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Cultural Values and Caregiving: The Updated Sociocultural Stress and Coping Model

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This review revises the sociocultural stress and coping model for culturally diverse family caregivers proposed in 1997 by Aranda and Knight. Available research on the influence of cultural values on the stress and coping process among family caregivers supports a common core model that is consistent across ethnic groups and that links care recipients' behavior problems and functional impairments to caregivers' burden appraisals and health outcomes. Familism as a cultural value appears to be multidimensional in its effects, with obligation values often being more influential than family solidarity. The effects of cultural values and other ethnic differences in stress and coping appear to involve social support and coping styles rather than burden appraisals. Implications of the revised model for research and practice are discussed.

Key Words: Caregiver burden—Culture—Ethnicity—Familism—Social support—Stress and coping.

A Revised Sociocultural Stress and Coping Model

This review provides a basis for a revision of the sociocultural stress and coping model for caregivers (Figure 1) originally proposed by Aranda and Knight (1997). First, the differences among diverse cultural groups are built around a shared common core model in which caregiving stressors lead to the appraisal of caregiving as burdensome and thus to poor health outcomes (Figure 2). Second, the familism to individualism spectrum is multidimensional, with both obligation and family solidarity or support being possible subcomponents. Third, the time has come to leave behind the expectation that cultures will line up along simple single dimensions like individualism to familism (as suggested in the general context of cross-cultural psychology by Segall, Lonner, & Berry, 1998, and Hermans & Kempen, 1998). Filial piety and other measures of East Asian values show promise in finding effects on stress and coping resources among caregivers of Korean heritage and should be explored more broadly. This finding suggests that the role of cultural values in the model appears to be more group specific.

Fourth, cultural values operate through influences on coping resources such as social support and coping styles rather than through caregivers' appraisals of burden. There was tremendous conceptual appeal to the hypothesis that cultural values would operate through cognitive appraisals of caregiving as less burdensome, and this conjecture has been a staple of discussions of group differences in caregiving burden for many years (e.g., see summaries by Dilworth-Anderson, Williams, & Gibson, 2002; Janevic & Connell, 2001). So far, this hypothesis has not stood up to measurement and testing. Instead, the evidence suggests that in most instances, both familism and filial piety operate through coping style and social support when they are associated with emotional or physical health outcomes at all. Cultural differences in the stress and coping model also result in differences between groups in terms of which resource variables appear in the model at all and in the factor structure of (at least) coping styles.

We also emphasize that we are not arguing that the appraisal of burden is unimportant per se in the revised sociocultural stress and coping model. In fact, burden is a cornerstone of the common core of the model. Thus, the role of appraisals of caregiving as burdensome appears so far to be consistent across many cultural groups and not part of the mechanisms of cultural distinctiveness.

Background and Rationale: Development of the Sociocultural Stress and Coping Model

Numerous studies have shown that caring for an older family member with chronic health problems and functional limitations is associated with negative mental and physical health outcomes (e.g., Schulz, O'Brien, Bookwala, & Fleissner, 1995; Vitaliano, Zhang, & Scanlan, 2003). Given that the number of older adults from minority cultures is predicted to increase at a significantly greater rate than that of White Americans (U.S. Bureau of the Census, 2000), the need to understand how caregivers from distinct cultural backgrounds are differentially affected by caregiving is becoming more pressing. Moreover, the prevalence of functional limitations among older adults from racial and ethnic minority groups is greater compared with Whites (Sinclair & Gomez, 2006). Thus, the demands associated with long-term care among minority caregivers are expected to grow,
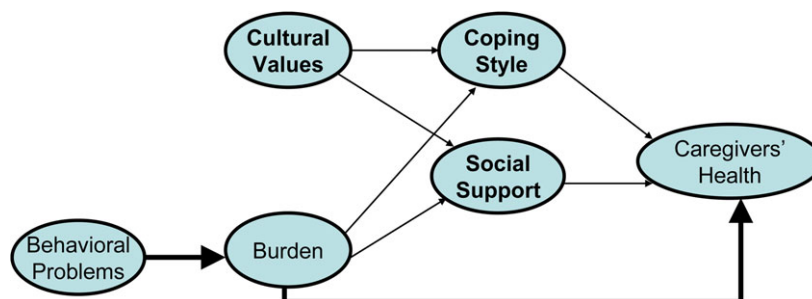
Figure 1. The revised sociocultural stress and coping model for caregivers.

Note. The revised sociocultural stress and coping model we present here includes only key variables, with the three variables believed to vary across cultural groups presented in bold. Ethnic group differences in variables that are not mediated by cultural values are possible and should also be included in any analysis plan. Similarly, other demographic variables (e.g., age, education level) will need to be included as background variables in any analysis plan. In addition, note that the effect of cultural values is often to change which resource variables appear in the model and perhaps their meaning.

and the need for a theoretically based conceptual framework for understanding how these individuals are affected by these demands is more urgent. In addition, greater theoretical and methodological precision regarding the examination of caregiving across different ethnic and cultural groups will help to inform the content of interventions and services aimed at alleviating caregivers' distress among individuals from diverse backgrounds.

Literature reviews on ethnicity and caregiving have emphasized the need to explicitly measure and assess the impact that cultural values have on caregiving experiences instead of simply using group membership to examine cultural and ethnic differences in caregiving (Dilworth-Anderson et al., 2002; Janevic & Connell, 2001). The first attempts to understand ethnic differences in caregiving were rooted in the disadvantaged minority group model (Markides, Liang, & Jackson, 1990), which argued that ethnicity reflects mainly disadvantaged minority status and is confounded by socioeconomic status. Thus, caregivers from non majority ethnic groups should suffer from the double stressors of being from a disadvantaged minority group and being caregivers. Aranda and Knight (1997) noted that African Americans commonly reporting lower levels of burden than Whites contradicted this conceptual model. The disadvantaged minority group model also overlooked the potentially positive effects of cultural values on the stress and coping process. Aranda and Knight proposed the sociocultural stress and coping model in order to provide a framework for understanding caregiver stress and coping processes across diverse cultural groups, using Hispanic American caregivers as an exemplar. The authors based this model on the stress and coping theoretical model proposed by Lazarus and Folkman (1984), which holds that variables such as appraisals, social support, and coping style mediate the consequences of stressors on people. The sociocultural stress and

coping model added an emphasis on "ethnicity as culture". The cultural focus guided the search for explanations for ethnic group differences in caregiving health outcomes to consider specific cultural values and their influences on the stress and coping process. We emphasize that the focus on cultural values is meant to be an additional element to consider in comparisons of ethnic group differences in caregiving and is not meant to dismiss the real disadvantages from which many minority groups suffer. Janevic and Connell noted that caregivers may well share the disadvantages that noncaregivers from their ethnic group experience, but the question of whether these general stressors add to or interact with caregiving status is a separate and important empirical question.

Following contemporary trends in cross-cultural studies at that time, which were also commonly reflected in the discussion sections of papers on ethnic differences in caregiving, Aranda and Knight (1997) framed cultural values in terms of an individualism/familism dimension. This dimension applies to the family the notion that Western majority culture would emphasize individualism and perceive caregiving as a burden because it disrupts the caregiver's life. Aranda and Knight thus assumed that familism would lead to lower perceptions of caregiving as burdensome. Conceptually, familism would lead to lower burden appraisals and also to different patterns of using social support and coping styles and thereby provide an explanation for differing physical and mental health outcomes for ethnic caregivers.

In the years since the proposal of the sociocultural stress and coping model, the literature on ethnic differences in caregiving has grown and the focus on measuring cultural values and testing their influence has increased, as recommended by Dilworth-Anderson and colleagues (2002) and Janevic and Connell (2001). We begin our review of this literature by making the case for a common core model for caregiver distress that appears to be consistent across the ethnic groups studied to date. In the following sections, we show that the nature of familism is more complex than thought a decade ago and its influence is not as positive as expected. Then, we discuss the potential role of other

Figure 2. The common core stress and coping model for caregivers.

cultural values in the caregiving stress and coping process and note that ethnic group differences in the stress and coping model often are expressed in what resource variables (e.g., social support, coping style) are included in the model. Finally, we discuss various recommendations for future research regarding cross-cultural differences in caregiving and discuss the potential practical implications of this line of research.

THE COMMON CORE MODEL

Chun, Knight, and Youn (2007), J. Kim, Knight, and Flynn Longmire (2007), and Sörensen and Pinquart (2005) suggested a common core model for caregiver distress that considers behavior problems in the person with dementia as stressors for family caregivers, includes the caregivers' appraisal of burden as a key mediator of those stressors, and finds higher levels of burden appraisal associated with worse mental and physical health outcomes (see Figure 2). (Although the majority of the research on which this review paper is based comes from studies involving caregivers for family members with dementia, we believe that these findings may extend to family caregivers for individuals who do not have dementia but who are physically frail.) This model has been consistently found in Whites, African Americans (e.g., J. Kim et al.), Hispanic Americans (Robinson & Knight, 2004), and Korean Americans (Chun et al.), as well as in caregivers in Spain (Losada et al., in press), Korea, and Canada (both among English- and French-speaking Canadians; Clyburn, Stones, Hadjistavropoulos, & Tuokko, 2000). This set of associated variables constitutes a common core model for conceptualizing stress and coping among family caregivers of persons with dementia. We find it likely that a similar model with functional disability substituting for behavioral problems would be the corresponding model for caregivers of the physically frail (cf. Pinquart & Sörensen, 2005, 2007). An understanding of cultural differences would then look for the influence of cultural values on this common core model and also for variations on components of the stress and coping model by ethnic group.

UNDERSTANDING FAMILISM IN CAREGIVING RESEARCH

Familism is a cultural value that refers to strong identification and solidarity of individuals with their family as well as strong normative feelings of allegiance, dedication, reciprocity, and attachment to their family members, both nuclear and extended (Heller, 1970; Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987). Knight and colleagues (2002) reviewed a series of studies on caregivers from six ethnic groups and reported that familism levels varied in the expected direction with acculturation to Western values such as individualism. The highest levels of familism were reported by Koreans, Korean Americans (first generation), and Hispanic Americans (first and second

generation). Levels of familism among Japanese Americans were lower, which reflects greater acculturation within the United States. African Americans, who have been in the United States for centuries, were most similar to Whites with regard to familism, but they still reported statistically significantly higher levels on this measure. Thus, familism represented a good measure of an individual's ranking on the individualism to collectivism dimension and confirmed the commonly perceived differences on this dimension among ethnic groups.

We had hypothesized that higher levels of familism would result in the appraisal of caregiving for family members as less burdensome, as it would reflect an underlying deep-rooted desire to provide care for their loved ones. However, in our research program, this hypothesis has generally been disconfirmed. We have found no evidence for the association of familism with caregiving burden or with physical or mental health outcomes in studies of White Americans, African Americans (J. Kim et al., 2007), and Korean Americans, as well as caregivers in Korea (Chun et al., 2007) and Spain (Losada et al., 2006). In fact, the caregivers in Spain showed a positive relationship between familism and depressed mood. The only evidence of familism reducing burden and depression was reported by Robinson and Knight (2004), but these associations were weak, as evidenced by their small regression coefficients; thus, familism had essentially null indirect effects on depressive symptoms in that study. In summary, across a variety of cultural groups, familism had either null, negative, or small positive effects on caregivers' burden appraisals or health outcomes, but certainly not the consistently positive effects that we had originally hypothesized.

This finding led us to explore the factor structure and psychometric properties of familism measures. Losada and colleagues (2008) confirmed the three-factor structure of the Sabogal and colleagues (1987) familism scale as Familial Obligations, Perceived Support from the Family, and Family as Referents with a reduced number of items in a sample of caregivers from Spain. (*Familial obligation* is a factor that reflects cultural values that demand caregiving for family members in need. *Perceived Support from the Family* is a factor that measures cultural expectations that family members will be supportive in times of need. *Family as Referents* is a factor that taps the value that sets up the family as a major source of rules and guidance for how life should be lived.) In a follow-up path analysis involving a different sample of caregivers from Spain, Losada and colleagues (in press) found that Familial Obligations had a negative effect on emotional distress outcomes and, conversely, Perceived Support from the Family had a distress-reducing influence. In a study involving African American and White family caregivers of patients with dementia in the United States, McClendon Baumann (2007) confirmed this same factor structure but with a somewhat different set of items retained. Thus, it appears that familism is a

complex multidimensional construct for these different eth-
nic groups (Spanish, African American, and White). These
subcomponents can have competing effects within the so-
ciocultural stress and coping model. Measuring subcompo-
nents of familism has been far more productive in terms of
gaining insight into cultural variations in caregivers' burden
appraisals and health outcomes. Future studies that examine
the effects of familism on the caregiving process should ex-
plicitly contrast the obligation values of familism with the
family solidarity or support values rather than assuming that
familism invariably has positive effects on family caregiving.

If Not Familism, Perhaps Other Cultural Values Play a Role?

East Asian cultural values have also been examined to as-
sess their effects on caregivers' appraisals of burden in the
context of providing care. This cultural value system, which
is derived from the Confucian tradition, emphasizes respect
and care for the elderly family members as well as filial piety
and mutual support (B. S. K. Kim, Atkinson, & Yang, 1999;
Knight et al., 2002). Similar to familism, the East Asian value
system also tends to be collectivist in nature, as opposed to
Western cultural values that emphasize individualism (e.g.,
Hofstede, 1980; Segall et al., 1998; Triandis, Bontempo,
Villareal, Asai, & Lucca, 1988). As a result, the prediction
that having a strong East Asian value system would serve as
a protective factor against high levels of caregiver burden
appears plausible. However, tests of this hypothesis have re-
ported that this value system does not in fact have a significant
effect on caregivers' appraisals of burden. For example, a
study examining the relation between adherence to East Asian
values, as measured by B. S. K. Kim and colleagues' East
Asian Values Scale, and caregiver burden among a sample of
both Korean and Korean American caregivers reported a non-
significant association (Chun, 2004). Comparable findings
were reported in a similar study by J. Kim (2004) involving a
sample of Korean American caregivers. Thus, if cultural
values such as familism and the East Asian value system do
not influence the appraisal of caregiving as burdensome or
typically have direct effects on physical and mental health
outcomes, could they operate through stress and coping
resources such as social support and coping styles?

The Influence of Cultural Values on Caregivers' Resources: Social Support and Coping Styles

Social Support

Zarit, Orr, and Zarit (1985) posited that the distress as-
sociated with caregiving among primary caregivers could
be reduced by social support, such as having other family
members pay visits to them. In accordance with this sugges-
tion, several studies have reported that the receipt of social

support from others can reduce the negative effects of care-
giving on physical health outcomes (e.g., Barusch & Spaid,
1989; Pinquart & Sörensen, 2007).

Connell and Gibson's (1997) review of the literature sup-
ported the ethnic and cultural differences in views of family
support, with African American caregivers endorsing more
strongly held attitudes of family support than Whites. How-
ever, findings from several studies regarding the directions
of the effects of specific cultural values on social support
utilization across different ethnic and cultural groups have
been mixed. For example, a study by Shurgot and Knight
(2005) found in a sample of African Americans and White
caregivers that familism, as measured by the Bardis (1959)
familism scale, was inversely associated with perceived
positive social support, which was in turn inversely associ-
ated with burden. With our current understanding of
familism as often reflecting obligation values, especially in
the Bardis scale, we interpret this finding as indicating that
caregivers with a high sense of obligation were less likely to
perceive positive support from available helpers.

Two studies examined the influence of East Asian values
on the utilization of formal care services among family care-
givers of Korean ethnicity. In a study that included both Ko-
rean and Korean American caregivers, Chun (2004) reported
that higher levels of filial piety were associated with greater
use of formal care services, which were composed of both
home- and community-based care (e.g., home care, adult day
health care, transportation services), but that greater use did
not affect mental health outcomes. J. Kim (2004), looking at
Korean American caregivers, found that a broader measure of
East Asian values was also associated with greater use of for-
mal support and so had an indirect effect on the reduction of
systolic blood pressure. The positive association between East
Asian values and the use of formal social support provides
some support for the importance of attention to specific cul-
tural values and their varying effects on perceptions and use
of social support, as well as a positive role for cultural values
under certain circumstances in stress and coping models.

Coping Styles

Different coping styles can affect the caregiving stress
process through efforts to modify the stressful circum-
stances and also regulate the emotional distress connected
to the situation (Lazarus, 1991; Lazarus & Folkman, 1984;
Penley, Tomaka, & Wiebe, 2002). Studies have shown that
active coping may lead to fewer depressive symptoms for
caregivers of individuals with dementia by solving caregiv-
ing problems and reducing caregiving strains (e.g., Haley,
Levine, Brown, & Bartolucci, 1987; Vitaliano, Russo, Carr,
Maiuro, & Becker, 1985). In contrast, avoidant coping styles
may lead to worse outcomes because they are composed
of maladaptive thoughts and actions, including denial and
disengagement, which individuals use to decrease the
emotional consequences of stressors. Numerous studies

have reported that avoidant coping styles among dementia caregivers are related to various negative emotional and psychological outcomes (e.g., Papastavrou, Kalokerinou, Papacostas, Tsangari, & Sourtzi, 2007; Powers, Gallagher-Thompson, & Kraemer, 2002).

J. Kim and colleagues (2007) found that higher levels of familism, as measured by the Bardis (1959) scale, resulted in increased levels of avoidant coping styles rather than active coping styles among their sample of African American and White family caregivers of dementia patients. This finding meant that familism had negative indirect influences on both physical and mental health outcomes. In contrast, in a study of Korean-heritage caregivers, Chun (2004) found a pathway from filial piety to active-cognitive coping to reduced depressive symptoms.

This latter finding points to the possibility that the latent factors of coping styles may not be the same across cultural groups. Our research program's caregiving studies have used primarily the Coping Orientations to Problems Experienced Inventory (COPE) (Carver & Scheier, 1994; Carver, Scheier, & Weintraub, 1989) and Brief COPE (Carver, 1997) measures. We have found invariance of coping factors across African American and White caregivers. However, the coping style factor structures differed between these groups and Korean and Korean American caregivers. For example, the active coping factor found in the J. Kim and colleagues (2007) study involving African American and White caregivers was composed of five subscales (active coping, planning, positive reappraisal, restraint coping, and suppression of competing activities) that stressed tactical components dealing with caregiver stressors and choosing times to deal with the stressors. In contrast, the active-cognitive coping factor in the Chun (2004) and J. Kim (2004) studies involving Korean and Korean American caregivers is composed of four subscales (active coping, planning, positive reappraisal, and acceptance) that emphasize cognitive coping strategies more so than problem-focused ones. Moreover, the avoidant coping factor, which is salient in caregiver studies involving African Americans and Whites, did not appear in the Korean-origin samples; instead, these authors found a second factor that was composed of social support coping and venting (see J. Kim & Knight, 2008). These studies' findings demonstrate the cultural variation for coping factors between Whites and African Americans on one hand and Korean-heritage caregivers in Korea and Los Angeles, California, on the other. Furthermore, these findings emphasize that cultural values can shape the meaning of important constructs such as coping styles (and possibly social support) and thereby differentially affect the stress and coping process.

Different Model Elements by Cultural Grouping?

Moreover, group differences in stress and coping models in our research have at times appeared as differences in what components of the model are added to the common core model (Figure 1). For example, in Chun and colleagues' (2007) comparison of Korean caregivers with Korean Americans and Whites, instrumental social support was added for Korean caregivers, emotional support for Korean Americans, and neither for Whites. Reaching conclusions about the elements of specific group models is premature, given that the reported differences often reflect differences in choices of variables included in the study by the research team.

Summary of Cultural Influences on Resources

The somewhat greater success in finding influences on stress and coping resources in the Korean and Korean American samples with measures of cultural values that are more group specific suggests that attention to local cultural values may be a more useful strategy than taking global constructs like individualism and familism and applying them across cultures. This observation also poses the question for future research as to what the right conceptualization of specific cultural values would be for different ethnic groups. As such, research on ethnic differences should explore a range of cultural values across populations and also seek to discover what group-specific cultural values may exist. For example, are there analogs of filial piety for African Americans, Hispanic Americans, and/or Whites? Another possibility is that even this level of group categorization may be too global to identify the values leading to commitment to family caregiving.

RECOMMENDATIONS FOR FUTURE RESEARCH

Specific Local Cultural Values

A key element of future studies on cross-cultural family caregiving will be the identification of the specific cultural values that influence the stress and coping process. The field started by speculating about cultural values as explanations for ethnic group differences that did not fit the disadvantaged minority group model. Direct measurement and study of cultural values have revealed a different and more complex picture than expected, as empirical research tends to do. Values of obligation are clearly an important element in family caregiving in many cultures, which appear to result in negative health effects for caregivers. Filial piety and values concerning family supportiveness may have more positive health effects for caregivers. We suggest that the next steps for research in this field include a more nuanced search for specific values associated with both positive and negative effects on caregivers' health outcomes.

Measurement Invariance Across Cultural Groups

A related issue is the need to focus research attention on the possibility of different factor structures of all measures rather than assuming that translated measures generalize

across groups. As noted above, different cultural groups may have dissimilar coping styles, differing meanings for social support, and varying ways of expressing emotional distress.

How Culture Affects Stress and Coping Processes

We also need a better understanding of the ways in which culture can affect the stress and coping process. If culture does not influence the appraisal of caregiving as burdensome, perhaps it more typically is associated with social support and coping styles, either by influencing the relative levels of use of these resource variables or by influencing which resource variables will be effective. A great deal of work remains to be done to further our understanding of the reasons and mechanisms of these cultural distinctions in caregiving. For example, why does formal support have benefits for one cultural group and informal support for another? Why are there different coping styles in different ethnic groups? There may also be other ways for culture to affect the cognitive interpretation of caregiving stress. Losada and colleagues (in press) combined stress and coping modeling with cognitive-behavioral theories of depression and found that familism values appeared to operate through dysfunctional thoughts related to depression rather than through burden appraisals.

Where to Look for Cultural Differences

Although we have cited a number of studies on caregiving that involved samples from various ethnic groups, much of the cross-cultural research on caregiving has focused primarily on African American caregivers (Connell & Gibson, 1997; Pinquart & Sörensen, 2005). Such work is clearly important and there are some statistically significant differences that are still not well understood. However, the differences between African American and White caregivers are small relative to other between-ethnic-group differences (see Knight et al., 2002; Pinquart & Sörensen, 2005; Sörensen & Pinquart, 2005). Intensive research using small samples may do well to focus on group comparisons where effect sizes are larger.

One unresolved question at present is the one that initiated this line of research for us: Why are African American caregivers less burdened than White caregivers? Conceptually, the original sociocultural stress and coping model suggested that cultural values, specifically familism, would lead to lower appraisals of caregiving as burdensome; however, the available data do not support this proposition and instead suggest that cultural values tend to operate in other ways. Within the revised core model, lower burden could be explained by fewer behavior problems among African American care recipients, but African Americans and Whites report similar levels of behavior problems for the care recipients. Some of the difference in burden appraisals may be due to the lower proportion of spouses among African American caregivers, given that spousal caregivers tend to be more burdened, or the perception of burden being offset by a greater tendency to experience uplifts and satisfaction with caregiving (Pinquart & Sörensen, 2005); however, both of these possibilities could benefit from further exploration of why these factors would reduce burden. Clearly, more work remains to be done to understand the influence of cultural values and other differences among ethnic groups in coping with caregiving.

Large Longitudinal Studies

In addition, greater methodological sophistication is needed in cross-cultural research on caregiving, specifically, longitudinal research that can track the influence of stress and coping variables over longer periods of time. These studies should be driven by theoretical considerations of the time frames within which effects would be expected, which are likely to be both shorter with regard to some variables (e.g., coping styles, social support use, emotional distress outcomes) and longer in others (e.g., disease endpoints) than most studies currently use. Furthermore, including a variety of cultural groups in large longitudinal study panels would greatly advance the field.

A Role for Smaller Studies

That said, careful consideration about the roles of both small quantitative studies and qualitative methods and the rational incorporation of them into research planning could be very useful in advancing this field. Cross-cultural work is both difficult and expensive. Much of it involves the need to recruit and manage diverse research teams, translate and back-translate materials, check the measurement characteristics of the translated materials, and spend considerable time and effort in recruiting samples. A prevailing tendency in the field is to argue for ideal standards of large sample sizes and randomized community sampling as the starting place for research in this area. A greater willingness to trust the self-correcting nature of science and to recognize the potential contributions of well-designed small studies to advancing knowledge could help move cross-cultural caregiving from speculative discussion to scientific exploration. The same argument can be made for the contribution of qualitative research. A sensible next step in discovering group-specific cultural values and working toward their quantitative measurement would be well-designed qualitative studies with rigorous methodological controls.

Self-Report Measures and Biomarkers

Almost everything regarding the stress and coping process for caregivers stated up to this point in the current review is based on self-report measures. A final recommended methodological change regarding the use of the revised sociocultural model in caregiver research pertains to the

measurement of physical health outcomes among caregivers. Knight, Flynn Longmire, Dave, Kim, and David (2007) found that although African American caregivers did not report worse physical health outcomes on self-report measures, they showed elevated baseline diastolic blood pressure readings compared with other groups in the study (African American and White noncaregivers and White caregivers). Similarly, J. Kim and Knight (2008) reported that in their sample of Korean American caregivers and noncaregivers, caregiver status was significantly associated with higher levels of cortisol and systolic and diastolic blood pressure despite the lack of association of caregiver status with self-reported general health. These differences in stress-related biomarkers in the absence of self-reported health differences raise concerns about the reliance on self-report measures to assess physical health outcomes. Therefore, we propose that future studies incorporate physiological measures of health outcomes in addition to self-report measures in order to increase the validity of the assessment of caregivers' physical health outcomes.

It should also be noted that the path models for biomarker outcomes tend to be quite different from the models for subjective physical health and mental health outcomes. There are multiple possible reasons for these differences, but we should be cautious about building theory, programs, and policies for caregiving on findings that rely entirely on self-reported health. These initial results suggest that doing so could lead to missing important physiological signals of stress which caregivers either are unaware of or do not report.

Potential Practical Implications

In general, reviews of caregiving intervention outcome studies suggest that interventions to date have shown statistical significance in terms of reducing the negative effects of caregiving compared with no interventions but have effect sizes that are smaller than those of most psychological interventions. One suggested solution to this problem has been to base caregiver interventions on theory and research regarding caregiving rather than "off the shelf" approaches that use favored existing interventions.

With regard to interventions for culturally diverse caregivers, our revised model would suggest that, in principle (based on the common core model), all groups could benefit from reducing behavior problems and reducing burden appraisals. We suggest that understanding the specific cultural values of target groups will be important, at least for building rapport. It remains an open and untested question whether cultural values themselves will be modifiable by typical psychosocial interventions. It seems plausible that they may be so strongly held and/or so much a part of people's identities that they will not be easily changed. However, future research should examine this issue by investigating cultural values more closely in search for practical techniques that could assist caregivers in highlighting the beneficial effects of cultural values and decreasing the impact of their detrimental effects on health outcomes. Culturally specific interventions may do well to focus on understanding and working to change specific meanings of social support and coping styles that are found to be specific to the cultural group targeted by the intervention, as these variables may be more amenable to modification than cultural values.

Summary

The accumulating data on the sociocultural stress and coping model thus support several modifications in the model and a reframing of some of the basic questions the model was intended to address. There appears to be a shared common core to stress and coping in family caregivers of persons with dementia that moves from the stressor of the care recipients' behavior problems to caregivers' appraisals of caregiving as burdensome to poor physical and emotional health outcomes for caregivers. The role of cultural values in the model appears to be smaller and more group specific and varied in direction of effect than anticipated, with very little evidence supporting the initial hypothesis that cultural values would work by influencing the appraisal of caregiving as burdensome. Instead, cultural values and differences between culturally distinct groups appear to influence the choice and use of coping strategies, the very nature of the coping strategies available to the caregiver as revealed by differences in latent factors of coping, and the use and effects of social support.

In a society that is rapidly becoming more culturally and with concern about dementia caregiving growing globally, an empirically based understanding of the role of culture in caregiving is and will continue to be vitally needed. To date, theory development and empirical research indicate that the role of culture in influencing caregiving outcomes is more nuanced and complex than imagined a decade ago. Cross-cultural research and evidence-based practice should meet this complexity head on rather than retreating to the use of stereotypes and simplistic categorical assumptions.

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