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A Multilevel Mediation Model of Stress and Coping for Women with HIV and Their Families

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Abstract

Families are influential systems and may be an important context in which to consider the stress and coping process. To date, many studies have focused on modeling the stress and coping process for the individual, isolated from the family. The purpose of this secondary analysis was to investigate a cross-sectional stress and coping model for HIV-positive African-American mothers recruited from HIV service facilities in South Florida (n=214) and their family members (n=294). Avoidance coping was hypothesized to mediate the relationship between stress and psychological distress. In addition, the family average of individual stress was hypothesized to moderate the relationship between avoidance coping and psychological distress. For all constructs, individuals reported on themselves and multilevel modeling techniques were used to account for similarities between members of the same family. The estimated mediation effect was significant. Aggregated family stress significantly moderated the relationship between avoidance coping and psychological distress. This study suggests that individuals exhibit different relationships between avoidance coping and psychological outcomes and that average stress reported by members of a family moderates the relationship between avoidance coping and psychological distress.

Keywords

stress; coping; HIV; family; multilevel mediation

The HIV and AIDS prevalence rates among African-American women warrant attention. The Centers for Disease Control and Prevention (2008) estimate the 2006 prevalence of HIV among African-American women to be 57.1 per 100,000 women, compared with 15.1 per 100,000 among Hispanic women and 2.9 per 100,000 among Caucasian women. In 2006, the estimated AIDS prevalence for African-American women was 41.2 cases per 100,000 compared with 1.9 per 100,000 among Caucasian women and 9.5 per 100,000 among Hispanic/Latina women (Centers for Disease Control & Prevention, 2008). These rates represent alarming racial differences in the prevalence of HIV and AIDS among women.

There were no significant effects in the relationships between the variables at the between-family level ($\beta_a=0.200$, $SE=0.158$, $p=.206$; $\beta_b=0.007$, $SE=0.009$, $p=.433$; $\beta_c'=0.009$, $SE=0.006$, $p=.112$).

There is evidence to suggest that African-American women with HIV may suffer from high levels of psychological distress. Catz, Gore-Felton, and McClure (2002) reported high levels of depression and anxiety among a sample of African-American women with HIV attending an HIV medical clinic. Moneyham, Sowell, Seals, and Demi (2000) reported similar findings for depression among African-American women with HIV.

Psychological distress may be an important contributor to disease progression for individuals with HIV. Some studies have demonstrated that high levels psychological distress can be associated with decreases in CD4 count, increases in viral load and faster progression to AIDS (Ironson, O'Cleirigh, Fletcher, Laurenceau, Balbin, Klimas, et al., 2005; Leserman, Jackson, Petitto, Golden, Silva, Perking, et al., 1999; Golub, Astemborski, Hoover, Anthony, Vlahov, & Strathdee, 2003; Ickovics, Hamburger, Vlahov, Schoenbaum, Schuman, Boland, et al., 2001; Leserman, Petitto, Gu, Gaynes, Barroso, Golden, et al., 2002). Psychological distress has also been linked to decreases in medication adherence beliefs and practices (Chesney, Morin, & Sherr, 2000; Bottonari, Roberts, Ciesla, & Hewitt, 2005; Murphy, Greenwell, & Hoffman, 2002; Reynolds, Testa, Marc, Chesney, Neidig, Smith, Vella, et al., 2004). Though limited, some intervention studies report that reductions in psychological distress can lead to improved health outcomes, including slowed disease progression, for the HIV-infected population (Antoni, Carrico, Duran, Spitzer, Penedo, Ironson, et al., 2006). Given the relationship between psychological distress and disease progression for individuals with HIV, particularly in the context of alarming rates of AIDS diagnosis for African-American women, refining models of stress and coping on psychological distress for this population is especially appropriate.

Coping is an important component of the stress process. Avoidance coping, as defined by Suls and Fletcher (1985), is a strategy that diverts attention from the source of stress or response to the stressor. This coping behavior may be an important mediator in the stress process. Stress has been positively associated with use of avoidance coping among both healthy populations (Felsten, 1998; Griffith, Steptoe, & Cropley, 1999; Ingledew, Hardy, & Cooper, 1997) and those with HIV (Koopman, Gore-Felton, Marouf, Butler, Field, Gill, et al., 2000). Avoidance coping has been positively associated with negative psychological and health outcomes among non-clinical samples (Chang, Daly, Hancock, Bidewell, Johnson, Lambert, et al., 2006; Holahan & Moos, 1986; Ingledew, Hardy, & Cooper, 1997; Koeske, Kirk, & Koeske, 1993; Nowack, 1998; Penedo, Gonzalez, Davis, Dahn, Antoni, Ironson, et al., 2003; Soderstrom, Dolbier, Leiferman, & Steinhardt, 2000) and individuals with HIV (Penedo, Gonzalez, Davis, Dahn, Antoni, Ironson, et al., 2003). Examples of avoidance coping mediation models exist in the literature. For instance, Manne and Glassman (2000) examined the relationship between spousal negative behaviors and psychological distress for cancer patients and found avoidance coping to be a significant mediator of the stress to distress relationship. Avoidance coping has also been demonstrated to be a significant mediator in the relationship between work stress and psychological symptoms in a healthy population (Snow, Swan, Raghavan, Connell & Klein, 2003).

Although often shown to be related to negative outcomes, avoidance coping can be adaptive, particularly when the stressful event is short in duration and is not likely to result in severe consequences (Suls & Fletcher, 1985). In immunological studies, Stowell, Kiecolt-Glaser

and Glaser (2001) hypothesized that avoidance coping would be negatively associated with immune response (proliferation to mitogen), but found that there was no significant association, a finding that held even in the presence of high perceived stress. Surprisingly, in the presence of low perceived stress, there was a significant and positive relationship between avoidance coping and immune response. In studies with adolescents, Gonzales, Tein, Sandler and Friedman (2001) found that avoidance coping may be adaptive for youth from poor, urban backgrounds who face extreme life stressors. Taken together, these studies suggest there may be variability in the relationship between avoidance coping and physical and psychological outcomes in some settings.

Family is an important context in which to consider the stress and coping process. Many researchers suggest that stress can be transmitted from one individual to another within a family network (Howe, Levy, & Caplan, 2004; Riley & Eckenrode, 1986; Rook, Dooley, & Catalano, 1991). Riley and Eckenrode (1986) discuss situations where a relative or friend needs social support and the responding individual is poorly equipped to provide assistance. Those with weakened ability to help may experience distress at their inability to respond to someone in need. A secondary effect is that a family member who needs support may remove sources of support from other family members. The authors note, “events that happen to significant others may be especially stressful to persons with few material resources or psychological resources themselves. These persons, less able to rely on their personal coping resources, may be particularly vulnerable to the unavailability of support from others” (p. 771-772).

The mean level of stress reported by individual members of the family may therefore be an important backdrop to the stress and coping process for individual members of a family. Suls and Fletcher (1985) point out that “avoidance coping can consume considerable effort, which over time, can be debilitating to the individual's psychological and physical resources” (p. 280). Additionally, Riley and Eckenrode (1986) suggest that increasing levels of stressful events experienced by one or more family members may result in decreased ability of family members to offer support to one another and increased distress for individuals in the family. This combination of decreased personal resources and decreased support from other family members may lead individuals from families with high stress to experience more psychological distress than those from families with lower average stress.

The purpose of this secondary analysis was to investigate a stress and coping model for HIV-positive African-American women and their family members. The following hypotheses were tested: (1) avoidance coping significantly mediates the relationship between stress and psychological distress for individuals, and (2) mean family stress moderates the relationship between avoidance coping and psychological distress for the individual such that higher use of avoidance coping is associated with greater psychological distress for individuals from families with high average stress.

Methods

This study represents a secondary analysis of baseline, cross-sectional data from a longitudinal randomized clinical trial testing the efficacy of a psychological intervention on

reducing distress, reducing stress and increasing family support (removed for blind review). Target participants included 214 HIV+ African American adult mothers. Exclusion criteria included illicit drug use in the past 6 months, prior psychiatric hospitalization, CD4 cell count below 200 (below 50 if the woman was on protease inhibitors), women who were homeless or institutionalized without outside contact, cognitive impairment (assessed by recruiter), and participation in either the pilot phase of the study or in another trial for HIV+ women. To be included in the study, the target women had to endorse at least two interpersonal problems, one of which was family related. The women were recruited from community agencies providing HIV care and services in South Florida and were predominantly low-income (median annual income = \$7000), unmarried (42%) and educated at less than a high school level (51%).

Participants also included 294 family members of the target women. "Family" was defined as a "network of mutual commitment" consistent with the definition put forth by the National Institute for Mental Health Center for Mental Health Research on AIDS (Pequegnat and Bray, 1997). Therefore, individuals who fill traditional family roles were included, regardless of blood relation. Family members included significant others (n=57), children over the age of 12 (n=115), mothers (n=39), fathers (n=2), siblings (n=26), extended family members (n=27) and friends (n=28). The protocol to identify the family was completed by each woman to guide the woman in who she could invite to participate in the assessment. It was up to the woman to make the invitation to family members and have them present at the time of assessment. Family members were recruited by asking each mother to identify individuals who either lived with her, who were available to offer support, or with whom she had a significant number of disagreements. The last factor, significant disagreements, was included to try to involve individuals with whom the mother had conflicts that might be addressed through the psychological intervention included in the parent study. Of the 214 families represented in this study, 48 (22%) had complete data from every family member identified, 100 (47%) had data from at least half of the family members identified, and 66 (31%) had data from less than half of the identified family members.

All participants completed all measures and provided responses from their own perspective. All procedures were approved and overseen by an institutional review board. For further details about the study sample, eligibility criteria and recruitment strategies, see removed for blind review.

Measures

Psychological distress was measured using the Global Severity Index (GSI) score of the Brief Symptom Inventory (Derogatis, 1993). The BSI is a 53-item self-report scale assessing symptoms of psychological distress along nine dimensions: somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. Participants rated how much they were distressed by each item on an integer scale from 0 (not at all) to 4 (extremely). The Global Severity Index was calculated as the mean response across the 53 items. Cronbach's alpha for the sample used in this analysis was .96. The BSI is a standardized instrument which can be used as a screen for

needing further psychiatric evaluation. Derogatis (1993) defines clinical case as an individual with a T-score of greater than 63. Using the norms reported by (Cochran & Hale, 1985) this would imply a GSI score of .82 for women and .56 for men. Therefore the mean of 1.00 for the HIV+ women in this sample is indicative a relatively elevated level of distress.

The Brief Cope (Carver, 1997) was used to assess coping response to stress. This 28-item self-report measure asked respondents to report how often the individual used behavioral and cognitive coping strategies in response to life stress. The 4-point integer scale ranged from 1 ("I didn't do this at all") to 4 ("I did this a lot"). The avoidance coping subscale was calculated as the mean of 10 items addressing behaviors and cognitions such as distraction, denial, disengagement, venting and blaming consistent with Feaster and Szapocznik (2002). Cronbach's alpha on the avoidance coping subscale for this sample was .78.

Stress was measured using the Hassles Scale (DeLongis et al., 1988) revised for the study population. Items that were not relevant were removed and replaced with items that were more fitting for a low-income African-American population (for details, see removed for blind review). Participants responded regarding their own personal experience of hassles. The total stress score was calculated as the count of all hassles endorsed by the individual. Cronbach's alpha for this measure was .91. Family mean stress was constructed from the individual data by summing the hassles scores for each family member and averaging across the number of individuals assessed in the family. This approach is common in social research, particularly for research questions that center around group-level processes (Snijders & Bosker, 1999). Because there was not a global measure of family stress in the parent study, the aggregated individual stress was used to estimate the context for individual members' stress across the family unit. This is a different approach from measuring stressors that affect the family as a whole (which is not assessed in the current approach, but the two approaches could be used jointly).

Analysis Plan

The goal of this analysis was to model a stress and coping process in which avoidance coping mediated the relationship between stress (count of hassles) and psychological distress (global severity index) in a cross-sectional framework. The general model for single level mediation is pictured in Figure 1. Because measures of all three variables were obtained from individuals, many of whom were members of the same family unit, the data are nested. Analyzing data that are nested requires the use of multilevel modeling to account for similarities or dependencies in the responses of individuals who come from the same family (see Atkins, 2005 for a review of multilevel models in the context of family data). One way to employ multilevel modeling is to allow the relationships between the variables across families to be 'random' such that each family has its own intercept and slope. This is sometimes called a random-effects model. When all variables in a mediation model are measured at the person level (rather than at the family level), and when the effects of interest are at the person-level (rather than the aggregated family level), the model is sometimes referred to as a 1-1-1 model. Multilevel analysis allows for accurate estimation of the

person-level effects by appropriately handling the dependencies or similarities among responses from individuals from the same family.

The analysis plan was as follows. The first step was to assess whether families were different from one another on the measures of stress, distress and coping. The second step was to determine whether families differed in the relationships between these variables. In addition to providing interesting insight into family differences, findings of significant between-family variability would support continued multilevel modeling. If there was no variability between families on the relationships between the variables, multilevel analyses would not be necessary.. The third step was to test a mediation model for individuals in which avoidance coping mediates the relationship between stress and distress. The final step was to test whether mean family stress moderated the relationship between avoidance coping and psychological distress.

Results

Between-Family Variability

The first step was to determine whether reported stress, avoidance coping and psychological distress differed significantly between families. Table 1 provides the estimates of the intra class correlations (ICC), means and variances. The ICC estimates the proportion of total variance in the variable that is between families. Findings of significant between-family variability for measures of stress and avoidance coping were supportive of continued exploration of a multilevel mediation model for this sample.

Kenny, Korchmaros and Bolger (2003) noted the importance of determining if the proposed model is indeed a random-effects model by examining whether both effects in the indirect path (a and b) demonstrate level two variance, or differences between families. These paths were estimated simultaneously in a multilevel framework with random slopes. There were significant differences between families in the relationship between coping (M) and distress (Y) ($\tau=0.00002$, $SE=0.0000003$, $p<0.001$). There were also significant differences between families in the relationship between stress (X) and distress (Y), controlling for coping (M) ($\tau=0.00003$, $SE=0.0000001$, $p<0.001$). However, there were no significant differences between families in the relationship between stress (X) and coping (M) ($\tau=0.001$, $SE=0.009$, $p=0.910$). According to Kenny, Korchmaros and Bolger (2003), “If at least one of the two effects in the indirect path is nonrandom, then ordinary mediational analysis procedures that have been used to date can be used to estimate and to test the mediated effects” (p. 121). Thus, a mixed-model mediation analysis, in which the a path was fixed and the b and c' paths were random was used in subsequent analyses.

Mediation Analysis

Consistent with recommendations from Zhang, Zyphur and Preacher (2008), all three variables were centered at their family mean at level one, and the family mean was re-introduced at level two. This practice reduces confounding in the level one (individual level) relationships. The mediation analysis used a fixed effect for path a and a random effect for paths b and c' . At the individual level, this analysis demonstrated a positive and significant

relationship between avoidance coping and psychological distress ($\beta_b=0.027$, $SE=0.003$, $p<.001$), and a positive and significant relationship between stress and psychological distress ($\beta_c'=0.017$, $SE=0.003$, $p<.001$). The relationship between stress and avoidance coping was also positive and significant ($\beta_d=0.179$, $SE=0.056$, $p=.001$). The regression of psychological distress on stress was significant when run in isolation as a random slope model, and the estimate was larger than the coefficient for c' ($\beta_c=0.026$, $SE=0.003$, $p<.001$). The mediation effect was estimated using the product of the coefficients in the indirect paths ($a*b$) and the standard error was estimated using the Sobel method (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). The estimated mediation effect at the individual level was statistically significant ($\beta=0.0048$, $SE=0.0016$, $p=.001$). These results are consistent with the hypothesis that avoidance coping partially mediates the path between stress and psychological distress for individuals in this sample¹.

Moderated Mediation Analysis

Given evidence of significant between-family variability in the path from avoidance coping (M) to psychological distress (Y), the next issue to address was whether there was a family level (level two) covariate that might explain some of the variability in this relationship. Presence of a level two covariate which significantly predicted this relationship would imply that the strength of the relationship between avoidance coping (M) and psychological distress (Y) differs at varying levels of the moderator, family mean stress (W).

Family mean stress, measured as the aggregated family mean on the measure of individual hassles, was entered into the model as a level 2 covariate (W). Given the small intra class correlation for psychological distress (Y), the moderate number of families and modest number of individuals per family (2.369), a mean calculated from the family members' observed stress scores, rather than a latent mean on family stress, was used for the moderator variable (Zhang, Zyphur & Preacher, 2008). This analysis tested whether the variability in the path from avoidance coping to psychological distress might be explained by the mean level of stress in the family. Family mean stress demonstrated significant variability across families ($\tau=79.456$, $SE=6.484$, $p<0.001$). The hypothesis was that higher levels of family mean stress would result in a stronger relationship between avoidance coping and psychological distress. Family mean stress was a significant moderator of the path from avoidance coping to psychological distress ($\beta=0.001$, $SE=0.0003$, $p=0.043$). See figure 2 and figure 3.

Discussion

One goal of this secondary data analysis was to determine whether avoidance coping behaviors and cognitions mediated the relationship between stress and psychological distress for African-American women with HIV and their family members. Consistent with the literature cited in the introduction, higher levels of stress were significantly associated with both higher levels of avoidance coping and psychological distress. Higher levels of avoidance coping were significantly associated with higher levels of psychological distress. This last finding contradicts some studies which show that avoidance coping can, under certain circumstances, be adaptive. For instance, Suls and Fletcher (1985) report "If a

stressful life occurrence is relatively brief and has no serious consequences, then avoidance should be a very useful means with which to cope” (p. 279). The present study included stressors that could be chronic (e.g., relationships with parents, neighbors, employers) and some which may have serious implications (e.g., job security, health), thus avoidance coping may not be an effective approach for individuals endorsing these items. That this finding differs from Gonzales et al. (2001) could be the result of both differing populations as well as different stress intensities. The present study included both adults and children over the age of 13, whereas Gonzales et al. studied early adolescents exclusively. The present study measured stress in terms of daily hassles while Gonzales et al. measured extreme life stress such as witnessing violent acts including family violence, and experiencing pressure to join a gang. Finally, Gonzales and colleagues evaluated distraction approaches separately from avoidance coping while distraction was included as an item in the measure of avoidance coping in this study. Gonzales and colleagues reported distraction was linked to decreases in depression but avoidance coping was linked to increases in depression. The latter finding is consistent with our finding of an association between avoidance coping and psychological distress.

Multilevel mediation analysis suggested that avoidance coping partially mediated the relationship between stress and psychological distress. These findings are consistent with previous literature, noted in the introduction, that identified avoidance coping as a mediator of the relationship between stress and psychological distress.

The second goal of this study was to investigate the role of mean family stress as a moderator in the relationship between avoidance coping and psychological distress. The finding of significant moderation suggested that as the average stress level across all individuals within a family increased, so did the negative effect of avoidance coping on psychological distress. For individuals from families that reported higher average stress, the use of avoidance coping behaviors and cognitions are more detrimental to psychological well-being when compared with individuals from families that have lower average stress. Thus, heightened stress of one family member can increase overall family stress and have a negative effect on the functioning of other family members. This finding also suggests that in families where stress is low, avoidance coping may not be such a harmful approach, but that avoidance coping by individuals in families with higher aggregate stress may be particularly problematic. This is consistent with the ideas put forward by Riley and Eckenrode (1986) regarding stress transmission within a social network. These findings extend the current coping literature by providing evidence for how context (in this case, average stress experienced in a family) can contribute to stress and coping outcomes for individuals. This is consistent with Taylor and Stanton who note “in addition to their role as mediators, coping processes also can interact with contextual and individual parameters in their contribution to adjustment” (2007, p. 384).

Although we were not able to test the mechanisms of this moderation effect, one can imagine a process by which an individual's avoidance behaviors might be undermined by a family member who is also experiencing stress. For example, the individual might be watching television to get some respite from thinking about her problems and then a family member might come over and unburden himself about something that is troubling him,

which in turn causes the first person to think about her own problems (perhaps it is a problem she shares with the other person). Regardless of the precise process at work, the implication of this moderation effect for clinical practice with families affected by HIV/AIDS is that clinicians need to be cognizant of the patient's stress within the context of the family. Individuals are not only affected by their own stresses and strains but also by those of others in their family, and in essence, the problems of family members pile up on the individual.

These results support the need to address not only the HIV+ woman's manner of coping with stress, but also the responses of family members as individuals, and as members of a system in which people affect each other. Persons living with HIV/AIDS and their family members face numerous challenges in their daily lives that can impact their health and emotional functioning. These problems are compounded among minority families who are disproportionately affected by HIV/AIDS, poverty, and of the difficult social conditions of urban life. In addition to the physical and social stresses that are directly related to HIV/AIDS, these families often have to deal with multiple stressors such as financial strains, housing problems, discrimination, and crime in their communities. Moreover, African American women, including those with HIV/AIDS, are deeply embedded in their families and in their roles as mother, wife/girlfriend, sister, and daughter – including helping to raise the children of family members (Mitrani, Weiss-Laxer, Ow, Burns, Ross, & Feaster, in press). In our work with African American HIV+ women, we have noted that the women often put the needs of family members above their own physical and emotional health, and use family therapy to address family issues such as parenting, problems with partners, or hassles with family members.

Family-based interventions can assist families in resolving stresses and strains through in-vivo negotiation of disagreements, role-play for handling hassles with persons outside of the family, and increasing support among family members by highlighting their shared stresses and goals. These findings underscore the importance of helping families, particularly those who are experiencing high levels of stress, to develop skills for confronting rather than avoiding problems. The first step in this process is to engage families in attending family sessions. Unfortunately due to experience and popular media depictions, family members might expect family therapy to be emotionally-charged and stressful encounters. Such expectations can hamper engagement, particularly in families where avoidance coping is high, and lay the groundwork for confrontational and tense sessions that would likely be particularly unproductive in families that are already dealing with the multiple stresses of very challenging lives. In high stress families, the therapist should strive for soothing encounters, and let the family know even before the first session that family meetings will be relaxed and aimed at reducing the tension associated with family conflicts. The therapist might emphasize themes of wellness, promoting a positive family environment, and family healing. In-vivo techniques such as negotiation of disagreements and role-play should likewise be relatively peaceful and interrupted when tension becomes too high. Recognizing and validating the family's common worries and the hassles they confront can help to validate and normalize their reactions. The therapist might help family members describe how they react to stress so that others in the family can re-interpret negative behaviors as stress-related and offer support or at least not escalate disagreements. The family can also be

assisted in anticipating difficult events such as an upcoming move, change in employment, an impending hospitalization, or drug abuse relapse, and developing a management plan.

Like all studies, there are a number of limitations to the findings presented here. First, the analysis of cross-sectional data presents a significant challenge to causal or directional interpretation of these results. Additionally, all measures were obtained via self-report which may have introduced bias and reporting errors. Although many items are appropriate for adolescents (e.g., items pertaining to friends, family, health, social commitments), the validity of the Hassles Scale for use with adolescents has not been established. Because this was a secondary analyses and measures on the family members were limited, data from other family processes such as cohesion and organization were not available. Despite this limitation, we do feel there is value in considering the aggregated stress experienced by members of a family unit as this measure provides important information about the family environment. As described in the introduction, the work of Riley and Eckenrode (1986) suggests that families whose members are experiencing high levels of stress may not be able to offer adequate support to one another, resulting in increased distress for individual family members. An additional limitation of this study was the wide definition of family, encompassing not just relatives but also partners and friends. There may also be a left out variable bias as a result of the relative simplicity of the model. Finally, homogeneity of the sample limits broad generalization of these results.

This model of stress and coping in a family framework may provide insight into the relative importance of addressing family stress in the treatment of individuals. These results suggest that it is not only the stress reported by the individual, but also the average stress in the entire family that influences how avoidance coping strategies influence psychological distress. Future studies might examine whether the same relationships hold when looking within families over time. Research questions might consider whether the distress of individual family members increases as the family mean of stress increases even if the individual family member's stress remains stable. In addition, the family mean may not be the only measure of the family stress level that is important. It might be useful to examine how the constellation of stress within the family affects individual family members' functioning. Future research might also examine how much the stress reported by one individual within the family is reported by other family members as well, representing a shared stressful experience. For example, many items on the hassles scale may be common amongst family members. To the extent this is true, one family member's more active strategy of coping with this shared experience may allow other family members to use a more avoidant coping mechanism with little harmful effects on their psychological distress.

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Figure 1. Proposed Model of Stress, Coping and Psychological Distress

Figure 2. Mediation model with Family Mean Stress as Moderator

Figure 3. Family stress moderates avoidance coping and psychological distress

Table 1
Intra Class Correlation (ICC), Mean and Variance estimates

Variable	ICC	Grand Mean	Level 1 Variance	Level 2 Variance
Stress	0.222	20.893 (<i>p</i> <.001)	103.199 (<i>p</i> <.001)	30.094 (<i>p</i> <.001)
Avoidance Coping	0.177	35.570 (<i>p</i> <.001)	65.909 (<i>p</i> <.001)	14.529 (<i>p</i> =.016)
Distress	0.077	0.832 (<i>p</i> <.001)	0.408 (<i>p</i> <.001)	0.032 (<i>p</i> =.340)