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ABSTRACT

A three-phase study examined department chair stress as a multidimensional construct with links to multiple variables and consisting of three phases: American, Australian, and cross-cultural. In this study of the third-phase, researchers conducted cross-cultural comparisons of department chair stress factors, perceptions, and consequences using the data sets generated in the study's previous two phases. Study findings indicate that the personal and professional profile of Australian department chairs resembles that of their United States counterparts. In this cross-cultural study, each of the reported stress dimensions (faculty role, administrative relationship, role ambiguity, perceived expectations, and administrative task) reflects a different pattern of influence. For example, the administrative relationships dimension is more stressful for Australian chairs while Americans suffer greater pressure from administrative task stress. As a result, macro-level strategies must vary by country and ultimately by institution. Further, national differences such as the recent national consolidation of institutions in Australia also may cause different stresses on chairs than those in the U.S. Department chair stress comes in many forms and is influenced by multiple sources with different strategies required for the separate dimensions of stress in order to make a more manageable environment for department chairs. (Contains 76 references.) (JLS)

A Cross-Cultural Comparison of Department Chair Stress in Australia and the United States

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held in Memphis, Tennessee, October 31 - November 3, 1996. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

A Cross-Cultural Comparison of Department Chair Stress in Australia and the United States

For most Americans,[1] stress—experiencing it, coping with it, functioning in our work in spite of it—has become a familiar routine. The same holds true for Australians. Over the past two decades, numerous research studies have highlighted the connections between stress, job satisfaction and work-related issues of effectiveness (Bergin and Solman, 1988; Blackburn, Horowitz, Edington and Klos, 1986; Blix and Lee, 1991; Carlton and Bennett, 1980; Cooper and Marshall, 1978; French and Caplan, 1973; McGrath, 1970, 1976).

A line of research that complements this literature suggests the existence of linkages between stress and demographic characteristics of individuals like gender, age, race, tenure and education, role stress, conflict and ambiguity, and job satisfaction (Fried and Tiegs, 1995; Glisson and Durick, 1988; Jackson and Schuler, 1985; Judge, Boudreau and Bretz, 1994; Kelloway and Barling, 1991; Landsbergis and Vivona-Vaughan, 1995; Meyerson, 1994; Pfeffer and Langton, 1993; Reyes and Shin, 1995; Shaubroech, Cotton and Jennings, 1989; Spector and Jex, 1991; Xie and Johns, 1995). However, the relationships may differ by nationality. For instance, in the U.S. Gmelch, Wilke and Lovrich (1986) found that female faculty members experienced higher stress levels with respect to time constraints and professional identity that did their male counterparts. In contrast, Tung (1980) suggests that female academic administrators in her study suffered lower role-based and conflict mediation stress; and Dua (1994), in an Australian study, found no difference between male and female study participants. Likewise, several American studies show that stress in the academy declines as age increases—particularly in conjunction with the acquisition of tenure and higher rank (Fulton and Trow, 1974; Gmelch, Wilke and Lovrich, 1986; Ladd and Lipset, 1975). The opposite seems true in one Australian study where younger faculty experienced lower levels of stress (Dua, 1994). Studies in both countries found significant links among tenure or seniority, age and job satisfaction and performance (Diener, Emmons, Larson and Griffin, 1985; Gordon and Fitzgibbons, 1982; Judge et al, 1994; Parasuraman and Alutto, 1981; Pfeffer, 1983, 1985; Waldman and Avolio, 1986).

Role identification leading to role conflict and role ambiguity in particular contributes to stress, in general, and especially for department chairs (Bare, 1964; Booth, 1982; Gmelch, 1994; Kahn, Wolfe, Quinn, Snoek and Rosenthal, 1964; Rizzo, House and Lirtzman, 1970; Seagren, Creswell and Wheeler, 1993; Simpson, 1984; Singleton, 1987). Evidence of a negative impact of role conflict, ambiguity and stress on job satisfaction and effectiveness was also found in several studies (Abdel-Halim. 1981a, 1981b; Assouline and Meir, 1987; Bedeian and Armenakis, 1981; Fisher and Gitelson, 1983; Fried and Tiegs, 1995; Glick, Jenkins and Gupta, 1986; Kahn and Byosiere, 1992; Judge et al, 1994; McGrath, 1976; Schaubrocek, et al, 1989).

Lately, higher education in both America and Australia has experienced calls for more effective leadership—indeed, some have gone as far as to claim that academic leadership is in crisis (Bensimon, Neumann & Birnbaum, 1989). And, although these calls are often leveled at college presidents, research shows that 80% of all decision making occurs at the department level (Gmelch & Miskin, 1993). This implies that chairs may incur substantial work-related stress, which goes relatively unnoticed and unaddressed—a predicament that exacerbates the leadership

crisis and pursuant demands for improvement. This paper reports the third phase of an exploratory study, which investigated the sources of stress for American and Australian university department chairs and the differences in the intensity of stress experienced with respect to chairs' personal and institutional distinctiveness.

Gmelch (1982, 1983), in a previous study, refined McGrath's four-component model, perhaps the most influential paradigm among social science scholars who study stress, into a four-stage cycle reflective of professional stress in higher education. Stage I is concerned with the identification of stressors present in the environment (excessive meetings, frequent interruptions, confrontations and so on). In Stage II, the individual's perception of the demands for the environmental stressors determine how much stress is experienced. The individual's stress response is Stage III of the cycle. Coping with stress is associated with the individual's perception of available resources to meet the demands of the stressor. Whether an individual is able to muster resources to cope with stress demands is part of the stress response. Stage IV looks at the consequences of the response to stress. This stage is often associated with long-term negative effects. We use this expanded version of McGrath's stress model to explore differences and similarities in the stressors to which chairs react. We then examine in more detail the elements, which contribute to chair stress in both countries and discuss certain implications of our findings.

The Study

The study examines chair[2] stress as a multidimensional construct with links to multiple variables (Koch, Tung, Gmelch & Swent, 1982). It consists of three phases--the American, the Australian and the Cross-Cultural. The first identified the determinants of stress experienced by department chairs in the United States (Gmelch & Gates, 1995). The second replicated the U.S. study in Australia (Sarros, Gmelch & Tanewski, 1995; 1996b). In this, the third phase, researchers conducted cross-cultural comparisons of department chair stress factors, perceptions, and consequences using the data sets generated in the study's previous two phases.

Population Selection

The U.S. phase—the UCEA Center for the Study of the Department Chair at Washington State University conducted the 1991 *National Survey of University Department Chairs*. Of the 237 research and doctorate-granting I and II institutions (classified by the Carnegie Commission on Higher Education, 1987), 100 were randomly selected for the sample (Gmelch, Burns, Carroll, Harris & Wentz, 1992). At each institution, eight department chairs were randomly selected from a list of academic disciplines associated with each academic discipline group (e.g., hard versus soft, pure versus applied, life versus nonlife) (Biglan, 1973). In all, 800 department chairs were sampled with a 66% cumulative response rate to initial and follow-up mailings. The Australian phase—the Center for the Study of Department Chairs and Monash University in Melbourne, Australia sponsored the 1995 *Australian National Survey of University Department*

Heads. Surveys were mailed to every department chair at all 40 Australian universities, totaling a population of 1680 chairs. Total response rate was 51% to initial plus follow-up mailings. In both phases, the survey packet included a cover letter and a business reply envelope. The major aspects of the Dillman (1978) *Total Design Method* were used in the design and distribution of the survey.

Survey Instrument

The survey used in both phases includes three validated instruments—The Chair Stress Inventory (Burns & Gmelch, 1995), the Role Conflict and Ambiguity Questionnaire (House, Rizzo & Lirtzman, 1970), and the Chair Tasks Inventory (Carroll & Gmelch, 1994)—and three sections comprised of personal, professional, and organizational variables. The instruments and variables are described as follows.

Chair Stress Inventory (CSI), developed and validated by Burns and Gmelch (1995), based on the Administrative Stress Index (Gmelch & Swent, 1984) and the Faculty Stress Index (Gmelch, Wilke & Lovrich, 1984), contains 41 stressors. Using a five-point, Likert-type scale of *rarely or never bothers me* to *frequently bothers me*, respondents indicate their perceived level of work-related stress on each of the 41 items.

Role Conflict and Ambiguity Questionnaire (RCAQ) is a 14 item instrument developed by Rizzo, House and Lirtzman (1970) to determine the level of perceived role ambiguity and role conflict. A psychometric evaluation of this instrument across six samples concluded that its use is warranted (Tracy &Johnson, 1981; Schuler, Aldag & Brief, 1977). Also studies using multiple methods have found agreement between the questionnaire and interview data on role conflict and ambiguity (e.g., Caplan, et. al., 1980).

Chair Tasks Inventory(CTI) Although a great deal of anecdotal literature discussing the chair role exists, surprisingly little empirical data is available to support these suppositions. Chairs in each study were asked to assess the importance of, and their effectiveness in, each of 26 chair duties (Smart & Elton, 1976; Moses & Roe, 1990; Carroll & Gmelch, 1994).

Demographic and Contextual Variables Three complementary questionnaire sections added contextual information and supplemented the information gained from the CSI, RCAQ and CTI instruments. Twenty questions comprised the demographic section to assess variables in the personal area—age, gender, marital status, ethnicity, commitment to the university, professional rank, years in position, professional productivity (e.g., books, journal articles and papers recently published), perceived faculty versus administrative role, motivation to serve as chair, willingness to serve again, and satisfaction with work load. The institutional domain assessed the department's discipline, number of tenured, untenured and adjunct faculty, number of clerical staff,

institutional climate (salaries, academic standing, location and quality of administration and instruction), department climate (institutional rating, faculty relationships and student concerns), and opinions regarding the institution. In total 49 demographic and contextual variables were derived from the 20 questions.

Demographic Data Univariate Comparisons

Of the survey's 49 demographic and contextual variables, we eliminated race/ethnicity from this phase of the study because it was interpreted differently in the two countries. In Australia, this variable referred to place of birth— Australia, Europe, America, Asia or other. In the U.S., it referred to race or ethnicity—White, Native American, Hispanic, African American or Asian. It should be noted that although the American sample was selected randomly, the minority count (1 African American, 1 Native American, 5 Hispanics and 14 Asians) was so low that any analysis based on ethnicity would be highly suspect. We also created two additional variables by collapsing a need-for-task-training inventory into two variables—the number of tasks the chair was trained in and the number of tasks for which the chair expressed a need for training. In addition, we calculated a mean stress variable, which represents the average score on 41 measures of chair stress. Finally, during the factor analysis of the chair task inventory, one variable—the importance of teaching and advising students—loaded uniquely and was subsequently treated as a separate variable. We used the SPSS statistical package to conduct univariate comparisons of means of the unique, demographic and contextual variables by country. Statistical differences at a significance level of .01 or better appeared in 26 of the remaining 48 demographic and contextual variables, all three composite variables (training, need-for-training, and mean stress) and the unique teaching task variable.

The univariate analysis revealed little statistical difference between Australian and American department chairs in age, years in position and tenure. Chairs in both countries were, on average, 50.5 years old, had been in their positions for about four years and were tenured when they took the position. Gender, marital status, and the number of children at home, however, all turned out to be significantly different. Seventeen percent of Australian chairs were women, while women filled only 11% of the American chair positions. More Americans were married, 89% to 83%, but had significantly fewer children (.94 in the U.S., 1.28 in Australia). (See Table 1).

Certain professional demographics also varied significantly by country. For instance, although most chairs had earned tenure before they assumed the position, Australian chairs held significantly higher academic rank when they were appointed and also at the time of the survey than did their American counterparts. Similarly, academic productivity seemed to be significantly higher for Australians across all scholarship categories—books published since becoming chair (.9 to .56), articles published since becoming chair (11.6 to 5.9), papers presented during the last year (3 to 2), and professional meetings attended during the last year (5.6 to 2.8).

(See Table 1.) In addition, Australian chairs rated teaching and advising significantly more important than Americans, 4.03 to 3.74 on a 5-point scale (p-value =.000).

More than three-fourths of chairs in both countries were internal appointments. Few in either country were selected entirely by faculty. A larger proportion of responding Australian chairs than responding American chairs were selected entirely by the administration— 39% in Australia, 33% in America—although the difference was not statistically significant. Significantly more Americans, 53%, said they were chosen by a group comprised of both faculty and the dean. In the case of the Australian chairs, only 15% were chosen in this manner. Australians marked the "other" option 29% of the time; no American chairs selected this option. (See Table 1.)

At least one of the reasons why most chairs in both countries accepted their positions had to do with a desire for personal development (57% in Australia, 60% in the U.S.). Some chairs in each country took the job out of necessity or because no one else would do it. The same held true for those who checked that a sense of duty or a desire to relocate motivated them. In each of these cases, no statistical difference distinguished chairs by country. Forty-seven percent of American chairs did indicate that they had been drafted for the position, which is statistically different from the 31% of Australians who said the same thing. Although the percentages were smaller, the statistical difference between Australians (8%) and Americans (22%) who said they were motivated by financial gain was significant. About one-third of each group wanted greater control over their environments. (See Table 1.)

In both the U.S. and Australia, less than 30% of current chairs indicated that they would seek a higher administrative position. About 50% of all chairs viewed themselves as an equal balance of faculty member and administrator. Most of the rest (47% in Australia and 43% in the U.S.) thought of themselves as academic faculty members; only 3% in Australia and 4% in the U.S. categorized themselves exclusively as administrators. For these three variables, no statistical difference existed between chairs in the two countries. (See Table 1.)

Institutional and departmental factors, measured on a five-point scale (1 = poor, 3 = average, 5 = excellent), also differed somewhat across countries (see Table 2). Although the number of nontenured faculty supervised by chairs in each country (5 to 6) varied little statistically, the number of tenured faculty and the number of adjuncts under their charge were significantly different. On average, an Australian chair supervised 13 tenured faculty and 10 to 11 adjunct faculty. In contrast, American departments housed 15 to 16 tenured faculty and fewer than 6 adjuncts. American chairs had significantly more clerical staff at their disposal (2.5 American; 2.0 Australian). When it came to carrying out the everyday tasks of being a chair, Australians believed that they have been trained to do significantly more of the tasks listed in the chair task inventory (3.48 tasks to 1.89 in America; p-value =.000). Ironically, they also felt they needed training in a greater number of tasks (3.6) than did Americans (2.68) [p-value = .011]. (See Table 2.)

Australian and American chairs who participated in the survey believed the intellectual climate at their universities was slightly above average, that relations among faculty were good and that their students possessed above-average academic ability (all rated on a five-point scale). While both groups indicated that the academic standing of their institutions among peers was slightly above average (Australian 3.59, American 3.42), Americans rated their institutions lower and the difference between the two responses was again statistically significant. The same was true for quality of undergraduate instruction (Australian 3.82, American 3.61) and quality of graduate instruction (Australian 3.81, American 3.67). Americans ranked relations with students significantly lower than did Australian chairs (Americans 4.05, Australians 4.17) but rated the quality of their faculty better (Americans 4.04, Australians 3.84). American chairs also rated the quality of their institutions' administration significantly higher (Australians 2.73, Americans 3.03). (See Table 2.)

Both Australians and Americans believed that faculty salaries at their institutions were below average, 2.8 Australian, 2.6 American; but Americans took the dimmer view and the difference was statistically significant. Even so, Americans believed more firmly that their institutions were good places to work (Americans 4.23, Australians 4.08). When asked whether they agreed or disagreed with (on a scale of 1 - 5) the statement, I will probably leave my current institution within the next 2 to 3 years, Australians were more prone to agree than were Americans (Australians 2.4, Americans 1.95) and, on average, appeared less loyal to their institutions (as reflected in their responses to—I don't really care what happens to this university). Overall, Australian chairs experienced greater stress levels than American chairs (mean stress for Australians 2.67, for Americans 2.57, p-value = .003). (See Table 2.)

Factor Analysis of Survey Instruments

To reduce the dimensionality of the American and Australian survey data generated by the role conflict and role ambiguity questionnaire, the chair task inventory, the chair stress inventory and three satisfaction-with-chair-work-load variables, we employed principal components factor analysis with Varimax rotation using the SPSS statistical package. In each analysis, factors carrying Eigenvalues greater than one were initially considered to be significant, with marginal factors (Eigenvalues only slightly greater than one) being dropped where prior research or theory suggested a smaller number of dimensions (Hair, Anderson, Tatham & Black, 1992).[3] Cronbach's Alpha was calculated for variables loading most heavily on each factor within each analysis to determine the reliability of the instrument (Noursis, 1994). In each factor analysis, the first factor to emerge accounts for the greatest amount of the variance in the instrument, and the first variables to load on a specific factor are the most indicative of the underlying construct that the factor represents. The last factor to materialize in the analysis carries the least predictive reliability, as do the last variables to load on a particular factor.

Work-Load Satisfaction

Chairs were asked to rate their level of satisfaction with expected work load, work-load pace and current work load across a five-point Likert scale running from dissatisfied (1) to satisfied (5). All three variables were highly, positively correlated in both countries and could be captured by a single "work-load" dimension. Factor loadings for each variable were similar for Australian and American chairs. Eigenvalues for the single work-load dimension were 2.62 (Australian) and 2.60 (American) indicating that most (>85%) of the variance in satisfaction with work load is being accounted for by this single dimension. Alpha statistics of .928 and .924 suggest a high degree of reliability. (See Table 3.)

Role Conflict and Ambiguity

The fourteen independent variables that comprise the RCAQ loaded on the same two factors in the same order with the same degree of importance assigned to them for both the American and Australian data sets (Eigenvalues for Factor 1 were 4.9 American, 4.66 Australian and for Factor 2 were 2.26 American, 2.05 Australian). Cronbach's Alpha scores of .81 (Australian) and .78 (American) for the role conflict factor and .86 (Australian) and .85 (American) for the role ambiguity factor, again, suggest a high degree of reliability. Fifty-one percent of the role conflict and ambiguity variance in the Australian data is accounted for in these two factors (47.9 % in the American data). Factoring along two dimensions is consistent with past analyses using the instrument (Caplan, et. al., 1980; House et. al, 1970; Schuler, Aldag & Brief, 1977; Tracy &Johnson, 1981). (See Table 4.)

Chair Stress Inventory

Forty-one chair stress variables listed in the CSI reduced down to five dimensions of chair stress—administrative tasks, administrative relationship, human relations, academic role and external time. This factor pattern of five dimensions is consistent with earlier analyses using the CSI (Burns and Gmelch, 1995). The proportion of the CSI variance explained by the five factors is 46.8% for the Australian data set and 45.2% for the American. The ordering of the five factors, in terms of variance accounted for, differed by country; and certain variables loaded on different factors depending on whether we were dealing with American chair data or Australian, but the variables that characterized and loaded most consistently on each stress dimension remained constant across countries. Within each data set, chairs saw some variables as multi-dimensional. Although these few multi-dimensional variables loaded slightly more heavily on one factor, they tended to load almost as strongly on one or two other factors as well. In all instances, Cronbach's Alphas indicate moderate to strong reliability of the factor loadings. The alpha statistics for the five dimensions in each data set are: Administrative relationship stress factor .83 Australian, .86 American; human relations stress .83 Australian, .68 American; administrative task stress .87 Australian, .86 American; Academic role stress .79 Australian; .71 American; and external time stress .55 Australian, .68 American. (See Tables 5 and 6.)

The stress variables, which typified *administrative relationship stress* in both countries included not knowing how my dean evaluates my performance, resolving differences with my dean, trying to influence my dean, receiving insufficient recognition, not being able to satisfy conflicting demands of my superiors, having insufficient authority, believing my administrative career progress is not what it should be, receiving an inadequate salary, and having a non-conducive work environment. Day-to-day operational concerns clearly identify *administrative task stress*. The variables common to both factor analyses were writing letters and memos, meeting report deadlines, attending time-consuming meetings, having a heavy work load, trying to gain financial support for the department, preparing budgets and allocating resources, complying with rules and regulations, and seeking compatibility among institutional, department and personal goals. Four variables, common to both the American and Australian factor analyses, set *human relations stress* apart from the other stress dimensions. These include having to make decisions that affect the lives of faculty, staff and students; trying to satisfy concerns of constituent groups; having too much responsibility delegated to me; and feeling inadequately trained to handle the job. Americans and Australians consistently identified insufficient academic career progress, preparing manuscripts for publication, having insufficient time to stay current in academic field, securing funding for personal research, and not receiving enough recognition for research performance as related to *academic role stress*. Finally, three stress variables suggested the category, *external time stress*. These included meeting social obligations expected of chairs, making presentations at professional meetings, and having to travel to fulfill job expectations. (See Table 7.)

For Australians, the most important stress dimension appeared to be administrative relationships, which accounted for 29.4% of the variance, followed in order by human relations (5.7%), administrative task (4.7%), academic role (3.6%) and external time (3.3%). For Americans, administrative task stress appeared to be most important and accounted for (27%) of the variance, with administrative relationships, second (5.9%), human relations, third (4.7%), academic role, fourth (4.0%), and external time, fifth (3.6%).[4] (See Tables 5 and 6.)

Chair Task Inventory

A factor analysis of the 26 chair tasks for each data set reduced the number of variables to six latent dimensions and one unique variable. The unique variable, teach and advise students, was removed from the task inventory and added to the list of independent variables that impact overall chair stress. The remaining 25 variables were factor analyzed again into six, multi-variable dimensions. Together, the six factors accounted for 56.8% of the variance in the 25-variable Australian task inventory data and 53.7% in the American. (See Tables 8 and 9.)

The rotated factor loadings in order of contribution to total chair-task variance for American chairs were department administrative tasks (which accounted for 22% of the variance), resource management (10.1%), leadership (6.5%), personal scholarship (6.3%), resource development (4.5%), and faculty development (4.3%). Cronbach's Alphas ranged from a high of .83 for the personal scholarship task factor to a low of .43 for the faculty development

task factor (the last dimension to factor out). For Australian chairs, department administrative tasks factored out first (25.1%) but personal scholarship tasks came second (9.0%), followed by leadership (7.0%), resource management (6.2%), external liaison tasks (4.5%), and faculty development (4.4%). Analysis of Australian chair data did not identify a factor that could be labeled *resource development*, as was the case with the American data. Instead, the Australian chairs grouped together tasks that dealt with interfaces between the department, college, university and external constituencies, a dimension we named *external liaison task*. Cronbach's Alpha scores for the Australian task factors range from .80 to .61 indicating sufficient levels of reliability.[5] (See Tables 8 and 9).

Effectiveness

To further reduce the data sets, a proxy effectiveness score was calculated for each of the six task factor variables in each country by summing and then averaging the respondents' self-ratings of effectiveness on the task variables that loaded heaviest on the task factor in question. For instance, six variables loaded most heavily on the department administrative task factor in the Australian data set. Survey self-ratings on effectiveness for these six variables were averaged to derive a proxy effectiveness score for the Australian administrative task factor.

Mean Stress

As a final step in the data reduction process, we combined the Australian and American stress data, factor analyzed the combined data set, and ran cross-country comparisons on the means of the five stress factors. As reported earlier in this paper, Australian department chairs experienced significantly higher mean stress levels than did American department chairs. When we compared the individual stress factors across countries, there appeared to be no significant differences in administrative task, human relations or external time stress. We did find, however, that Americans endure significantly lower levels of administrative relationship stress (μ = .0935 Australian; μ = -.1435 American; p-value = .000) and less academic role stress (μ = .063 Australian; μ = -.0967 American; p-value = .004).[6] (See Table 10.)

Current external demands for quality assurance in Australia may account for higher administrative relationship stress levels. This relatively new external pressure, more than likely, enters the system at higher administrative levels but filters down to chairs causing tensions between them and their superiors. The difference in academic role stress may derive from seemingly higher scholarly expectations, either institutionally or self-imposed, that are placed on Australian chairs. Recall that Australian chairs were significantly more productive academically than Americans. Australian chairs published more books and articles after assuming the chair position and presented more papers and attended more professional meetings in the year prior to the survey than had American chairs.

Structural Models of Stress: Comparisons Across Countries

Because there are several dimensions to chair stress and mean levels of the dimensions differ somewhat by country, the possibility exists that certain variables, which impact one particular aspect of stress could be masked if we consider stress as a single, composite variable. Therefore, we examine each dimension of stress separately. The idea is not to develop one best model that explains the largest proportion of chair stress or of its dimensions. Instead, the object is to discern which variables have subtle but significant effects on the underlying dimensions of chair stress. Proceeding in this manner we can present a more realistic picture of stress and the primary factors that contribute to it.

Each of the five dimensions of stress—administrative task, administrative relationships, human relations, academic role and external time—were regressed on the independent variable set. This variable set included 45 demographic and contextual variables,[7] two training variables, one teaching variable, the work-load factor, the role ambiguity and role conflict scores, six task factors, and six task effectiveness variables. In all, we examined 63 independent variables in each regression model and their impact on the chair stress dimensions. Because all independent variables were included in each regression, significant variables are more likely to be significant in their own right rather than due to a spurious relationship with an eliminated variable. Multi-collinearity is not a problem in any of the regressions. Variance Inflation Factors (VIF) lie within acceptable parameters (less than 10) and the means are not significantly different from one (Neter, Wasserman & Kutner, 1990).

Administrative Task (AT) Stress

The regression analysis of administrative task (AT) stress revealed that certain variables significantly impacted this type of stress in both countries; and other variables were unique to one country or the other. Overall, more variables emerged with p-values of .10 or better in the Australian data set. In both regressions, satisfaction with work load, the level of role conflict and whether a chair was effective as a resource manager were highly significant at .01 levels or better. In general, if chairs were satisfied with their work loads, administrative task stress decreased, and chairs who believed they were more effective resource managers encountered less AT stress. Increases in role conflict however, raised AT stress. Both Australians and Americans also indicated that resource management tasks, themselves, were stressful, but at different levels of significance, Americans $\leq .01$, Australians $\leq .10$. If chairs in either Australia or the U.S. were willing to take a higher administrative position, it significantly (p-values $\leq .05$) reduced AT stress, perhaps because these chairs were more adept at, interested in, and comfortable with carrying out administrative tasks. This is where the AT-stress similarities end. (See Table 11.)

Regression of the Australian data identified two variables besides the ones mentioned above, which affected administrative task stress at significance levels of .01 or better. The better the quality of institutional administration, the lower the AT stress experienced by Australian

chairs. Somewhat surprisingly, chair leadership tasks compounded AT stress. The greater the number the books published since taking the chair position, the greater the AT stress experienced. It seems logical that the dual drain on time (writing and carrying out administrative tasks) creates added stress for Australian chairs, especially since they publish more than American chairs. Several AT stress variables turned out to be moderately significant ($\leq .10$) for Australian chairs. If chairs took their positions for personal development or to gain control over their environments, they experienced less AT stress. Supervising nontenured faculty seemed to decrease AT stress. Somewhat surprisingly, the more training they had, the more stress they encountered. The better the intellectual climate the greater the AT stress—possibly because faculty in institutions with superior intellectual climates were more intent on working in isolation making some administrative tasks more difficult for chairs, or because having to deal with administrative tasks kept chairs from personally taking full advantage of the intellectual aspects of the institution. Lastly, if Australian chairs expressed the attitude that they could conduct their work anywhere, AT stress increased. (See Table 11.)

For American chairs, one more variable appeared to be highly significant (p-value $\leq .05$). If chairs thought that they would leave their university in the next two or three years, stress levels increased, suggesting possible frustrations with managing in the current academic environment or misgivings about moving. Three other variables contributed to AT stress at moderately significant levels (p-value $\leq .10$). The more involved an American chair was in faculty development the higher the AT stress. This makes sense if we consider that engaging in such activities adds to a chair's work load, which in turn cuts into time the chair can spend working with faculty. If a chair considered the location of his/her institution desirable, AT stress also increased. Finally, for American chairs, lower ratings of student academic ability in their departments seemed to add AT stress. Does this, perhaps, mean that it takes more time to manage these students? (See Table 11.)

Beta coefficients were calculated for each significant variable in order to evaluate the importance of these variables in terms of the stress response to a one standard deviation change in each stressor. For the Australian chairs the most important, significant AT stressors were role conflict ($\beta = .240$), leadership task ($\beta = .082$), good intellectual climate ($\beta = .076$), resource management task ($\beta = .060$), an 'I can do my work anywhere else as easily as at this university' attitude ($\beta = .041$), books published since becoming chair ($\beta = .025$), and having training in tasks ($\beta = .009$). Notably, the AT stress response to change in role conflict was three times the response to the next most important stressor. The most important stress relievers for the Australian chairs were work-load satisfaction ($\beta = -.306$), effectiveness at resource management ($\beta = .-159$), willingness to seek a higher position ($\beta = -.137$), taking the position to gain control of your environment ($\beta = -.116$), taking the position for personal development reasons ($\beta = -.106$), having quality of institutional administration ($\beta = -.090$), and the number of nontenured faculty in the department ($\beta = -.008$). For American chairs, the order of importance of stressors were role conflict ($\beta = .180$), resource management task ($\beta = .156$), good institution location ($\beta = .070$), faculty development task ($\beta = .070$), and thinking that 'I will probably leave the university in 2 or 3 years' ($\beta = .068$). The most important American stress relievers were work-load

satisfaction (β = -.277), resource management effectiveness (β = -.243), willingness to seek a higher position (β = -.194), and perceiving that students in the department are above average in academic ability (β = -.111). (See Table 11.)

Administrative Relationship (AR) Stress

The variables, which appeared to impact chair AR stress significantly (P-values $\leq$ .10) for both countries included: the quality of the institution's administration, the amount of role conflict and role ambiguity that existed, the chair's responsibility for faculty development activities, the chair's current academic rank, a chair's willingness to accept a higher administrative position, and whether the chair took the position as a way to gain control over his/her environment. Role conflict and role ambiguity added to AR stress. In Australia and America, higher academic rank, a desire for control and a willingness to move to higher position, all added to administrative role stress. Here, the key may lie in the probability that department chairs and college deans hold the same academic rank putting them on an equal footing at least in the academic arena, that both seek control over the same environment, and that a chair with aspirations to move up the career ladder may feel as qualified as the dean and could conceivably pose a threat even though the chair needs the dean's support to advance. On the whole, good institutional administrators mitigated AR stress. Finally, when department chairs engaged in faculty development tasks AR stress seemed to lessen—perhaps developing faculty gives chairs a sense of accomplishment. (See Table 12.)

In addition, several variables were uniquely relevant to AR stress by country. Australian chairs seemed to be concerned about task effectiveness. Only leadership effectiveness was insignificant (p-value = .9579). If they perceived themselves to be effective scholars (p-value = .0520), resource managers (.0058) or faculty developers (.0130), it added to AR stress. As scholars they may impose expectations on themselves, which continually rise, placing greater pressure on them to do better. External pressures calling for wiser use of resources and internal demands for better staff development may help explain stress related to effective task completion. If chairs saw themselves as capable liaisons to their department's constituent groups (p-value = .0147), this tended to lessen their AR stress. Success in building relationships with other stakeholders more than likely finds favor with upper administration and perhaps brings more resources into the college, thus alleviating AR stress. Australian chairs also sensed a need for more training, possibly in task areas where they felt least effective, and this contributed further to their stress. Finally, overall beliefs about the institution such as being able to work anywhere and feeling that the university is a good place to work and has a good intellectual climate affected AR stress at moderately significant levels (adding to it in the first instance and reducing it in the last two). One institutional perspective (not caring what happens to the institution) proved to be a highly significant contributor (p-value = .001) to AR stress. Such responses led us to wonder whether Australian chairs who characterized themselves as not caring might be disgruntled by the present state of affairs at their institutions, in their colleges, or in their departments. (See Table 12.)

For American chairs, the story was somewhat different. While Australian AR stress stemmed from job-related and institutional elements, the most significant variables (p-values ≤ .10) for Americans were personal and individualistic. Age and the number of children at home, for instance, increased AR stress. Interestingly, for these chairs, their ability to attend professional meetings and to get into the classroom—to teach and advise students—served as releases of administrative relationship stress, possibly because chairs were able to use the classroom and professional conferences as academic retreats. (See Table 12.)

Role conflict (β = .2607) was the most influential AR stressor for Australian chairs. In addition, role ambiguity (β = .2214), desire for control (β = .2043), current academic rank (β = .1811), willingness to take a higher position (β = .1665), resource management effectiveness (β = .1597) and really don't care about this university (β = .1173) were important. The most influential stressor reliever for Australian chairs was being effective at performing external liaison tasks (β = -.1474). In the case of American chairs, in order of importance, the stressors that contributed most to AR stress included willingness to take a higher position (β = .3076), current academic rank (β = .2754), role conflict (β = .2388) and role ambiguity (β = .2276) The most influential AR stress reducer for American chairs was the quality of institutional administration (β = -.1790). Both current academic rank and the willingness to accept a higher position more severly impacted AR stress for American than for Australian chairs. (See Table 12.)

Human Relations (HR) Stress

Six variables defined the significant commonalities in Australian and American chair human relations stress. Role ambiguity and a perceived need for training were both highly significant (p-values ≤ .01) contributors to HR stress. If chairs considered themselves effective resource managers (p-value ≤ .01 for Australians and ≤.10 for Americans), HR stress decreased. Performing resource management tasks themselves, however, contributed to the human relations stress levels for Australian chairs only (p-value ≤ .01). Interestingly, the other three common significant variables were all institutional. Having quality institutional administration contributed to HR stress, perhaps because more was expected of department chairs on these campuses. The better the quality of undergraduate instruction, the more stress chairs experienced. Ironically, in institutions that offered quality graduate instruction, chair HR stress was reduced (p-value ≤ .10). (See Table 13.)

Certain variables proved significant for Australian but not American chairs. If faculty salaries were below average, Australian chair human relations stress increased (p-value ≤ .01). Day-to-day administrative tasks also significantly contributed to Australian HR stress (p-value ≤ .01). If chairs believed they were effective department task administrators, however, this softened the impact of the work. Faculty development effectiveness also lessened HR stress (p-value ≤ .01). Oddly, if Australian chairs perceived their institution's academic standing to be below the average of its peers, human relations stress lessened. (See Table 13.)

In a similar fashion, some variables were significant for American chairs but not for Australians. Again, most notable for American chairs was the contrast between the focus of Americans on the personal or individual aspects and that of Australians on institutional points. For instance, as the level of chair satisfaction with work load increased so did HR stress (p-value ≤ .10). Americans who had children at home seemed to experience more HR stress. This may reflect differences in private life styles between American and Australian chairs. Finally, if an American chair felt little loyalty to his/her university, this mind set compounded human relations stress (p-value ≤ .10). (See Table 13.)

For Australian chairs, the variable that most strongly contributes to HR stress (more than twice as much) is thinking of myself as an administrator (β = .3816), followed by below average faculty salaries (β = .1731), department administrative tasks (β = .1261) and resource management tasks (β = .1161). For Americans, role ambiguity (β = .2089) affects human relations stress levels more than other AR stressors. One highly significant American variable, need for training, had very little impact (β = .0373). In the two countries, resource management effectiveness played the greatest role in reducing HR stress (Australian β = -.1985, American β = -.1547). (See Table 13.)

Academic Role (AC) Stress

Performing personal scholarship tasks, as might be expected, increased academic role stress for both Australian and American chairs (p-value = .000). Conversely, being effective in this area reduced AC stress levels (p-value = .000). The more satisfied chairs were with their work loads the less AC stress they suffered (Australian p-value ≤ .01, American ≤.02). If chairs thought of themselves as academics rather than either administrators or a combination of the two, they had less AC stress (Australian p-value ≤ .05, American ≤.10). As they aged, this type of stress seemed to lessen. But if chairs took the position to gain control of their environments, AC stress rose (p-value ≤ .10). Several significant variables, however, separated Australian and American chairs. (See Table 14.)

Academic role stress is perhaps the only stress dimension where personal or individualistic concerns seemed, for the most part, to overshadow the institutional emphasis of Australian chairs. For them, both gender and the number of children at home played a role. Female department chairs seemed less susceptible to AC stress (p-value ≤ .1). Australian chairs, in general however, who had children at home were prone to more academic role stress (p-value ≤ .01), suggesting that chairs experienced a certain amount of difficulty in balancing their personal and professional lives. If an Australian chair took his/her position for financial gain, AC stress lessened. Finally, leadership tasks seemed to add to academic role stress in a significant way (p-value = .015). By the same token, perceiving oneself as an effective leader reduced academic role stress (p-value = .016). (See Table 14.)

For American chairs, being married contributed significantly to academic role stress (p-value ≤ .01). Here, as with Australian chairs, Americans seemed to have some trouble balancing

personal and professional responsibilities. For Americans, the problem may stem from efforts to accommodate dual careers. Interestingly, while presenting papers at professional meetings added to AC stress, attending the meetings themselves decreased it (p-value ≤ .10). If chairs felt well trained to carry out their duties as chairs, academic role stress went down (p-value = .029). If on the other hand, they believed they needed training, stress went up (p-value = .000). And if American chairs really liked the location of their institutions, academic role stress eased (p-value ≤ .01). (See Table 14.)

The most important significant academic role stressor was the personal scholarship task itself (β = .3113), which contributed more than twice as much as any other PS stress variable to academic role stress for Australian chairs. The most important AC stress reducers for Australians included personal scholarship task effectiveness (β = -.2955), work-load satisfaction (β = -.2519), having taken the position for financial gain (β = -.2286), and being chosen by the faculty (β = -.2062). For American chairs, the most important AC stressors were being married (β = .3789), personal scholarship tasks (β = .3454), and having assumed the position as a way to relocate (β = .3375). For Americans the most consequential AC stress reducer was personal scholarship task effectiveness (β = -.2573). (See Table 14.)

External Time (ET) Stress

Because external time stress factored out last, it has the weakest predictive reliability of the five stress dimensions (Cronbach's Alpha = .68); and the same holds for the variables loading on the ET stress factor. Even so, insights can be gained from examining this factor. The variables, which proved to be moderately or highly significant contributors to external time stress turned out to be totally different for Australian and American chairs.

Australians who equated taking the position with personal development and growth tended to have less ET stress (p-value = .0225), perhaps because they had anticipated the kind of external time that the chair position demands and they looked at chances to interact with people outside the department as opportunities rather than obligations. If on the other hand, they assumed the position in pursuit of financial gain (p-value = .0461), they were likely to suffer increased ET stress. Surprisingly, role ambiguity lessened the level of external time stress, possibly due to the ambiguity of travel itself (p-value = .0865). More logically, perceived need for training raised ET stress. Fulfilling external liaison tasks (probably because of the expanded social and travel obligations that come with these types of duties) was a highly significant variable (p-value = .006) in determining increased Australian chair ET stress. Finally, if a chair in Australia perceived the academic ability of his/her department's students as below average, ET stress increased. (See Table 15.)

The variables that significantly impacted American chair external time stress seem somewhat more logical. Significant variables included attending professional meetings (p-value = .03), carrying out department administrative tasks (.03) and having children at home (.07), all of which suggest constraints on a chair's ability to meet external time commitments. Less

obvious contributors to ET stress included having been drafted for the position (.03), the existence of quality institutional administration (.024), and thinking of oneself as an administrator rather than a faculty member or a combination of both (.066). Curiously, engaging in personal scholarship reduced this type of stress (p-value = .007), however being effective at it added to it (.004). Finally, if a chair considered the location of his/her institution as excellent, it lessened ET stress (.002). This may be an access and availability issue. Fulfilling external time commitments is, more than likely, easier to do in urban areas than in isolated rural settings. (See Table 15.)

Taking the position for financial gain (β = .2465) taxed Australian chairs time more than other external time stress variables. Thinking of oneself as an administrator was the most important external time stressor (β = .4055) for Americans. No one variable in either country stood out as reducing ET stress more than the others. (See Table 15.)

Conclusions and Implications

Study findings indicate that the personal and professional profile of Australian department chairs resembles that of their United States counterparts. Chairs in both countries are currently about 51 years old and tenured; three-quarters of them were selected from inside the institution and have been serving as department chair for approximately four years; and the majority are serving for their own personal development. Only one-quarter of the chairs in both countries expressed a willingness to accept a higher administrative position in academia. Department chairs and heads are equally split in their perception of their role as either faculty or faculty and administration with very few (4%) perceiving themselves as primarily administration. The vast majority of chairs in either country are male, with only 11% of American chairs and 17% of Australian chairs being women. Finally, most chairs are married with one child still at home.

In a similar fashion, the study demonstrates that department chair stress is a multifaceted phenomenon that cannot be treated as a one-dimension construct. That, in fact, the generic measure of stress used in previous studies and first developed by Indik, Seashore and Slesinger (1964) has not been sensitive to the specific dimensions of stress influenced by personal, positional and institutional variables. In this cross-cultural study, each of the department chairs stress dimensions reflects a different pattern of influence.[8] (Recall that study identifies five stress dimensions common across countries—administrative task, administrative relationship, human relations, resource management and external time.) In each country, the same underlying variables define the five stress constructs. For example, the stress Australians and Americans encountered from administrative tasks relates mostly to role conflict, their effectiveness in resource management, and work-load satisfaction. In contrast, administrative relationship stress is best explained by the quality of institutional administration, the existence of both role conflict and ambiguity, and the chair's personal interest in control of the job and in moving up the administrative hierarchy. Yet, while these two scenarios hold true, the administrative

relationships dimension was significantly more stressful for Australian chairs, and Americans suffered greater pressures from administrative task stress. This suggests that even though Americans and Australians define the stress constructs very similarly, they often respond to them differently. As a consequence, macro-level strategies designed to address chair-stress-related problems must vary by country and, ultimately at the micro-level, by institution. Although the five stress dimensions explained comparable proportions of the variance in chair stress (46.8% for the Australian data set and 45.2% for the American), the realization that chair responses to the stress dimensions differ, in degree and in practice, implies a certain sensitivity to unique cultural and political context variables. While similar demographic and professional characteristics promote the idea of cross-Pacific fraternal twins, they belie the importance of these contextual influences.

Cultural and Political Influences

In Australia some 38 universities educate nearly 600,000 students on 109 campuses in a country of around 17.5 million people, a population equal to the size of New York state. This relatively large number of universities for a country of this size underwent a recent amalgamation creating a Unified National System of university education. This reform created a university system far more competitive for fewer government dollars where, on a regular basis, university programs are compared with each other in the pubic domain. Given this changes one might expect that Australian department chairs have found their roles becoming more ambiguous, increasingly political, and demanding in new ways (Sarros, Gmelch, Tanewski, 1996b). It, therefore, makes sense that Australian department chairs in the study experienced significantly higher stress levels, on average, than their American counterparts. More specifically, the political consolidation of universities in Australia may help explain why the Australian administrative relationships stress factor (dealing with the dean and political aspects of the job) explained most of the variance of all stress factors (in contrast to administrative tasks stress in the America), and why no significant differences were found in the mean levels of administrative task, human relations management or external time stress between the two countries. In addition, in most instances, institutional considerations, such as job-related effectiveness and task-oriented training, played more dominant roles in determining the stress levels experienced by Australian chairs. For Americans, personal concerns—children at home, being married, work-load satisfaction—took precedence. The difference may indicate a heightened degree of external and institutional pressure on Australian chairs to do more, to do it better and to do it with less.

Department chairs in America and Australia were asked to rate their institutions and departments on a number of dimensions. Ratings differed somewhat across countries as Australian department chairs rated their institutions significantly higher in terms of faculty salaries, the institution's academic standing among other institutions, and the quality of undergraduate and graduate instruction. Not surprisingly, Australian heads rated the quality of institutional administration significantly lower than American chairs. Interestingly, the quality of institutional administration impacted every stress factor for chairs in at least one country. With respect to departments, American chairs rated the quality of faculty higher but the relations with

students in the department lower than their Australian colleagues. All other institutional and departmental variables, such as intellectual climate, location of the institution, personal relations among department faculty and academic ability of department students, were not found to be statistically different across countries.

Perhaps, American institutions of higher education can learn a lesson from their colleagues in Australia. Although a national higher education system does not exist in the United States, some states have undergone their own type of state-wide mergers bringing regional and technical universities and colleges under the governance of main state campuses. For instance, Montana now supervises its higher education institutions from its flagship institutions, University of Montana and Montana State University. With the movement in higher education toward managerial re-engineering, the recent experience in Montana suggests similar types of administrative stress may plague American department chairs in the future.

The Stressful Picture of Department Chair Readiness

Over 25 years ago we were reminded that the position of the department chair may be the most complex, ambiguous, and least understood leadership role faced by any administrator in higher education (Brann, 1972). In response, researchers in the past two decades have been attempting to gain clarity on the subject by systematic inquiry. However, in practice department chairs still come to their position without leadership training; without a clear understanding of the ambiguity and conflict in their role; without comprehending the cost to their academic career and personal lives; without the personal awareness of their motives and commitment to leadership; and without recognition of the impact stress may have on their satisfaction and effectiveness. From our research we can now draw a clearer picture of the interdependence that exists between chair stress and the dilemmas of training, role clarification, role balance, motivation and effectiveness.

Training. Even though Australian chairs believed they have been trained in significantly more tasks for their position than Americans, they also expressed a need for training in a greater number of tasks than did Americans. Generally, the greater the need Australian department chairs expressed for training the more stress they experienced from the stress factors of administrative tasks, administrative relationships, human relations management and external time commitments. American chairs' stress also increased significantly in human relations management (in fact, this was the only place where a need for training came into play for Americans). Oddly, the variable, which indicated that chairs thought they had task training, added to the academic role stress levels for American chairs, instead of alleviating it as we might have expected.

The implication seems self-evident: chairs, at least Australian chairs, are sending out a clear cry for help on how to get control of their time and tasks, work with the dean and other superiors, make difficult personnel decisions, and keep their academic and administrative roles in balance. This may be more of a priority in Australia because chairs sense more pressure to be

effective administrators, but priorities for American chairs may soon see a similar shift in focus.

Currently, few universities in the U.S. provide systematic training and support for their department chairs. The limited national programs available for department chairs, such as those sponsored by the American Council on Education, Kansas State University, and the American Assembly of Collegiate Schools of Business (AACSB) and other disciplinary associations, have recently been oversubscribed due to the demand for professional development by department chairs. Some institutions such as Cal Poly - Pomona, Washington State University and Monash University (in Australia) have begun to institutionalize department chair training, but these are exceptions to the general dearth of opportunities for department chair development. Either institutions of higher education believe academics, with the "terminal" degree of Ph.D., need no more training to assume leadership positions, or the chair position is not important enough to warrant the attention and resources required. Both propositions are unacceptable and perpetuate myths clouding the real need for professional development.

Role Clarification. Department chairs often are confronted with situations requiring them to play a role that conflicts with their value systems, or play two or more roles that are in conflict with each other. In addition, the roles chairs must perform may not be clearly articulated in terms of behaviors or performance expectations. The former situation constitutes *role conflict* and the latter is *role ambiguity* (Kahn, Wolfe, Guinn, Snoek & Rosenthal, 1964). Previous studies have found that role conflict and ambiguity significantly affect personal stress (Van Sell, Brief & Schuler, 1961). Since these researchers used a generic construct for stress, their investigations provided little insight into the relationship between role conflict, role ambiguity and various task, relational or time aspects of stress.

The results of this study clearly indicate that role conflict accentuates the stress of working with the dean (administrative relations stress factor) and also the administrative tasks department chairs need to perform. In addition, role ambiguity fosters chair stress in the administrative relationships with the dean and the human relations part of their jobs. These role conflict and ambiguity relationships clearly plague both Australian and American chairs alike.

Virtually every managerial book written lists and exults the tasks, duties, roles and responsibilities of administrators, from the traditional Peter Drucker (1974) approach of planning, organizing, staffing, delegating and controlling, to Warren Bennis's (1994) four elements of transformational leadership. Lists specific to department chairs duties range from the 40 functions proposed in the study of Australian department chairs (Moses & Roe, 1990) to the astonishing 54 varieties of tasks and duties cited in Allan Tucker's classic book Chairing the Academic Department (1992) to the exhaustive agenda of 97 activities documented by a University of Nebraska research team (Creswell, Wheeler, Seagren, Egly & Beyer, 1990). Typical faculty manuals at most colleges and universities provide a list of chair duties and responsibilities. While these lists appear refined and focused, they continue to represent fragmented and ambiguous activities without clarification. The results of the present study suggest that the duties and line of authority need to be refined and communicated more

explicitly, on every campus and within each department. If need be, universities should restructure the position to make it more attractive and productive, reducing unnecessary stress and unintended conflict.

While some of the department chair's stress is inherent in the design problems of how universities are organized and governed, other problems are personal and rooted in how chairs manage themselves—their scholarship, commitments, and effectiveness—the next three themes, which impact the readiness of chairs to accept the academic leadership challenge.

Balance of Scholarship and Leadership. In contrast to the managerial nature of department chair duties, chairs also try to retain a scholarly identity. Being socialized in this academic role for, on average, almost 18 years prior to serving as chair (Carroll, 1990), chairs enjoy and feel most comfortable in their scholar role and express frustration in their inability to spend enough time on their scholarship interests (Gmelch, 1991; Moses & Roe, 1990). Both in America and Australia, a stigma of disdain for the administrative role of the chair persists. In America, Dressel points out, "A scholar is not expected to seek or enjoy the position of chair" (1970, p 82); and Moses and Roe in Australia suggest that if, in fact, a chair appears to enjoy the assignment or maintains it for several terms, he/she is suspected of leaving "the" discipline for the comforts of administration in order to justify a lack of scholarly contributions (1990). The result—a dialectic bind in which department chairs try to be both effective department leaders and productive scholars.

As reflected in our study, not only do chairs suffer from the traditional managerial stress factors, but they retain many of the highest faculty stressors—trying to stay current in one's discipline, securing research grants, preparing manuscripts for publication, and ultimately, receiving insufficient recognition for research performance—all key elements of academic role stress. How can chairs survive in this swivel position (department leader to academic scholar and back again)? This study identified forces that helped absorb the sources of academic role stress for Australians and Americans alike. Chairs who experienced less stress maintained effective personal scholarship productivity, were satisfied with their overall work load, and identified themselves more as a faculty member than an administrator (a trait that tended to increase other types of chair stress). However, if chairs felt their scholarship was of high importance and one of their motives for being a chair was to be in more control of their environment, the combination of these two influences accentuated department chair academic role stress.

While Australian and American chairs perceived academic role stress similarly in terms of contribution to common variance of department chair stress and overall ranking (fourth of five factors), their actual scholarly productivity differed significantly. Australian department heads were almost twice as productive in producing books, articles and attending professional meetings and produced papers at a three to two ratio compared to American chairs. One could posit that American chairs experienced less stress from their academic role because they reduced their expectations for scholastic productivity while serving as department chairs. Another explanation

could be that Australian departments heads have established strategies to keep their scholarship active. In a companion study, we interviewed 16 Australian department heads to determine how they found the right balance between their academic agenda and administrative duties (Sarros & Gmelch, 1996). Here is what they suggested:

- Enter the chair position with a research agenda already established;
- Develop a research team to keep you focused on your research agenda;
- Delegate the more mundane and menial tasks of management; and
- Protect your time.

Motivation and Commitment to Serve. Given the stresses and ambiguities of the chair position, why do faculty members choose to serve in this capacity ? What really motivates faculty members to accept an administrative assignment? Does one's motive in any way enhance or alleviate the stresses chairs experience? This study gives insight into what motivates faculty to become department chairs. The most frequent reason chairs in both countries accepted their positions was for personal development. For Australians, this motive served as a stress filter for the administrative task and external time commitment pressures of the position. In addition to the six in ten chairs who served for professional development reasons, another third of Australian and American chairs wanted to be in more control of their environment. Ironically, the greater their need for control the more stress they created for themselves, particularly when it came to working with the dean and keeping up with their scholarship. In response to a follow-up question, less than 30 percent of the Australian and American chairs indicated that they would seek a higher administrative position. If they were inclined to move up the administrative hierarchy they experienced significantly less stress from administrative tasks but were more bothered by administrative relationships with the dean. Regardless of chairs' initial reasons for agreeing to serve, their current motivation and commitment to continue in administration influences their ability to develop a capacity for leadership (Gmelch & Miskin, 1993).

Effectiveness and Satisfaction. Of the five dimensions of department chair effectiveness, only two, resource management and personal scholarship, showed any consistent pattern with department chair stress for Australians and Americans. As one might expect, the more chairs perceived themselves as being effective in their scholarship the less stress they experienced from their academic role. Similarly, if department chairs believed they were effective in the area of resource management, they experienced less stress in dealing with administrative tasks and managing people. Work-load satisfaction acted as a filter for administrative tasks and external time commitments for both counties' department chairs. Although it appears self-evident, the key to dealing with the time pressures of the job seems to revolve around having a realistic work load and doing the job well. In other words, nothing cures stress like job success.

A Call for Action

This study demonstrates that department chair stress comes in many forms and is influenced by multiple sources. Trying to reduce chair stress by focusing on a single factor or engaging in a few disconnected actions will not relieve department chairs from excessive stress. Different strategies must be taken for separate dimensions of stress in order to pave a more manageable road for department chairs. As suggested by the literature, practice, and testimonials of Australian department chairs, higher education will continue to have a "leadership crisis" if the conditions for heading up a department remain unmanageable and unproductive, and the position itself unsatisfying. The answers to attracting and retaining effective department leaders may indeed rest in balancing their complementary but competitive roles. If academic leadership is in crisis, we have no alternative but to assist department chairs in "taking the high road of leadership" by properly equipping them to navigate the turbulent road ahead.

Endnotes

1. Citizens of the United States are often referred to as Americans, especially in Australia and other English-speaking countries. We have chosen to honor this convention in writing this paper because it makes for easier reading. We acknowledge the fact that the findings of this study, which are applicable to department chairs in the United States, may not be representative of Canadians or Latin Americans who hold similar academic positions.

2. Australians and Americans use slightly different terms to refer to this position—head and chair. In this report the term chair will be used for consistency.

3.The RCAQ was designed to measure two latent constructs, and several studies indicate that the CSI factors into five dimensions. Less research that would constrain analysis to a predetermined number of factors has been conducted on the CTI. At least one study, however, suggests five dimensions, but in this particular instance several variables load on multiple factors.

4. Australians tended to categorize several individual stressors differently from Americans. For instance, Australians, who felt that their deans did not expect enough of them, saw this variable as multi-dimensional but most indicative of administrative relationship stress (loading .40). (This stressor did load, for Australians, almost as highly on human relations stress [.39].) American chairs seemed to think of this variable as a human relations stressor (loading .60). Americans attributed under-utilized paperwork to administrative role (.47) and to administrative task (.46); Australians placed it in administrative task stress (.53). Americans attributed two other stressors—pressure for better job performance (.48) and others not understanding their goals (.44) to administrative relationship stress. Analysis of the Australian data suggests that both stressors contribute to human relations stress. (See Tables 5 and 6).

Interestingly, Americans viewed the stress they experienced as a result of evaluating faculty and staff performance, supervising and coordinating the tasks of others, and handling student concerns and conflicts as part of administrative task stress, while Australian chairs clearly thought that these stressors affected human relations stress. Although analysis of both groups suggests that trying to satisfy concerns of constituent groups was a human relations stressor (Australian .38, American .39), Australians considered it almost as importantly as an administrative task stressor (.33), and Americans thought of it as a stress on external time (.34). (See Tables 5 and 6.)

For Australians, the stress variable—cannot get all the necessary information to carry out my job—loaded on administrative task stress (.41) and secondarily on administrative relationship stress (.38). Americans viewed this variable as a component of human relations stress (.51). The contrast suggests that lines of communication in American departments between chairs and their deans are better than between chairs and their faculty/staff, and that the opposite may be true in Australia. (See Tables 5 and 6.).

In Australia, participating in work-related activities outside of regular working hours, which conflicts with personal activities, seemed to carry almost equal weight as an administrative task stressor (.40) and as a stressor on external time (.39). For American chairs, this stressor loaded more distinctly on the external time factor (.60). Somewhat surprisingly, the variable—adapting to technical change—failed to load highly on any factor for American chairs. Australians saw it as a external time stressor (.43). And while, American chairs categorized both the imposition of high self-expectations and having adequate time for teaching preparation as components of external time stress, Australians looked at these variables as elements of academic role stress. Strangely, Australian chairs also tended to view high self expectations as a part of human relations stress suggesting that their expectations may be faculty driven or that they sense dissatisfaction among their faculty. In similar fashion, American chairs seemed confused about which dimension of stress 'time to prepare for teaching' impacted most heavily—administrative task stress (.31), academic role (.32) or external time (.34), perhaps pointing to their inclination to function on an equal footing

as both administrators and faculty members. (See Tables 5 and 6).

5. In certain instances, the task variables loaded somewhat differently for Australian and American chairs. Five variables—assigning duties to faculty, planning meetings, planning and evaluating curriculum, informing faculty, and coordinating department activities—loaded on the department administrative tasks factor for chairs in both countries. In the Australian data set, "soliciting ideas for department improvement" also factored out as an administrative task; for Americans this variable loaded as a leadership task, although it was weighed it almost as heavily as an administrative task. In the American data, two variables, participation in college and university committee work and representing the department at professional meetings, also fell into the department administrative tasks category. (There seemed to be some cross over for the professional meetings variable between department administrative tasks and faculty development tasks.) Other than the "soliciting ideas" variable for Americans, all variables that loaded on the leadership task factor were the same for both data sets. (See Tables 7 and 8.)

Our analysis suggests that both American and Australians defined managing department resources and non academic staff, preparing budgets and keeping accurate records as resource management tasks. In addition, representing the department to the administration also seemed to be a part of the resource management dimension for American chairs. This last variable (representing the department) and the two department administrative task variables (participating in committee work and attending professional meetings) from the American data, loaded with a fourth task, obtaining external funds, in the Australian data forming a category we labeled external liaison tasks. The variables, maintain research program, obtain resources for personal research, and remain current in academic discipline, grouped together in both the American and Australian analyses as components of personal scholarship. In the Australians chair data, select and supervise graduate students also factored out as part of this dimension. For Americans, the graduate student task loaded fairly heavily (.62) with obtain external funds (.63) on a separate factor, which we labeled resource development task. Finally, in both countries, two variables, recruit and select faculty and evaluate faculty performance, loaded together on one factor (Australian loadings .80, .71; American loadings .77, .64), which we called faculty development. (See Tables 8 and 9.)

6. The data were pooled and factored on the five dimensions of stress in order to allow for comparison of mean factor scores across the two countries. This process forced the stress response variables from the two countries to conform to the same underlying structure, which differs from the underlying structure obtained by separate analyses of each country's chairs. However, the separate analyses revealed that respondents from both countries were very similar with regard to the most highly loaded variables on each dimension of stress. For this reason, it is beneficial to pool the data and identify significantly different mean responses to the five underlying stress dimensions.

7. Three of the original 48 variables served as base cases for otherwise singular matrices—selected by both dean and faculty, selected by other, and self-perception of role as both faculty and administrator—and have been dropped from this part of the analysis.

8. The stress patterns revealed in this particular study are also different from stress factors identified in other educator groups such as faculty members (Gmelch, et al., 1986) and school administrators (Gmelch & Swent, 1984).

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Table 1: *t*-tests for Equality of Means (Personal Data)

Variable Mean (*N*)	Aus. Deviation	Std.	U.S. Mean (*N*)	Std. Deviation	*t* Statistic	*p* Value
Personal Information						
AGE	50.8 (815)	6.35	50.5 (536)	6.76	0.72	.479
*GENDER****	0.83 (820)	0.38	0.89 (530)	0.31	3.53	.000
*MARRIED****	0.83 (809)	0.38	0.89 (533)	0.31	3.50	.000
*CHILDREN****	1.28 (655)	1.17	0.94 (457)	1.07	5.00	.000
*CUR_RANK****	1.84 (826)	0.93	1.22 (537)	0.43	16.61	.000
*FMR_RANK****	2.45 (824)	1.26	1.32 (537)	0.55	22.66	.000
YR_CHAIR	4.29 (821)	4.36	3.96 (537)	3.89	1.42	.156
TENURE	0.91 (824)	0.28	0.93 (536)	0.26	0.76	.442
INSIDE	0.77 (825)	0.42	0.76 (537)	0.43	0.68	.494
*BOOKS****	0.90 (817)	2.62	0.56 (530)	1.26	3.23	.001
*ARTICLES****	11.62 (811)	28.35	5.86 (530)	11.59	5.17	.000
*PAPERS****	3.11 (814)	3.56	2.14 (533)	2.28	6.08	.000
*MEETINGS****	5.59 (784)	12.29	2.76 (534)	1.95	6.34	.000
Who Selects the Department Chair						
FACULTY	0.17 (817)	0.38	0.14 (535)	0.34	1.88	.061
DEAN	0.39 (817)	0.49	0.33 (535)	0.47	1.99	.047
*BOTH****	0.15 (817)	0.36	0.53 (535)	0.50	15.36	.000
*OTHER****	0.29 (817)	0.46	0.00 (535)	0.00	18.37	.000
Reason for Becoming Chair						
PERS_DEV	0.57 (827)	0.50	0.60 (534)	0.49	1.16	.248
NECESSITY	0.40 (827)	0.49	0.37 (534)	0.48	1.05	.292
*DRAFTED****	0.31 (827)	0.47	0.47 (534)	0.50	5.77	.000
*FIN_GAIN****	0.09 (827)	0.28	0.22 (534)	0.41	6.40	.000
DUTY	0.23 (827)	0.42	0.25 (534)	0.43	0.82	.414
RELOCATE	0.15 (827)	0.36	0.19 (534)	0.39	1.86	.063
CONTROL	0.35 (827)	0.48	0.30 (534)	0.46	2.04	.042
Willingness to Accept a Higher Position in Academia						
HIGH_POS	0.29 (820)	0.45	0.24 (535)	0.43	1.86	.064
Self Perception of Role of Chair						
ACADEMIC	0.47 (819)	0.50	0.43 (537)	0.50	1.58	.114
ADMIN	0.03 (819)	0.18	0.04 (537)	0.21	1.08	.282
F_AND_AD	0.47 (819)	0.50	0.53 (537)	0.50	1.15	.251
Average Score on 41 Measures of Chair Stress						
*MEAN_STRESS****	2.67 (746)	0.66	2.56 (486)	0.60	2.98	.003

*** Significant at .01 or better

Table 2: *t*-tests for Equality of Means (Institutional Data)

Variable	Aus. Mean (*N*)	Std. Deviation	U.S. Mean (*N*)	Std. Deviation	*t* Statistic	*p* Value
Department Staffing (person count)						
*TEN_FAC***	13.40 (817)	11.68	15.75 (531)	11.68	3.80	.000
NON_TEN	5.84 (817)	7.40	5.21 (533)	3.96	2.01	.044
*ADJUNCT****	10.83 (810)	18.68	5.26 (532)	5.77	7.92	.000
*CLERICAL****	2.01 (824)	2.30	2.54 (532)	1.84	4.45	.000
Institution Rating (1 to 5 scale)						
*INST_A****	2.84 (801)	0.73	2.54 (534)	1.08	3.58	.000
INST_B	3.38 (809)	1.03	3.40 (532)	0.88	0.39	.699
*INST_C****	3.59 (809)	1.15	3.42 (531)	0.83	3.27	.001
*INST_D****	2.73 (808)	1.10	3.03 (532)	1.05	5.13	.000
*INST_E****	3.82 (796)	0.74	3.61 (531)	0.81	4.70	.000
*INST_F****	3.81 (807)	0.82	3.67 (530)	0.79	3.17	.002
INST_G	3.79 (795)	1.17	3.94 (526)	1.08	2.46	.014
Department Rating (1 to 5 scale)						
DEPT_A	3.83 (809)	0.96	3.83 (534)	1.02	0.05	.961
*DEPT_B****	4.17 (808)	0.69	4.05 (534)	0.79	2.91	.004
DEPT_C	3.60 (806)	0.92	3.54 (534)	0.79	1.38	.168
*DEPT_D****	3.84 (806)	0.85	4.04 (532)	0.74	4.59	.000
Attitudes Regarding the Institution (1 to 5 scale)						
*STMT_A****	4.08 (810)	1.04	4.23 (533)	0.84	2.95	.003
STMT_B	3.63 (808)	1.20	3.76 (534)	1.14	2.15	.032
*STMT_C****	2.41 (802)	1.47	1.95 (530)	1.28	6.10	.000
STMT_D	2.62 (803)	1.36	2.76 (532)	1.33	1.79	.074
*STMT_E****	1.45 (804)	0.89	1.27 (531)	0.65	4.25	.000

*** Significant at .01 or better

INST_A Faculty salaries
INST_B Intellectual climate
INST_C Academic standing
INST_D Quality of administration
INST_E Quality of undergraduate instruction
INST_F Quality of graduate instruction
INST_G Location of institution
DEPT_A Personal relations among faculty
DEPT_B Relations with students
DEPT_C Academic ability of students
DEPT_D Quality of faculty
STMT_A A good place to work
STMT_B Offers the facilities I need
STMT_C Apt to leave in 2 or 3 years
STMT_D Could do my work as well anywhere else
STMT_E Don't really care what happens to this university

Table 3: Analysis of Work-Load Satisfaction

t-tests for Equality of Means

Variable	Aus. Mean (*N*)	Std. Deviation	U.S. Mean (*N*)	Std. Deviation	*t* Statistic	*p* Value
Satisfaction With... (1 to 5 scale)						
*WORK_AMT***	2.53 (819)	1.28	3.02 (534)	1.24	7.04	.000
*WRK_LOAD***	2.38 (818)	1.24	2.80 (531)	1.24	6.17	.000
*WRK_PACE***	2.63 (814)	1.21	2.96 (532)	1.21	4.94	.000

*** Significant at .01 or better

Correlation Coefficients

Variable	Aus. Data Correlation Coefficients			U.S. Data Correlation Coefficients		
WORK_AMT	1.00			1.00		
WRK_LOAD	.835	1.00		.824	1.00	
WRK_PACE	.793	.802	1.00	.782	.802	1.00

Factor Analysis

Variable	Aus. Data	U.S. Data
Factor Loadings - Overall Work-Load Satisfaction		
WORK_AMT	.938	.932
WRK_LOAD	.941	.940
WRK_PACE	.926	.924
Eigenvalue	2.62	2.60
Percent of Variance	87.4	86.8
Cronbach's Alpha	.928	.924

Table 4: Role Conflict and Ambiguity Principal Components Factor Analysis

Variable	Varimax Rotated Factor Loadings			
	Aus. Data		U.S. Data	
	F1	F2	F1	F2
Role Conflict Evidence				
I have to do things that should be done differently.	-.16	**.68**	-.11	**.68**
I have to work on unnecessary things.	-.15	**.68**	-.16	**.69**
I receive an assignment without the proper staffing to complete it.	-.26	**.71**	-.17	**.66**
I receive an assignment without adequate resources and materials to execute it.	-.21	**.73**	-.15	**.65**
I work with two or more groups who operate quite differently.	-.02	**.57**	-.08	**.50**
I have to buck a rule or policy in order to carry out an assignment.	-.10	**.63**	-.05	**.61**
I receive incompatible requests from two or more people.	-.10	**.64**	-.17	**.64**
I do things that are apt to be accepted by one person and not accepted by another.	-.13	**.57**	-.15	**.53**
Cronbach's Alpha		.81		.78
Role Ambiguity Evidence				
I know exactly what is expected of me.	**.77**	-.15	**.78**	-.12
I feel certain about how much authority I have.	**.79**	-.13	**.81**	-.15
Clear, planned goals exist for my job.	**.78**	-.19	**.71**	-.12
I know that I have divided my time properly.	**.54**	-.13	**.51**	-.20
I know what my responsibilities are.	**.83**	.00	**.83**	-.11
Explanation is clear of what has to be done.	**.78**	-.23	**.77**	-.20
Cronbach's Alpha	.86		.85	
Eigenvalue	4.90	2.26	4.66	2.05
Percent of Variance Accounted For	35.0	16.2	33.3	14.6
Cumulative Percent of Variance Accounted For		51.2		47.9

Table 5: Chair Stress Inventory Principal Components Factor Analysis (Aus. Data)

Variable	Varimax Rotated Factor Loadings F1	F2	F3	F4	F5
Administrative Relationship Stress (AR Stress)					
Not knowing how my dean/supervisor evaluates my performance	**.73**	.11	.05	.11	.15
Trying to influence the actions and decisions of my dean/supervisor	**.69**	.09	.29	-.01	.19
Resolving differences with my dean supervisor	**.65**	.17	.13	-.04	.15
Having insufficient authority to perform my departmental responsibilities	**.63**	.15	.18	.19	-.07
Believing my administrative career progress is not what it should be	**.59**	.15	.04	.27	.04
Receiving insufficient recognition for performing administrative responsibilities	**.56**	.10	.20	.44	.10
Feeling I will not be able to satisfy the conflicting demands of those in positions of authority over me	**.53**	.37	.25	.14	.02
Receiving inadequate salary	**.46**	-.07	.10	.31	.10
Feeling not enough is expected of me by my dean/supervisor	**.40**	.39	-.17	-.04	.17
Having a non-conducive work environment (e.g., crowded, noisy, inadequate facilities)	**.37**	.13	.21	.07	.06
Cronbach's Alpha	.83				
Human Relations Stress (HR Stress)					
Having to make decisions that affect the lives of faculty, staff, and students	.01	**.67**	.17	.14	.18
Supervising and coordinating the tasks of many people	.05	**.64**	.35	.15	.12
Feeling I am not adequately trained to handle my job	.24	**.63**	.10	.13	-.01
Evaluating faculty and staff performance	.06	**.59**	.23	.17	.11
Handling student concerns and conflicts	.13	**.57**	.14	.11	.26
Feeling I have too much responsibility delegated to me by my dean/ supervisor	.27	**.55**	.14	.04	.04
Feeling others don't understand my goals and expectations	.41	**.49**	.13	.21	.04
Feeling pressure for better job performance above what I feel is reasonable	.37	**.44**	.20	.18	.00
Trying to satisfy concerns of constituent groups (alumni, community, etc.)	.14	**.38**	.33	.13	.24
Cronbach's Alpha		.83			
Administrative Tasks Stress (AT Stress)					
Writing letters and memos, and responding to other paperwork	.13	.24	**.68**	.19	-.01
Meeting report and other paperwork deadlines	.01	.31	**.66**	.22	.07
Attending meetings, which take up too much time	.30	.10	**.59**	.12	.16
Feeling I have too heavy a work load	.16	.20	**.58**	.44	-.02
Trying to gain financial support for department programs	.18	.21	**.54**	.15	.31
Feeling required paperwork is not utilized	.39	.08	**.53**	.14	.10
Preparing budgets and allocating resources	-.01	.45	**.52**	.06	.22
Complying with college and university rules and regulations	.34	.14	**.46**	.05	.21
Believing I can't get all of the information I need to carry out my job	.38	.32	**.41**	.11	-.06
Participating in work-related activities outside of regular working hours, which conflict with personal activities	.14	-.03	**.40**	.31	.39
Seeking compatibility among institutional, departmental and personal goals	.30	.25	**.39**	.30	.17
Cronbach's Alpha			.87		

Table 5 (Continued): Chair Stress Inventory Principal Components Factor Analysis (Aus. Data)

Variable	Varimax Rotated Factor Loadings F1	F2	F3	F4	F5
Academic Role Stress (AC Stress)					
Believing my academic career progress is not what it should be	.28	.20	.13	**.66**	-.06
Preparing manuscripts for publication	.05	.13	.12	**.64**	.21
Having insufficient time to stay current in my academic field	.06	.21	.33	**.63**	.00
Securing financial support for my research	.19	.06	.17	**.54**	.21
Receiving insufficient recognition for research performance	.45	.09	.02	**.49**	.25
Having inadequate time for teaching preparation	.22	.19	.42	**.47**	-.01
Imposing excessively high self-expectations	.04	.36	.13	**.46**	.26
Cronbach's Alpha				.79	
External Time Stress (ET Stress)					
Meeting social obligations (clubs, parties, volunteer work) expected of chairs	.11	.03	.29	.07	**.65**
Making presentations at professional meetings	.11	.29	-.10	.15	**.60**
Adapting to technological changes (e.g., faxes, telephone systems, computers)	.19	.32	.10	.00	**.43**
Having to travel to fulfill job expectations	.08	.13	.15	.26	**.42**
Cronbach's Alpha					.55
Eigenvalue	12.07	2.35	1.92	1.49	1.35
Percent of Variance Accounted For	29.4	5.7	4.7	3.6	3.3
Cumulative Percent of Variance Accounted For					46.8

Table 6: Chair Stress Inventory Principal Components Factor Analysis (U.S. Data)

Variable	Varimax Rotated Factor Loadings F1	F2	F3	F4	F5
Administrative Tasks Stress (AT Stress)					
Meeting report and other paperwork deadlines	**.68**	.19	.09	.25	.10
Preparing budgets and allocating resources	**.66**	.10	.24	.23	-.06
Trying to gain financial support for department programs	**.62**	.22	.02	.32	.09
Writing letters and memos, and responding to other paperwork	**.60**	.18	.05	.18	.20
Evaluating faculty and staff performance	**.55**	.03	.41	.06	.03
Complying with college and university rules and regulations	**.52**	.41	.02	.02	.17
Feeling I have too heavy a work load	**.52**	.21	.01	.28	.35
Supervising and coordinating the tasks of many people	**.50**	.13	.41	.04	.23
Attending meetings, which take up too much time	**.50**	.30	.03	.09	.28
Handling student concerns and conflicts	**.46**	.12	.28	.00	.21
Seeking compatibility among institutional, departmental and personal goals	**.39**	.32	.24	.18	.15
Cronbach's Alpha	.86				
Administrative Relationship Stress (AR Stress)					
Not knowing how my dean/supervisor evaluates my performance	-.02	**.69**	.21	.23	.10
Trying to influence the actions and decisions of my dean/supervisor	.26	**.65**	.11	-.03	.06
Receiving insufficient recognition for performing administrative responsibilities	.16	**.63**	.05	.39	.16
Feeling I will not be able to satisfy the conflicting demands of those in positions of authority over me	.27	**.60**	.38	.07	.01
Having insufficient authority to perform my departmental responsibilities	.13	**.60**	.22	.13	.10
Resolving differences with my dean supervisor	.21	**.57**	.11	-.05	.00
Believing my administrative career progress is not what it should be	.01	**.49**	.30	.16	.18
Feeling pressure for better job performance above what I feel is reasonable	.08	**.48**	.42	.06	.20
Receiving inadequate salary	.10	**.47**	-.07	.29	.08
Feeling required paperwork is not utilized	.46	**.47**	-.03	.24	.03
Feeling others don't understand my goals and expectations	.25	**.44**	.43	.08	.13
Having a non-conducive work environment (e.g., crowded, noisy, inadequate facilities)	.15	**.41**	.04	.10	.28
Cronbach's Alpha		.86			
Human Relations Stress (HR Stress)					
Feeling I am not adequately trained to handle my job	.15	.09	**.64**	.26	-.10
Feeling I have too much responsibility delegated to me by my dean/ supervisor	.09	.21	**.60**	.08	.22
Having to make decisions that affect the lives of faculty, staff, and students	.51	-.13	**.55**	.07	.02
Believing I can't get all of the information I need to carry out my job	.26	.36	**.51**	.07	.01
Feeling not enough is expected of me by my dean/supervisor	-.23	.30	**.50**	.11	.11
Trying to satisfy concerns of constituent groups (alumni, community, etc.)	.19	.19	**.39**	-.01	.34
Adapting to technological changes (e.g., faxes, telephone systems, computers)	.10	.11	**.28**	.05	.22
Cronbach's Alpha			.68		

Table 6 (Continued): Chair Stress Inventory Principal Components Factor Analysis (U.S. Data)

Variable	Varimax Rotated Factor Loadings F1	F2	F3	F4	F5
Academic Role Stress (AC Stress)					
Preparing manuscripts for publication	.21	.08	.07	**.65**	.17
Believing my academic career progress is not what it should be	.22	.14	.18	**.62**	.05
Securing financial support for my research	.13	.13	.04	**.61**	.12
Having insufficient time to stay current in my academic field	.33	.04	.17	**.58**	.07
Receiving insufficient recognition for research performance	-.03	.39	.13	**.57**	.07
Cronbach's Alpha				.71	
External Time Stress (ET Stress)					
Having to travel to fulfill job expectations	-.04	.07	.09	.06	**.64**
Meeting social obligations (clubs, parties, volunteer work) expected of chairs	.11	.20	.04	.02	**.61**
Participating in work-related activities outside of regular working hours, which conflict with personal activities	.31	.16	-.04	.16	**.60**
Making presentations at professional meetings	.11	-.01	.23	.12	**.55**
Imposing excessively high self-expectations	.32	-.02	.15	.26	**.42**
Having inadequate time for teaching preparation	.31	.20	.05	.32	**.34**
Cronbach's Alpha					.68
Eigenvalue	11.08	2.41	1.92	1.64	1.49
Percent of Variance Accounted For	27.0	5.9	4.7	4.0	3.6
Cumulative Percent of Variance Accounted For					45.2

Table7: Chair Stress Variables Loading on the Same Stress Dimensions (Aus. and Amer. Data)

Variable	Varimax Rotated Factor Loadings Australian	American
Administrative Relationship Stress (AR Stress)		
Not knowing how my dean/supervisor evaluates my performance	.73	.69
Trying to influence the actions and decisions of my dean/supervisor	.69	.65
Resolving differences with my dean supervisor	.65	.57
Having insufficient authority to perform my departmental responsibilities	.63	.60
Believing my administrative career progress is not what it should be	.59	.49
Receiving insufficient recognition for performing administrative responsibilities	.56	.47
Feeling I will not be able to satisfy the conflicting demands of those in positions of authority over me	.53	.60
Receiving inadequate salary	.46	.63
Having a non-conducive work environment (e.g., crowded, noisy, inadequate facilities)	.37	.41
Administrative Tasks Stress (AT Stress)		
Writing letters and memos, and responding to other paperwork	.68	.60
Meeting report and other paperwork deadlines	.66	.68
Attending meetings, which take up too much time	.59	.50
Feeling I have too heavy a work load	.58	.52
Trying to gain financial support for department programs	.54	.62
Preparing budgets and allocating resources	.52	.66
Complying with college and university rules and regulations	.46	.52
Seeking compatibility among institutional, departmental and personal goals	.39	.39
Human Relations Stress (HR Stress)		
Having to make decisions that affect the lives of faculty, staff, and students	.67	.55
Feeling I am not adequately trained to handle my job	.63	.64
Feeling I have too much responsibility delegated to me by my dean/ supervisor	.55	.60
Trying to satisfy concerns of constituent groups (alumni, community, etc.)	.38	.39
Academic Role Stress (AC Stress)		
Believing my academic career progress is not what it should be	.66	.62
Preparing manuscripts for publication	.64	.65
Having insufficient time to stay current in my academic field	.63	.58
Securing financial support for my research	.54	.61
Receiving insufficient recognition for research performance	.49	.57
External Time Stress (ET Stress)		
Meeting social obligations (clubs, parties, volunteer work) expected of chairs	.65	.61
Making presentations at professional meetings	.60	.55
Having to travel to fulfill job expectations	.42	.64

Table 8: Chair Task Inventory Principal Components Factor Analysis (Aus. Data)

Variable	Varimax Rotated Factor Loadings F1	F2	F3	F4	F5	F6
Department Administrative Tasks (DA Tasks)						
Assign teaching, research and other related duties to faculty	**.69**	.06	-.05	.12	.00	.15
Plan and conduct department meetings	**.67**	.07	-.02	.27	.07	.00
Plan and evaluate curriculum development	**.66**	.09	.20	-.07	.21	.02
Coordinate departmental activities with constituents	**.62**	.10	.18	.06	.30	.02
Inform faculty of department, college and university concerns	**.60**	-.04	.22	.14	.19	.10
Solicit ideas to improve the department	**.59**	.07	.32	.17	.04	.06
Cronbach's Alpha	.79					
Personal Scholarship Tasks (PS Tasks)						
Maintain research program and associated professional activities	.06	**.86**	.10	.07	-.01	.03
Obtain resources for personal research	.08	**.85**	.05	.06	.07	.11
Remain current with academic discipline	.11	**.74**	.20	.04	.00	-.11
Select and supervise graduate students	.05	**.59**	.08	.07	.31	.28
Cronbach's Alpha		.80				
Leadership Tasks (L Tasks)						
Provide informal faculty leadership	.14	.15	**.77**	.04	.06	-.08
Develop and initiate long-range departmental goals	.10	.10	**.66**	.15	.09	.14
Encourage professional development efforts of faculty	.17	.13	**.66**	.06	.09	.25
Maintain conducive work climate, which includes reducing conflicts among faculty	.22	.02	**.50**	.12	-.10	.34
Encourage faculty research and publication	.00	.18	**.44**	.33	.20	.26
Cronbach's Alpha			.72			
Resource Management Tasks (RM Tasks)						
Manage department resources (finances, facilities, equipment)	.03	.01	.11	**.77**	.10	.05
Manage non-academic staff	.21	.09	.08	**.66**	-.02	.03
Prepare and propose budgets	.09	.01	.18	**.65**	.26	.16
Assure the maintenance of accurate departmental records	.39	.19	.01	**.60**	.11	-.04
Cronbach's Alpha				.71		

Table 8 (Continued): Chair Task Inventory Principal Components Factor Analysis (Aus. Data)

Variable	Varimax Rotated Factor Loadings F1	F2	F3	F4	F5	F6
External (to the department) Liaison Tasks (EL Tasks)						
Represent the department at professional meetings	.21	.13	.04	.01	**.74**	.09
Participate in college and university committee work	.29	.04	.05	.14	**.60**	-.06
Represent department to the administration	.16	.00	.23	.37	**.56**	-.06
Obtain and manage external funds (grants, contracts)	-.04	.39	.11	.23	**.43**	.36
Cronbach's Alpha					.61	
Faculty Development Tasks (FD Tasks)						
Recruit and select faculty	.04	.05	.14	.10	-.02	**.80**
Evaluate faculty performance	.23	.08	.24	.00	.08	**.71**
Cronbach's Alpha						.63
Eigenvalue	6.26	2.24	1.74	1.56	1.13	1.10
Percent of Variance Accounted For	25.1	9.0	7.0	6.2	4.5	4.4
Cumulative Percent of Variance Accounted For						56.2

Table 9: Chair Task Inventory Principal Components Factor Analysis (U.S. Data)

Variable	Varimax Rotated Factor Loadings F1	F2	F3	F4	F5	F6
Department Administrative Tasks (DA Tasks)						
Coordinate departmental activities with constituents	**.65**	.09	.19	-.01	.32	-.03
Plan and evaluate curriculum development	**.65**	-.05	.05	.07	.14	.36
Inform faculty of department, college and university concerns	**.63**	.27	.19	.01	-.11	.07
Plan and conduct department meetings	**.63**	.28	.11	.04	-.15	-.07
Assign teaching, research and other related duties to faculty	**.62**	.21	-.08	-.02	.04	.21
Participate in college and university committee work	**.57**	.12	.19	-.02	.06	-.14
Represent the department at professional meetings	**.46**	.00	.21	.11	.00	.46
Cronbach's Alpha	.77					
Resource Management Tasks (RM Tasks)						
Manage department resources (finances, facilities, equipment)	.06	**.71**	.03	-.08	.32	.15
Manage non-academic staff	.25	**.66**	-.01	-.03	.08	.01
Prepare and propose budgets	.14	**.64**	.16	.00	.20	.24
Assure the maintenance of accurate departmental records	.43	**.58**	.06	.00	.02	.01
Represent department to the administration	.13	**.50**	.30	.14	-.12	.08
Cronbach's Alpha		.73				
Leadership Tasks (L Tasks)						
Encourage professional development efforts of faculty	.06	-.03	**.74**	-.10	.18	.07
Provide informal faculty leadership	.19	-.01	**.63**	.08	.01	.08
Maintain conducive work climate, which includes reducing conflicts among faculty	.08	.29	**.58**	.06	-.09	-.02
Encourage faculty research and publication	.03	.21	**.53**	-.07	.38	.08
Develop and initiate long-range departmental goals	.23	.03	**.50**	.15	.04	.32
Solicit ideas to improve the department	.49	.18	**.49**	.13	-.04	.02
Cronbach's Alpha			.72			
Personal Scholarship Tasks (PS Tasks)						
Maintain research program and associated professional activities	.01	.00	.02	**.88**	.14	.01
Obtain resources for personal research	-.09	.05	.04	**.86**	.15	-.01
Remain current with academic discipline	.12	-.06	.06	**.77**	.10	.00
Cronbach's Alpha				.83		

Table 9 (Continued): Chair Task Inventory Principal Components Factor Analysis (U.S. Data)

Variable	Varimax Rotated Factor Loadings F1	F2	F3	F4	F5	F6
Resource Development Tasks (RD Tasks)						
Obtain and manage external funds (grants, contracts)	.00	.17	.15	.25	**.63**	.09
Select and supervise graduate students	.04	.12	-.06	.27	**.62**	-.02
Cronbach's Alpha					.50	
Faculty Development Tasks (FD Tasks)						
Recruit and select faculty	.01	.08	.05	.04	.07	**.77**
Evaluate faculty performance	.07	.25	.21	-.08	-.04	**.64**
Cronbach's Alpha						.43
Eigenvalue	5.51	2.52	1.63	1.57	1.12	1.08
Percent of Variance Accounted For	22.0	10.1	6.5	6.3	4.5	4.3
Cumulative Percent of Variance Accounted For						53.7

Table 10: Mean Comparisons of the Five Stress Dimensions by Country

Stress Dimension	Australian Mean	American Mean	P-Value Significant *
Administrative Task Stress	-.0171	.0262	.434
Administrative Relationship Stress	.0935	-.1435	.000*
Human Relations Stress	.0027	-.0042	.898
Academic Role Stress	.0630	-.0967	.004*
External Time Stress	.0261	-.0401	.232

Table 11: Significant Variables for American and Australian Chair Administrative Task Stress

Variable	P-Value Australian	βeta	P-Value American	βeta
Would seek a higher position	.0419	-.1366	.0400	-.1939
Am satisfied with work load	.0000	-.3064	.0000	-.2766
Role conflict	.0000	.2401	.0000	.1798
Resource management task	.0568	.0603	.0000	.1556
Resource management effectiveness	.0058	-.1588	.0060	-.2431
Books published since becoming chair	.0385	.0245	not significant	
Leadership task	.0098	.0818	not significant	
Quality institutional administration	.0054	-.0898	not significant	
Took the chair position for personal development	.0903	-.1060	not significant	
Took the chair position to gain control of my environment	.0707	-.1155	not significant	
Number of nontenured faculty in department	.0529	-.0082	not significant	
Having training in tasks	.0958	.0090	not significant	
Good intellectual climate	.0906	.0758	not significant	
Could do my work anywhere else as easily as at this university	.0933	.0409	not significant	
Will probably leave this university in 2 or 3 years	not significant		.0310	.0681
Faculty development task	not significant		.0690	.0701
Good location of institution	not significant		.0550	.0702
Above average academic ability of students in my department	not significant		.0670	-.1111
n	827		539	
R Square	.350		.335	
Adjusted R Square	.297		.247	
F - Statistic	6.53		3.79	
p - value	.000		.000	

Table 12: Significant Variables for American and Australian Chair Administrative Relationship Stress

Variable	P-Value Australian	βeta	P-Value American	βeta
Current academic rank	.0004	.1811	.0290	.2754
Would seek a higher position	.0137	.1665	.0010	.3076
Took the chair position to gain control of my environment	.0015	.2043	.0540	.1628
Role ambiguity	.0000	.2214	.0000	.2276
Role conflict	.0000	.2607	.0000	.2388
Faculty development task	.0823	-.0543	.0250	-.0832
Quality institutional administration	.0480	-.0641	.0000	-.1790
Years as chair	.0656	.0171	not significant	
Articles published since becoming chair	.0813	-.0024	not significant	
Chosen by the faculty	.0402	.1704	not significant	
Took the position out of necessity	.0771	-.1125	not significant	
Number of nontenured faculty in department	.0163	.0102	not significant	
Resource management task	.0494	-.0625	not significant	
Resource management effectiveness	.0058	.1597	not significant	
Personal scholarship effectiveness	.0520	.0868	not significant	
External liaison effectiveness	.0147	-.1474	not significant	
Faculty development effectiveness	.0130	.1303	not significant	
Need for training	.0044	.0128	not significant	
Good intellectual climate	.0952	-.0751	not significant	
Could do my work anywhere else as easily as at this university	.0877	.0419	not significant	
Believe university is good place to work	.0691	-.0749	not significant	
Really don't care about this university	.0014	.1173	not significant	
Age	not significant		.0070	.0175
Number of children at home	not significant		.0560	.0799
Ability to attend professional meetings (measured as # in prior year)	not significant		.0390	-.0455
Department administrative task	not significant		.0320	.0951
Resource development task	not significant		.0390	.0816
Teaching task	not significant		.0990	-.0553
n	827		539	
R Square	.344		.413	
Adjusted R Square	.289		.335	
F - Statistic	6.34		5.31	
p - value	.000		.000	

Table 13: Significant Variables for American and Australian Chair Human Relations Stress

Variable	P-Value Australian	βeta	P-Value American	βeta
Role ambiguity	.0282	.0837	.0000	.2089
Need for training	.0072	.0130	.0000	.0373
Quality institutional administration	.0155	.0850	.0080	.1186
Quality undergraduate instruction	.0038	.1506	.0300	.1200
Quality graduate instruction	.0978	-.0883	.0890	-.1043
Resource management effectiveness	.0016	-.1985	.0930	-.1547
Resource management task	.0008	.1161	not significant	
Chosen by faculty	.0465	.1791	not significant	
Chosen by the dean	.0956	.1159	not significant	
Would seek a higher position	.0228	-.1666	not significant	
Think of myself as a faculty member	.0758	-.1230	not significant	
Think of myself an administrator	.0340	.3816	not significant	
Department Administrative Task	.0005	.1261	not significant	
Department administrative effectiveness	.0290	-.1827	not significant	
Faculty development effectiveness	.0035	-.1664	not significant	
Below average faculty salaries	.0002	.1731	not significant	
Below average academic standing among other institutions	.0397	-.0885	not significant	
Good location	.0135	.0750	not significant	
Good personal relations among faculty in department	.0108	-.1059	not significant	
Believe university is good place to work	.0140	.1098	not significant	
Number of children at home	not significant		.0760	.0822
Satisfied with workload	not significant		.0110	.1180
Number of nontenured faculty in department	not significant		.0830	.0196
Really don't care about this university	not significant		.0370	.1411
n	827		539	
R Square	.229		.279	
Adjusted R Square	.166		.184	
F - Statistic	3.60		2.92	
p - value	.000		.000	

Table 14: Significant Variables for American and Australian Chair Academic Role Stress

Variable	P-Value Australian	βeta	P-Value American	βeta
Age	.0617	-.0617	.0230	-.0159
Am satisfied with my work load	.0000	-.2519	.0170	-.1076
Took the position to gain control over my environment	.0335	.1400	.0590	.1720
Think of myself as a faculty member	.0494	-.1287	.0680	-.1600
Personal scholarship task	.0000	.3113	.0000	.3454
Personal scholarship effectiveness	.0000	-.2955	.0000	-.2577
Gender	.0857	-.1502	not significant	
Number of children at home	.0041	.0875	not significant	
Chosen by the faculty	.0154	-.2062	not significant	
Took the job for financial gain	.0340	-.2286	not significant	
Number of adjunct faculty in department	.0780	-.0032	not significant	
Leadership task	.0148	.0794	not significant	
Leadership effectiveness	.0156	-.1543	not significant	
Faculty development effectiveness	.0213	.1236	not significant	
Below average faculty salaries	.0232	-.1004	not significant	
Quality institutional administration	.0211	.0765	not significant	
Married	not significant		.0040	.3789
Number of papers presented in past year	not significant		.0640	.0396
Number of professional meetings attended in past year	not significant		.0760	-.0421
Took the position as a way to relocate	not significant		.0520	.3375
Number of nontenured faculty in the department	not significant		.0190	-.0206
Need for training	not significant		.0000	.0283
Adequate training	not significant		.0290	-.0180
Good location of institution	not significant		.0050	-.1047
n	827		539	
R Square	.312		.317	
Adjusted R Square	.255		.227	
F - Statistic	5.48		3.51	
p - value	.000		.000	

Table 15: Significant Variables for American and Australian Chair External Time Stress

Variable	P-Value Australian	βeta	P-Value American	βeta
Took the position for personal development and growth	.0225	-.1689	not significant	
Took the position for financial gain	.0461	.2465	not significant	
Role ambiguity	.0865	-.0708	not significant	
External liaison task	.0063	.1035	not significant	
Need for training	.0957	.0087	not significant	
Above average academic ability of students in department	.0745	.0800	not significant	
Number of children at home	not significant		.0740	.0872
Number of professional meetings attended	not significant		.0320	.0550
Am satisfied with my work load	not significant		.0010	-.1585
Was drafted for the position	not significant		.0310	.2075
Think of myself as an administrator	not significant		.0660	.4055
Personal scholarship task	not significant		.0070	-.1444
Personal scholarship effectiveness	not significant		.0040	.1560
Department administrative task	not significant		.0250	.1160
Quality institutional administration	not significant		.0240	.1069
Quality undergraduate instruction	not significant		.0560	.1190
Good location of institution	not significant		.0020	-.1262
n	827		539	
R Square	.095		.203	
Adjusted R Square	.020		.097	
F - Statistic	1.27		1.92	
p - value	.081		.000	

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