenting skills could potentially aid in bolstering feelings of parenting self-efficacy.

With HIV-infected women, broader interventions than just parenting skills may be needed. For example, as they become increasingly ill, mothers may need assistance in planning for their children's future (Armistead & Forehand, 1995). HIV-infected mothers need to utilize effective parenting skills and begin to plan for their children's future. Once these activities are underway, therapists or public health workers can emphasize that while a mother may not be actively involved in everyday parenting tasks, she has effectively been proactive in taking actions to assist with her child's ability to cope with the progression of her illness. A mother who acknowledges the importance of addressing these high priority and crucial tasks (e.g., future planning, arranging for alternate child care) will likely experience increased feelings of parenting self-efficacy.

Our recommendations regarding increasing parenting self-efficacy of HIV-infected women must be considered within the context of the parenting self-efficacy scores of all women participating in this study. The HIV-infected women had a mean score of 86 on a 100-point scale. Although this mean was significantly lower than that of the uninfected women ( $M = 90$ ), it suggests that the perceived self-efficacy of infected women is relatively high. As a result, an intervention may result in only a small increase in parenting self-efficacy.

The findings introduce an interesting dilemma. On the one hand, acquiring social support is often viewed as a critical aspect of a therapeutic intervention and has been found to enhance health outcomes of many chronically ill individuals (Kaplan & Toshima, 1990) and the general mental health status of HIV-infected women (Klein et al., 1998). It also provides a mechanism for living with AIDS (Cawyer & Smith-Dupre, 1995). However, our findings suggest that social support for parenting does not enhance parenting self-efficacy.

One role of a therapist or mental health worker must be to help HIV-infected mothers learn to use social support specific to parenting in ways that will have more of a positive effect on feelings of parenting self-efficacy. For example, clinicians might help these mothers balance the acceptance of social support and the refusal to allow others to assume the majority of parenting tasks. Applying Bandura's (1982) theory, an infected mother should maintain some level of parenting responsibility in order to maintain positive feelings of self-efficacy. In this way, she could benefit from assistance by using the support to relieve some of her own stress and to begin planning care options

for her child. Nevertheless, because she would still be participating in child-care duties, she may be able to maintain perceptions of high levels of parenting self-efficacy.

A second implication of our findings is that mental health professionals should not assume that parenting self-efficacy is similarly influenced by social support in uninfected and HIV-infected mothers. The findings suggest that clinicians need to be sensitive to the unique relationships that may emerge among variables in HIV-infected samples. For example, the combination of stigma, rejection, and impending death may lead infected mothers to interpret social support from others as failure, on their part, as a parent. Our findings suggest that HIV-infected women and the factors that influence their self-efficacy as parents should be studied further.

Two limitations of the study should be noted. First, generalization to other samples should be undertaken with caution. Second, measurement of social support can be difficult and varies substantially across different studies (Wortman, 1984). Social support encompasses a number of domains, including quantity (i.e., the number of individuals available), quality (i.e., what types of support are given), providers (i.e., family and friends), and ease of access to support. We approached the construct by assessing a combination of these domains, which, although comprehensive, makes it difficult to tease apart individual factors that influence parenting self-efficacy the most. Furthermore, generalization of our findings should be limited to types of social support measured in ways similar to those utilized in this study.

The limitations of this study should be considered within the context of the strengths of the study. First, the use of conservative tests of hypotheses with longitudinal data is rare but critical to begin to clarify temporal relationships among variables. Second, HIV-infected women have been a neglected, but growing, population in need of research attention. Third, the inclusion of two forms of social support is an important element of this study.

In conclusion, we believe the significance of the findings of this study should not be underestimated. Although clinicians generally encourage the utilization of social support, it may not be universally positive for those for whom it is advocated, including HIV-infected mothers. Therefore, researchers need to continue to study the role of social support in populations with a chronically ill member to facilitate the development of interventions for this growing population.

## NOTE

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