

## Career Concern and Coping as Indicators of Adult Vocational Development

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The validity of the Adult Career Concerns Inventory (ACCI) and the Career Adjustment and Development Inventory (CADI) as measures of adult vocational development was examined by comparing the responses of 124 salespeople to the two inventories and to measures of work adjustment. Both inventories address establishment stage vocational development tasks but the ACCI deals with task concern and the CADI deals with task coping. After transforming the ACCI scores to provide clearly interpretable comparisons to the CADI scores, the results did not support the hypothesized association between establishment stage task concern and coping. The CADI task coping scores did relate as expected to occupational congruence and job satisfaction but the ACCI transformed task concern scores did not. The CADI clearly seems to measure vocational development. In contrast, the ACCI seems to measure concern about issues occasioned by vocational development tasks or changes in work or working conditions, depending upon the respondent's degree of vocational development. © 1988 Academic Press, Inc.

A major problem encountered in assessing career maturity in adults has been that adults vary in their degree of development and thus the type of task they face. Researchers who study adult career maturity

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could not assume homogeneity in tasks faced and simply deal with measuring heterogeneity in coping methods as researchers on adolescent career maturity had done (Super, 1974). Instead, researchers in this area began by constructing inventories to measure both degree of vocational development and coping methods.

Crites (1975) devised the Career Adjustment Inventory (CAI) to operationally define the central tasks of vocational development for adults. In addition to a scale to measure vocational development task mastery, the inventory had scales to measure career involvement, career control and coping, work attitudes, and work adjustment mechanisms. The CAI evolved into the Career Adjustment and Development Inventory (CADI; Crites, 1982). The CADI retained only the work adjustment mechanisms section of the CAI. This section consists of 20 incomplete sentence stems, which at this time are interpreted clinically while research on an empirically validated scoring system proceeds. The objectively scored part of the CADI consists of six scales that measure coping with six vocational development tasks that characterize the career establishment stage. Higher scale scores indicate greater task mastery and the total score indicates degree of development within the establishment stage.

Super, Zerkowicz, and Thompson (1975) devised the Career Development Inventory—Adult Form (CDI-A) to measure concern with and completion of 12 vocational development tasks that span from the exploration to the disengagement stage. Its item response scale ranges from “I have already done this” (5), to “I have not yet thought much about it” (1). The CDI-A can be scored for both task completion and concern. Task mastery scores indicate action taken and are based on the full 1–5 response scale. Task concern scores indicate awareness and consist of the sum of items rated 2, 3, or 4. Reports on the CDI-A supported its validity as a measure of degree of development (Cron & Slocum, 1986; Herr, Good, McCloskey, & Weitz, 1982; Morrison, 1977). However, further theorizing about adult development and its assessment led to a significant revision of the CDI-A.

Super and Knasel (1981) reasoned that the construct of career maturation, the central process in adolescent vocational development, should not be extended to adult vocational development because decision-making readiness may not increase with age and because the coping attitudes and competencies relevant to the developmental tasks of establishment, maintenance, or disengagement may not vary with age. Instead of maturation, they proposed adaptation as the central process in adult vocational development. Adaptation emphasizes the interaction between the individual and the environment and thus shifts attention from career maturity as readiness for decision-making to career adaptability as readiness to cope with changing work and working conditions (Super, Thompson, & Lindemann, 1988).

This theoretical shift from maturation to adaptation caused Super and Thompson (1981) to modify the CDI-A from a measure of development to a measure of adaptability. To this end, they devised a new response scale for the CDI-A items and renamed the inventory the Adult Career Concerns Inventory (ACCI). The ACCI was "designed to assess planfulness and foresight in looking and thinking ahead about one's work and working life" (Super et al., 1988, p. 5) and purports to measure both amount and focus of career concern. The ACCI response scale ranges from no concern (1) to great concern (5). The total score indicates amount of career concern. Scale scores indicate task concern, that is, the amount of concern relative to adapting to each task. The scale with the highest score indicates the task of most concern to the individual and thus identifies focus of adaptability concern and presumably degree of development.

In the present study we compared career concern as measured with the ACCI and career coping as measured with the CADI to examine their relation to each other and to work adjustment. We compared responses to the CADI and the ACCI in three ways. First, we related amount of career concern to task coping. We expected these variables to be unrelated because of the ambiguity in the construct "amount of concern" (Super et al., 1988, p. 8). Concern can mean interest, involvement, anxiety, or worry. Thus, low concern can indicate masterful involvement or disinterest in coping with a task. High concern can indicate looking ahead to an upcoming task, anxiety about dealing with a task currently confronted, or worry about a task recently failed. Although we wanted to confirm this expectation about career concern, we were primarily interested in focus of concern as an indicator of vocational development. So, second, we compared ACCI focus of task concern and CADI task coping as indicators of degree of development. Because the ACCI and CADI items cluster to form developmental task scales, we expected that the two inventories would indicate a similar degree of vocational development within the establishment stage; that is, individuals would be concerned about the tasks which they are currently coping with or anticipate facing next. And third, because the two inventories' tasks/scales align with each other along the temporal continuum that defines early, middle, and late phases in the establishment stage, we expected a systematic relationship among their correlations that reflects a pattern of convergent and discriminant validity. In particular, we hypothesized that ACCI stabilization would relate most strongly to CADI organizational adaptation and position performance, that ACCI consolidation would relate most strongly to CADI work habits and co-worker relations, and that ACCI advancement would relate most strongly to CADI advancement and career plans.

To further explore the validity of the ACCI and CADI, we correlated them to work adjustment. Vocational theory states that mastery of developmental tasks relates to adjustment. Therefore, we hypothesized that

the process variables of task coping and focus of task concern would relate positively to the outcome variables of occupational congruence and job satisfaction. Again, because of ambiguity in what it measures, we expected that amount of career concern as indicated by the ACCI total score would be unrelated to work adjustment.

## METHODS

### *Measures*

According to Crites (1982), the CADI measures vocational development task coping for the establishment stage, that is, from occupational entry to midcareer. The items consist of coping responses to six tasks required in entering and progressing in the world of work. The six scales represent tasks to be mastered and scale scores calibrate an individual's progress through establishment. Crites concluded that the dimensions measured by these scales develop over time and define three discernible phases in career establishment. Each scale consists of 15 items to which respondents answer true or false. The inventory has a reported KR20 of .84. The individual scales and their reported KR20's follow: Position Performance (.49), Organizational Adaptation (.55), Work Habits and Attitudes (.59), Co-worker Relationships (.52), Advancement (.70), Career Plans (.60). Some of these coefficients are low for homogeneous scales and could indicate insufficient short-term retest reliability.

There are no published norms for the CADI or published validity studies beyond Crites' initial report. Crites (1979) tested 62 men and 48 women who ranged in age from 20 to 55 with a mean age of 34.7 years. They had a mean of 14.8 years in the work force during which they held a mean number of three jobs. The CADI total score correlated .50 with the Hoppock Job Satisfaction Blank total score.

According to Super and Thompson (1981), the ACCI measures concern with the vocational development tasks of the career stages of exploration, establishment, maintenance, and disengagement. The items consist of demands, challenges, and expectations that define the tasks. In each of the four stages, three tasks are measured by five item scales. Thus, the ACCI has 12 scales and 60 items. The respondent indicates amount of concern with each item on a five-point Likert scale that ranges from no concern (1) to great concern (5). Scores for the three scales are summed to yield a stage score. For example, summing scale scores for the stabilization, consolidation, and advancement tasks yields the stage score for establishment. A profile of the scale scores depicts the vocational development tasks of most concern to the individual. ACCI scale scores indicate amount of task concern and the maximum scale score indicates focus or degree of development. The total score for all 60 items indicates amount of career concern. In the ACCI manual, Super et al. (1988)

described one validity study which dealt with the current form of the ACCI: Mahoney (1987) reported that the ACCI related weakly to chronological age and to job satisfaction moderated by age but not to career satisfaction.

Two work adjustment variables were assessed: occupational fit and job satisfaction. Occupational fit was measured with the Vocational Adaptation Scale (VAS; Heath, 1976). The VAS measures how well a worker integrates personal needs with occupational demands. Participants rated each of its 28 items on a five-point scale for degree of satisfaction (1 = very dissatisfied; 5 = very satisfied) with how well the position or the respondent fulfilled each personal need or occupational demand. In a study of 68 professional and managerial men in their early 30's, Heath found that the VAS correlated .56 with job satisfaction and related to variables in his dimensional model of maturing.

We augmented the measure of occupational success and satisfaction (VAS) with three single items that deal with job and career satisfaction. Although single items have psychometric limitations, we used these three to allow comparisons between affective reactions to job and career. To assess job satisfaction, career satisfaction, and career optimism, participants responded on a five-point scale ranging from very satisfied to very dissatisfied to three questions ("How do you feel about: Your present employment? Your overall career progress to date? Your future career prospects?"). These three questions have been used by Super and Thompson in developing the ACCI and by Mahoney (1987) in the one study that investigated the validity of the current form of the ACCI. Although we cannot assess their reliability, they seemed to work well in this study as shown by the results reported below. For example, the job satisfaction item correlated to the VAS just slightly higher than did the multiple-item measure used by Heath (1976). In addition, participants responded to an item asking how concerned they were (from 1 to 5) with making a career change. The respondents also answered questions about their education, how many years ago they started their first full-time job, and how many jobs they have held since then.

#### *Research Participants and Data Collection*

The research participants were 160 salespeople (sales managers were excluded) who worked for two industrial manufacturers. They were located in major markets throughout the United States. They were selected because they formed a homogeneous occupational group that, in a limited way, controlled for heterogeneity of adult work experience. They were similar in age, education, and years in the work force to the participants in the three pertinent studies (Crites, 1979; Heath 1976; and Zerkowitz, 1975). Nine (two in one organization and seven in the other) of the 160 salespeople

were female. To protect their anonymity, we did not ask respondents to identify their sex.

The Vice President for Sales in each organization informed his staff about the study during a sales meeting. Test materials were mailed to the 160 salespeople by the investigators. The mailing included a cover letter, the demographic questionnaire, ACCI, CADI, VAS, and a stamped envelope addressed to the investigators. The cover letter explained that we sought to understand the changing personal and motivational needs of individuals during various stages of their sales career. Replies were anonymous. The Vice Presidents were debriefed on the results of the study and the salespeople were sent a letter summarizing the results of the study.

Of the 160 people who were asked to participate, 134 returned materials. The return rates were 81% and 88% for the two organizations. After eliminating incomplete materials, 124 study participants were left. They had worked a mean of 16.32 years with a standard deviation of 9.0 years. They had held a mean of 4.29 jobs with a standard deviation of 2.23 jobs. With regard to education, 8.9% had completed high school, 39.8% had attended college, 41.5% had a BA, and 9.8% had an MA.

#### *Data Analyses*

To compare concern to coping scores, we computed Pearson product-moment correlation coefficients between all the ACCI and CADI scales. To compare concern and coping as indicators of vocational development we had to address a significant dissimilarity between the ACCI and CADI. The ACCI response scale deals with task concern whereas the CADI response scale deals with task coping. As a result, scores on the CADI and ACCI scales are interpreted differently. A high score on one of the CADI scales implies that one has already mastered the task measured by that scale and has passed that phase of development. In contrast, a high score on an ACCI scale implies that one is concerned with the task measured by the scale and presumably is dealing with that task. Therefore, if one obtains a high concern score on an ACCI establishment scale, we expect a score in the middle range on the corresponding CADI scales that tap the same kind of tasks. For example, a high concern score on the Consolidation scale of the ACCI might correspond to middling scores (working on the tasks but not completed) on the Work Habits and the Co-worker Relations scales of the CADI. In contrast, if one has a low concern score on the Consolidation scale of the ACCI, we could expect *both* low and high task accomplishment scores on the Work Habits and Co-worker Relations scales of the CADI. One could have low concern scores on these scales either because one has passed that phase of development as indicated by a high task mastery score or one is in an earlier stage as indicated by a low task mastery score. This could result



in near zero correlations across the establishment scales in the two inventories. This lack of association would be ambiguous because it could indicate either a lack of or a presence of concurrent validity. Thus, a transformation of the scales so that a high correlation unambiguously implies high concurrent validity was necessary.

To examine the scales as indicators of degree of development, we changed the metric of the ACCI system. Consider that the six CADI scales are designed in such a way that lower scores are expected as one moves from the first scale (organizational adaptation) to the sixth scale (career plans), that is, a decreasing profile is expected. A total CADI score (sum of the six scale scores) can be interpreted as a measure that orders individuals by vocational development. The more tasks one has mastered (the higher one's total CADI score), the further along the developmental continuum one is expected to be. In contrast, the ACCI expected profile has scales with increasing scores up to the scale that deals with the task of most concern. Scales beyond this maximum concern scale are expected to show decreasing concern scores as they move further along the vocational development task continuum. The scale which is closest to a change in slope in the profile (from increasing to decreasing concern scores) can be used to place an individual on the continuum. We identified this scale as the one with the maximum concern score. As is corroborated below, all 12 of the ACCI scales have high  $\alpha$  measures of reliability, so that a maximum score on a particular scale should be a reliable index of the task with which a participant is most concerned. Given that the 12 scales order the tasks according to some vocational development dimension, the scale for which a subject expresses most concern can be used to order that participant on this dimension. Thus, we identified the scale on which each participant showed the maximum concern and assigned each participant a value from 1 to 12, depending on the order of that scale among the 12. With this change in metric for the ACCI we were especially interested in the correlation between the CADI total and ACCI maximum concern scale rank (MAX12). If the two measures tap the same vocational development dimension, then we expect the ordering of subjects by CADI total score to be highly similar to the ordering obtained from the ACCI maximum concern scale.

To examine convergent and discriminant validity required a change in metric for each ACCI scale so that they could be interpreted in a way similar to each CADI scale. For each subject, we used the scale with the maximum concern score to rescale the other 11. The score of the maximum concern scale for an individual was set to zero. For each of the scales further along the vocational development task continuum than the maximum concern scale we substituted original scale score minus maximum scale score; thereby generating negative scores (lower scores) for these later scales. For each of the scales earlier on the continuum

than the maximum concern scale we substituted maximum score minus original scale score, thereby generating positive scores (higher scores) for these earlier scales. With this change in metric, we expect a decreasing profile of scores, just as we do from the CADI. Correlations of the CADI scales with both the ACCI original and transformed metric scores were examined for within and between-stage relations. Also, for all measures, correlations with work adjustment measures were examined.

Whether the many correlations we calculated are significantly different from zero was not our focus, rather the pattern of correlations was of interest. However, so many across-scale correlations were calculated that we thought that it was important to provide critical values for the correlations which take this into account. For the individual scale correlations, of which there are close to 100 for each of the transformed ACCI and untransformed ACCI scales, we used the Bonferroni inequality with a significance level of .10. Thus, because .10 divided by 100 equals .001, we considered significantly different from zero those correlations between individual scales that exceeded in absolute value .30 ( $p < .001$ ). For correlations with total CADI, ACCI, and MAX12, we use the conventional .05 level which for our sample size translates to an absolute correlation of .18.

## RESULTS

Table 1 reports the means, standard deviations, and  $\alpha$ 's for all the variables. ACCI scale scores are in the original metric. The mean total score for the CADI was 72.19 (SD = 7.40) which was similar to the mean of 74.16 (SD = 7.73) reported by Crites (1979). The CADI scale means were very similar to those Crites reported. The highest mean scores among the 12 ACCI scales were obtained on the advancement (18.03), innovating (17.66), updating (17.42), and consolidating (17.23) task scales. The VAS mean score of 106.03 (SD = 13.03) was comparable to that of 103.1 (SD = 21.4) in Heath's study. This represented an item mean of 3.79 with 4.0 being described as "satisfied" with one's meeting job demands and fulfilling personal needs. Based on responses to the three satisfaction questions, the participants were satisfied with their present job ( $M = 2.97$ ) but were slightly less satisfied with their overall career progress ( $M = 2.71$ ) and prospects ( $M = 2.56$ ). The recycling item mean of 2.53 (SD = 1.38) fell between little and some concern, but 14 of the 124 respondents rated it of considerable concern and three respondents rated it of great concern.

As seen in Table 2, the CADI total score was unrelated to the ACCI original metric total score and stage scores for establishment, maintenance, and disengagement. The CADI total score correlated  $-.38$  with ACCI exploration stage score and  $-.42$  with the recycling question. Three of the six CADI scales showed at least one significant relationship to the



TABLE 1  
Means, Standard Deviations, and Coefficient  $\alpha$ 's for the ACCI, CADI, VAS, and Satisfaction Items

	Mean	Transformed scale mean	Standard deviation	Coefficient $\alpha$
Adult Career Concerns Inventory				
(ACCI) total	176.74		43.92	.97
Exploration stage	38.07		14.54	.95
Crystallize	12.06	8.53	5.16	.90
Specify	13.14	6.90	5.26	.88
Implement	13.22	6.22	4.96	.86
Establishment stage	51.15		13.40	.94
Stabilize	15.65	3.32	5.10	.88
Consolidate	17.23	2.01	5.82	.92
Advance	18.03	-0.26	4.45	.87
Maintenance stage	49.94		13.25	.95
Hold on	15.07	-2.02	5.02	.89
Update	17.42	-1.84	4.77	.91
Innovate	17.66	-2.29	4.66	.93
Disengagement stage	39.97		11.95	.92
Decelerate	12.73	-6.79	3.97	.77
Retirement planning	13.70	-7.12	4.73	.89
Retirement living	13.84	-7.39	5.39	.91
Career Adjustment and Development In-				
ventory (CADI) total	72.19		7.40	.82
Organizational Adaptation	13.97		1.53	.65
Position Performance	12.98		1.57	.53
Work Habits and Attitudes	12.75		1.63	.54
Co-worker Relations	10.78		1.82	.52
Advancement	10.81		2.24	.59
Career Plans	10.90		2.12	.49
Vocational Adaptation Scale (VAS) total	106.03		13.03	.92
Job Satisfaction Item	2.97		0.81	
Career Satisfaction Item	2.71		0.86	
Career Optimism Item	2.56		0.99	
Recycle Concern Item	2.53		1.38	

ACCI exploration stage scores. The strongest association was with career plans ( $r = -.41$ ). In general, the CADI scales did not relate to ACCI establishment, maintenance, or disengagement stage scores. The 18 correlation coefficients among the six CADI scales and the three ACCI stage scores on the original metric had a mean coefficient of  $-.08$ . Again, these results are difficult to interpret for establishment stage scales because of the difference in the meaning of scores on the CADI scales versus the ACCI scales.

Table 2 also provides the results for the ACCI scores changed by the

TABLE 2  
Correlations between the Career Adjustment and Development Inventory (CADI) and Original and Transformed<sup>a</sup> Scores on the Adult Career Concerns Inventory (ACCI)

	CADI total	Organizational Adaptation	Position Performance	Work Habits and Attitudes	Co-worker Relations	Advancement	Career Plans
ACCI total	-.13/ .15	-.13/ .19	-.04/ .13	-.06/ -.01	-.15/ .12	-.02/ .02	-.14/ .20
Exploration stage	-.38/ .21	-.33/ .10	-.22/ .11	-.14/ .07	-.28/ .15	-.19/ .08	-.41/ .33
Crystallize	-.40/ .28	-.31/ .13	-.21/ .17	-.19/ .16	-.28/ .18	-.21/ .12	-.43/ .37
Specify	-.36/ .15	-.30/ .05	-.13/ .04	-.11/ .05	-.32/ .12	-.18/ .06	-.39/ .28
Implement	-.30/ .11	-.32/ .09	-.17/ .07	-.04/ -.02	-.23/ .08	-.16/ .02	-.28/ .21
Establishment stage	-.09/ .12	-.16/ .15	-.04/ .15	-.03/ -.08	-.11/ .20	-.04/ -.05	.00/ .14
Stabilize	-.17/ .16	-.19/ .12	-.12/ .17	-.09/ -.04	-.17/ .16	-.08/ .02	-.08/ .21
Consolidate	-.04/ .09	-.06/ .16	-.08/ .15	-.03/ -.10	-.10/ .22	-.03/ -.12	-.04/ .11
Advance	-.02/ .05	-.16/ .09	-.09/ .07	.05/ -.09	-.05/ .15	-.02/ .15	-.02/ .04
Maintenance stage	-.11/ .00	-.19/ .03	-.03/ .01	-.07/ -.08	-.13/ .08	-.08/ -.08	-.01/ .04
Hold on	-.10/ .00	-.10/ .05	-.07/ -.01	-.08/ -.05	-.17/ .11	-.04/ -.09	.03/ .03
Update	-.11/ -.01	-.21/ .03	-.03/ -.01	-.02/ -.08	-.12/ .04	-.04/ -.09	-.03/ .07
Innovate	-.11/ -.00	-.23/ -.01	.04/ .07	-.06/ -.10	-.09/ .02	-.11/ .00	-.03/ .00
Disengagement stage	-.10/ .09	-.06/ .24	-.01/ -.07	-.09/ .06	-.20/ -.08	-.01/ .08	-.06/ .03
Decelerate	-.17/ .03	-.14/ .20	-.13/ -.02	-.12/ .00	-.22/ -.10	-.07/ .05	-.05/ .02
Retirement planning	-.10/ .08	-.03/ .19	-.01/ .06	-.08/ .07	-.20/ -.05	-.03/ .07	-.06/ .02
Retirement living	-.10/ .13	.03/ .27	.14/ .16	-.02/ .09	.15/ -.06	.04/ .11	-.05/ .03
Maximum concern rank (MAX12)	.02	.04	.10	-.16	.11	-.03	.02

<sup>a</sup> Transformed score correlations appear after the slash following correlations for original scores.  $p < .05 = .18$  or more.  $p < .001 = .30$  or more.

methods described above. Of particular interest is the correlation between the CADI total score and the order of the scale with the maximum concern score (MAX12). The Pearson  $r$  of .02 had a 95% confidence interval of  $(-.18, .20)$ . Thus, we can be confident that the lack of a relationship is not explainable by sampling error in the correlation. For those subjects who responded with maximum concern in the exploration stage, the mean CADI total score was 70.5; for those in the establishment stage the mean CADI was 72.2; for those in the maintenance stage the mean was 72.5; and for those in the disengagement stage the mean was 73.6. Given that the standard deviation of the CADI is 7.4, this is a very small gradient. Therefore, the ordering of subjects by the CADI in terms of vocational development appears unrelated to the ordering by the ACCI.

Recall that the change in metric designed for the ACCI scales was supposed to provide scale scores with meaning similar to those scales in the CADI. Table 1 provides the means for these changed scores. For example, the mean for the changed Crystallization scale is 8.53. Notice that the means decrease with movement from the exploration stage to the establishment stage. This is the expected profile discussed above and follows the trend found for the CADI scale means. Correlations across CADI and changed ACCI scales are now slightly positive. Compare these to the corresponding negative correlations in Table 2. However, the mean coefficient for the 18 correlations of the six CADI scales to the three transformed ACCI establishment stage scales remained similar to that for the three original ACCI scales ( $r = -.08$  for original,  $r = .08$  for transformed). We expected to observe a pattern of convergent and discriminant validity among establishment stage scales. No such pattern emerged.

From Table 3, the job satisfaction item correlated .63 with the VAS and .41 with the CADI total score. The further along the vocational development continuum, as measured by the CADI, the greater was reported job satisfaction. Job satisfaction was associated most strongly with the organizational adaptation scale ( $r = .39$ ). In contrast, the job satisfaction item related  $-.24$  to the ACCI total score on the original metric (i.e., the greater the overall concern, the lower the job satisfaction). Job satisfaction related  $-.51$  to the exploration stage score but was unrelated to the establishment, maintenance, and disengagement stage scores. Job satisfaction correlated  $-.52$  with the recycling item. The VAS score related  $-.29$  to ACCI total score on the original metric,  $-.58$  to ACCI exploration stage score, and  $-.51$  to the recycling item. The VAS did not relate to the ACCI establishment, maintenance, and disengagement stage scores on the original metric.

The lower section of Table 3 shows correlations with the ACCI transformed scores. After transformation, a lower score on an exploration scale indicates that an individual is in that stage. Thus the low positive

TABLE 3  
Correlations of Vocational Development Measures with Work Adjustment Measures

	Vocational Adaptation Scale	Job Satisfaction Item	Career Satisfaction Item	Career Optimism Item	Recycle Concern Item
CADI total					
Organizational Adaptation	.59	.41	.37	.39	-.42
Position Performance	.52	.39	.30	.34	-.35
Work Habits & Attitudes	.28	.20	.06	.02	-.13
Co-worker Relations	.26	.14	.17	.16	-.22
Advancement	.40	.25	.23	.28	-.36
Career Plans	.48	.34	.35	.39	-.30
	.44	.31	.34	.33	-.31
ACCI total					
Exploration stage	-.29	-.24	-.14	-.13	.45
Establishment stage	-.58	-.51	-.34	-.26	.58
Maintenance stage	-.17	-.14	-.15	-.04	.25
Disengagement stage	-.16	-.15	-.18	-.14	.34
	-.04	.00	-.02	-.12	.21
Transformed ACCI total	.32	.29	-.09	.04	-.16
Transformed exploration	.33	.30	.14	.06	-.22
Transformed establishment	.06	.18	-.04	-.08	-.10
Transformed maintenance	.08	.05	.00	-.02	.06
Transformed disengagement	.23	.24	.11	.13	-.17
Maximum concern rank (MAX12)	.09	.16	.05	-.04	-.05
Vocational Adaptation Scale	1.00	.63	.42	.52	-.51

$p < .05 = .18$  or more.  $p < .001 = .30$  or more.

correlations between the work adjustment measures and exploration stage score occurs because lower satisfaction and fit relate to lower exploration stage scores. The correlation of MAX12 with job satisfaction was not significant but was positive ( $r = .16$ ). The 95% confidence interval was  $(-.01, .33)$ .

## DISCUSSION

As expected, task coping as indicated by the CADI was unrelated to career concern as indicated by the ACCI total score. The correlation coefficients between the CADI total score and the ACCI stage scores show that task coping was unrelated to concern with establishment, maintenance, and disengagement tasks. In contrast, task coping related to concern with exploration tasks. For the chronological age group in the present study, those workers who were more concerned with exploration tasks reported more difficulty in coping with establishment tasks. In addition, they reported greater work adjustment difficulties as indicated by the moderate relation of exploration stage concern to occupational fit ( $r = -.58$ ) and job satisfaction ( $r = -.51$ ). These findings coincide with the assertion that career concern is an ambiguous construct; that is, identical scores have different meanings depending upon a respondent's chronological age and vocational life stage. Although it is useful to confirm empirically the ambiguity in career concern scores, we were primarily interested in the meaning of ACCI task focus scores and their relation to vocational development.

In regard to vocational development, both inventories indicated that this group of salespeople averaged in the middle to late establishment stage. The CADI calibrated their average progress as having mastered the early establishment tasks of position performance and organizational adaptation and the middle establishment task of work habits and attitudes. They were currently dealing with the middle establishment task of co-worker relations and the late establishment tasks of advancement and career planning. The ACCI placed the group on the whole in the late establishment stage and as most concerned about the advancement task, which equates conceptually with the CADI tasks of advancement and career plans. The ACCI indicated that the group was still concerned with the middle establishment task of consolidation which would include co-worker relations. The ACCI also indicated that the group was strongly concerned with the maintenance stage tasks of updating and innovating.

Although the CADI and ACCI identified the same focus or degree of development for the group, they differed at the individual level. A direct indicator that the ACCI and CADI were not both measuring degree of vocational development is that the CADI total score did not relate significantly to the order of the maximum concern task (MAX12). Further

evidence comes from the lack of a convergent and discriminant validity pattern in the correlation of the CADI to ACCI transformed scores.

The above results show that the ACCI and CADI do not both measure vocational development. Establishment stage concern and coping were unrelated. We looked to each inventory's relation to work adjustment variables to understand the difference between concern and coping. Task coping and degree of development as measured by the CADI related to the work adjustment variables of job satisfaction and occupational fit. The correlations coincided with the proposition in vocational theory that maturity relates to adjustment. Workers who were more highly developed in task mastery were more satisfied with their jobs and more successfully integrating their personal needs with occupational demands. This was not true for career concern. ACCI focus or degree of development as indicated by order of maximum concern scale (MAX12) did not relate to the work adjustment variables of job satisfaction and occupational fit. If a vocational development dimension is reflected by the type of task about which the most concern is expressed, then that dimension is unrelated to job satisfaction and occupational fit. Based on their correlations to work adjustment, we inferred that the CADI indicates degree of development but the ACCI does not.

Moreover, we concluded that ACCI focus of task concern does not indicate degree of development because it measures concern with either developmental or adaptive tasks. If the ACCI measured concern with developmental tasks exclusively, then it should relate to degree of development. However, the ACCI measures concern with developmental tasks only for certain types of respondents, specifically those at the lower end of the vocational development continuum. For example, with respondents preparing to enter the labor force or respondents who have worked for only a few years, ACCI task focus scores probably measure planful anticipation of the developmental tasks they are about to encounter and thus indicate the vocational maturity variable of planful attitudes (Super, 1982; Super et al., 1988). With respondents who have been in the labor force for a longer time, the ACCI could also measure foresight about developmental tasks. However, more often it seems to measure concern about adapting to changes in work or working conditions. These novel or unpredicted changes, in contrast to development tasks, bear little or no relation to age and do not occur in a linear progression. The requirements for effective adaptation to such changes have been called adaptive tasks or issues by Hamburg, Coelho, and Adams (1974). Adaptive tasks may be occasioned by success as well as failure. People reencounter earlier developmental tasks as they explore and seek to become established in a new field or modify their position in their existing field (Super et al., 1988). This explains why the present study found that concern with exploration stage tasks related negatively to occupational fit ( $r = -.58$ ),



job satisfaction ( $r = -.51$ ), and career satisfaction ( $r = -.34$ ) and related positively to involvement in recycling ( $r = .58$ ).

From our perspective, ACCI scores indicate concern with distinct types of issues (e.g., implementing, stabilizing, innovating) but do not indicate whether these issues relate to developmental task mastery, adaptive problem solving, or occupational change. For example, high scores on ACCI exploration scales mean that a person is concerned with exploration issues. This concern with exploration would be appropriate for people in the exploration stage trying to specify a preference, workers entering a new career stage like establishment or maintenance as they orient to the stage's demands, workers in the establishment stage who want to understand why they are failing to stabilize, and recyclers who have achieved maintenance in one field but want to start over in a different field (Phillips, 1982). From this perspective, it may be more precise to rename the ACCI scales to indicate that they measure concern with tasks at issue because of requirements or opportunities to develop, adapt, or change. The current labels for the ACCI scales denote developmental tasks and may mislead some users into thinking that the ACCI measures vocational development or concern just with developmental tasks.

Compared to the ACCI, the CADI scales seem easier to interpret. However, the low scale internal consistency coefficients reported by Crites (1982) and confirmed in the present study, may limit the usefulness of scale scores. In a research context, low reliability can always be taken into account either formally by disattenuation or structural modeling of measurement error or informally by recognizing the limitation that low reliability places on cross correlations. We have taken the latter approach, because the results we presented were so strongly suggestive of our conclusions that consideration of measurement error would not have affected them in any way.

In a counseling situation, these low internal consistency reliabilities preclude individual interpretation of scale scores or profiles. More work is needed to establish their usefulness with individuals. Before recommending that Crites modify the scales to increase their internal consistency, we need information about their short-term retest reliabilities (they could be higher than the KR20's) and their content validity. Crites may have used multiple dimensions in generating each scale's items because of the complexity of the construct being measured. Strong substantive reasons for wanting to cover all of these dimensions would make the low internal consistency values acceptable. Then, the relevant index of reliability would be short-term retest reliability. Although Crites does not explicitly address this issue he did write that items were written for the six scales following an explicit "blueprint" (Crites, 1982, p. 22). He did not describe the scale specifications as multidimensional. However, he did write "for example, the coworker relationships scale operationally defines the task

to develop satisfying and satisfactory coworker relationships" (Crites, 1979, p. 82). Certainly this scale should have the two dimensions of satisfaction with and success in interpersonal relationships at work. Until the issue of scale reliability is resolved, counselors are cautioned about interpreting the CADI scales to individual clients.

In addition to implications for the further development of the CADI and ACCI, the present study has implications for measuring career adaptability in adults. In measuring adolescent career maturity, test constructors could assume homogeneity in the decisional tasks faced by adolescents and deal with heterogeneity in decision-making attitudes and competencies. In measuring adult career adaptability, test constructors must deal with heterogeneity in tasks faced and coping methods used. On the one hand, because of its content and its relation to work adjustment in the present study, it appears that the CADI measures vocational development. On the other hand, the present study found that the ACCI did not measure vocational development or relate to work adjustment. Based on these results and inspection of its content, it seems that the ACCI measures concern with issues involved in coping with complex challenges to develop, adapt, or change. If research supports this conclusion, then eventually the two inventories may be used in tandem to measure career adaptability in adults, with the CADI indicating degree of development and the ACCI indicating various ways in which requirements or opportunities for development, adaptation, or change are being met.

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