

Predicting Sales Performance, Job Satisfaction, and Depression by Using the Achievement Strivings and Impatience-Irritability Dimensions of Type A Behavior

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Recent research suggested that two dimensions of Type A behavior, namely, Achievement Strivings (AS) and Impatience-Irritability (II), differentially predict physical health and performance outcomes. The present study extends this research and examines whether AS and II differentially predict work performance (number of insurance policies sold), work attitudes (job satisfaction), and depression in a sample of 117 life insurance salespersons. As hypothesized, after statistically controlling for relevant biographical variables and II, AS predicted the number of policies sold and job satisfaction but was not related to depression. After partialing out the effect of relevant biographical variables and AS, II was associated with depression but not with the number of policies sold. In addition, controlling for the same variables, II was negatively associated with job satisfaction. Implications for the prediction of sales performance, job satisfaction, and depression, and interventions designed to decrease the negative consequences of Type A by reducing II but not AS, are discussed.

Since Friedman and Rosenman's (1959) pioneering work on Type A behavior and its consequences began 30 years ago, a plethora of literature has accumulated on the topic. Although this literature was generated because of an assumed relationship between Type A behavior and coronary heart disease, empirical support for such a link remains tenuous. Recent meta-analyses suggest that the relationship is at best statistically significant but small in magnitude (Booth-Kewley & Friedman, 1987; Friedman & Booth-Kewley, 1988); at worst, Type A behavior remains a poor predictor of the incidence of coronary heart disease in prospective studies (Matthews, 1988).

It has now been suggested that, whereas certain Type A behavior dimensions may yield positive consequences, others may be responsible for the health risks typically associated with Type A behavior (Matthews, 1982; Wright, 1988). To enhance its predictive qualities, the various components of Type A behavior should be examined separately. Spence, Helmreich, and Pred (1987; Helmreich, Spence, & Pred, 1988; Spence, Pred, & Helmreich, 1989) have identified two underlying dimensions of

Type A behavior, namely, Achievement Strivings (AS) and Impatience-Irritability (II). AS reflects the extent to which people take their work seriously, are active, and work hard. II reflects intolerance, anger, hostility, and an obsession with time. Past research has revealed that AS is positively related to various performance indexes, whereas II is associated with illness. For example, Spence et al. (1987) found that scores on AS, but not II, were significantly associated with grade point average in two student samples. Conversely, II rather than AS, was associated with measures of illness. In a follow-up study, Spence et al. (1989) found that the original AS scores predicted grade point averages measured at least four semesters later. Helmreich et al. (1988) found that AS, but not II, was significantly correlated with academic social psychologists' performance (i.e., number of publications and citations). Similarly, in a sample of university students, Barling and Charbonneau (1988) found that AS was associated with performance (i.e., grade point average and performance on a proofreading task) but not with illness, whereas II correlated with illness but with neither measure of performance. Barling, Bluen, and Moss (in press) studied a group of medical practitioners and specialists and their wives. They found that husbands' II (but not AS) was associated with their own and their wives' marital dissatisfaction.

The differential correlates of AS and II have been replicated, and therefore the distinction between AS and II appears to have considerable practical implications. It may be possible to simultaneously reduce those components of Type A behavior that have negative outcomes, while enhancing others that lead to positive consequences. However, with the exception of Helmreich et al. (1988), none of the studies examining AS and II have focused on traditional work-related outcomes in an organizational context. For the full implications of this bidimensional

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conceptualization of Type A behavior to be realized, replications are required in organizational settings using attitudinal and performance outcomes (Barling & Charbonneau, 1988; Barling et al., in press). Consequently, the goal of the present study is to investigate whether AS and II are differentially related to sales performance, job satisfaction, and depression in a sample of insurance salespersons. The choice of these three outcome variables merits some discussion.

Results from studies in organizational settings consistently show nonsignificant or weak relationships between Type A behavior and job performance. For example, Lee, Earley, and Hanson (1988) found no relationship between Type A behavior and performance quality in a managerial sample. Conversely, Jamal (1985) found that Type A behavior was unrelated to quantitative performance and inversely associated with qualitative performance in a sample of white-collar workers. More specific to our research, few studies have investigated the relationship between Type A behavior and sales performance. This is surprising because the Type A behavior pattern includes characteristics particularly suited to sales success (e.g., energetic, hardworking, competitive, and a high value for money, status, and a high standard of living; Lee & Gillen, 1989; Matteson, Ivancevich, & Smith, 1984). Yet Matteson et al. (1984) found no significant relationships between Type A behavior and three measures of sales performance (i.e., policy amount, premium income, and total policies sold) in a sample of 355 life insurance salespersons. Similarly, Lee and Gillen (1989) investigated the relationship between Type A behavior and both quantitative and qualitative measures of sales performance but found no significant associations in a sample of 83 sales representatives. These nonsignificant findings may be a function of treating Type A behavior as a global construct rather than separating out the AS and II components. Indeed, Barling and Charbonneau (1988), Helmreich et al. (1988), and Spence et al. (1987) all found that AS but not II was associated with measures of performance. We hypothesize, therefore, that AS, but not II will be associated with sales performance.

The relationship between Type A behavior and job satisfaction is unclear (Matteson et al., 1984). Some studies report negative correlations between Type A behavior and job satisfaction (Dearborn & Hastings, 1987), and others report no relationship between Type A behavior and job satisfaction (Burke & Weir, 1980; Greenglass, 1987; Howard, Cunningham, & Rechnitzer, 1977; Matteson et al., 1984). One reason for this inconsistency may be that Type A behavior was again conceptualized as a global rather than a multifaceted construct in these studies. It is possible that the job-related component of Type A (AS) rather than the negative emotional component (II) is associated with work-related attitudes and performance (see Wright, 1988). Because AS is associated with performance (Barling & Charbonneau, 1988; Helmreich et al., 1988; Spence et al., 1987, 1989) and performance is associated with job satisfaction (Pinder, 1984), we aim to extend past research by hypothesizing that job satisfaction will be related to AS. Furthermore, we predict that II will not be associated with job satisfaction.

Booth-Kewley and Friedman (1987) observed that depression has largely been overlooked in past studies of coronary-prone behavior. This is somewhat surprising because people classified as Type A may well experience the negative affect asso-

ciated with a pressured, competitive life style (Matthews, 1982). The few studies that have investigated the relationship between Type A behavior and depression failed to report significant relationships (Brief, Rude, & Rabinowitz, 1983; Caplan & Jones, 1975; Chesney, Black, Chadwick, & Rosenman, 1981; Greenglass, 1987). However, these studies again used global measures of Type A behavior that may have concealed the relationship between the negative component of Type A (II) and depression. Indeed, when Chesney et al. (1981) used a multidimensional approach to measuring Type A, they found a higher correlation between speed and impatience and depression ($r = .29$) than between global Type A ($r = .10$), hard-driving ($r = .02$), or job involvement ($r = -.04$, $N = 384$, in all cases) and depression. A further rationale underlying a relationship between II and depression can be deduced from recent research wherein II has predicted health outcomes (Barling & Charbonneau, 1988; Spence et al., 1987) and health outcomes have been associated with depression (Booth-Kewley & Friedman, 1987). We hypothesize, therefore, that II but not AS will be related to depression.

Method

Sample and Setting

All 222 life insurance brokers employed in the Johannesburg region of two South African insurance organizations were sent questionnaires, a covering letter explaining the research, and reply-paid, self-addressed envelopes. Participation was voluntary and responses were confidential. Respondents were offered personal feedback on their questionnaire results. Responses were received from 127 people (57%), of which 5 were incomplete and therefore discarded. Initially, there were 8 Black respondents. However, there is some evidence that organizational stress levels of Black and White South African employees differ (Bluen & Barling, 1987). Because the small number of Black respondents would not have allowed for statistical comparisons between Black and White subjects, responses of the 8 Black respondents were excluded, reducing the sample size to 114, a 52% response rate.

The final sample (M age = 39.8 years, $SD = 11.0$; M education = 12.7 years, $SD = 1.6$; M organizational tenure = 6.5 years, $SD = 6.7$; 85% men) consisted of 97 employees from one organization and 17 from the other. There were no significant differences between members of these two organizations on any of the biographical, predictor, or criterion variables measured in the study ($p > .05$). Similarly, education did not correlate significantly with any variables included in the study. To test if the sample was representative of employees of the two organizations, biographical details (i.e., sex, education, organizational tenure) of nonrespondents were obtained. No significant differences emerged ($p > .05$) between respondents and nonrespondents for any of the biographical variables.

Measuring Instruments

The reliabilities of the four questionnaires appear in Table 1. The AS and II dimensions (each 7 items) were measured by using Helmreich et al.'s (1988) 5-point response format scales, which were derived by factor analyzing the Jenkins Activity Survey for Health Predictions (Jenkins, Zyzanski, & Rosenman, 1971). The same unit weighting scoring approach used by Helmreich et al. was used in generating the AS and II scores. Although these two subscales have been shown to be internally consistent (e.g., Barling & Charbonneau, 1988; Helmreich et al., 1988; Spence et al., 1987), there is a paucity of data available on their validity.

To assess their construct validity, we used LISREL VI to compute a

Table 1
Descriptive Statistics and Intercorrelations of Age, Tenure, Education, Impatience-Irritability, Achievement Strivings, Policies Sold, Job Satisfaction, and Depression

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age (years)	39.83	11.02	—							
2. Tenure (years)	6.45	6.73	.43**	—						
3. Education (years)	12.66	1.56	-.09	-.12	—					
4. Impatience-irritability	24.06	5.20	-.28**	-.09	.09	.81				
5. Achievement strivings	28.52	4.23	-.16*	-.12	.08	.33**	.77			
6. Policies sold	91.22	51.49	.06	.39**	-.03	.09	.18*	—		
7. Job satisfaction	90.61	11.37	-.17*	-.07	.13	-.12	.16*	.20*	—	
8. Depression	3.04	3.50	-.04	-.06	-.00	.29**	-.07	-.06	-.19*	.87

Note. Sample size ranges between 105 and 114. Italicized values in the diagonal represent Cronbach alpha coefficients.

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

series of maximum likelihood confirmatory factor analyses (Jöreskog & Sörbom, 1984). In the first analysis, a two-factor model was specified, wherein all seven II items were specified as loading only on the first factor and the seven AS items were hypothesized to load only on the second factor. Three different statistics indicated that the data provided a plausible fit with the two factors as hypothesized. The χ^2/df index (164.2/76, $N = 114$) was 2.16, the goodness-of-fit index adjusted for sample size (AGFI) was .67, and the root-mean-square residual (RMSR) was .11.¹

When assessing the extent to which any data fit an hypothesized model, it is critical to contrast its fit with that of other models. Thus, an additional maximum likelihood confirmatory factor analysis was computed. In this analysis, all 14 items were specified to load on one factor only. This constitutes a credible alternative hypothesis, as the emergence of a unidimensional structure would be consistent with the notion of a global Type A factor. However, this alternative analysis did not provide an adequate fit with the data. The χ^2/df index (295.98/77, $N = 114$) was 3.84, the AGFI was .24, and the RMSR was .23. The adequacy of the initially hypothesized two-factor model was tested against the unifactorial model by using a chi-square test (Bentler, 1980), in which the difference between any two models is distributed in the form of a chi-square test, with degrees of freedom equal to differences in the degrees of freedom of the two models. Using this approach, the hypothesized two-factor model provided a better fit to the data than the unifactorial model, $\chi^2(1, N = 114) = 131.78, p < .01$.

The criterion for sales performance was the total number of insurance policies sold during a 12-month period by each respondent. Similar measures have been used previously as indicators of insurance sales performance (e.g., Barling & Beattie, 1983; Matsui & Terai, 1975; Matteson et al., 1984). Job satisfaction was assessed using Warr, Cook, and Wall's (1979) 16-item Overall Job Satisfaction scale. The measure, which uses a 7-point response format, has suitable reliability and validity (Warr et al., 1979). The 7-item Depression subscale of the General Health Questionnaire (Goldberg & Hillier, 1979) assessed depression. A 4-point Likert-type rating scale was used. The subscale demonstrates satisfactory reliability and construct and concurrent validity (Goldberg & Hillier, 1979).

Results

Descriptive statistics and intercorrelations of all variables in the study appear in Table 1. As can be seen, job satisfaction correlated positively with the number of policies sold and negatively with depression. Consistent with past research (Seligman & Schulman, 1986), organizational tenure was significantly associated with the number of life insurance policies sold and was

included as a covariate in the regression analyses involving the number of policies sold. Age was significantly associated with job satisfaction. Therefore, age was included as a covariate in the analyses involving job satisfaction. In addition, although factor analysis yielded an oblique two-factor solution for AS and II on the basis of the unit weighting method to generate scores, AS and II were significantly correlated with each other. Consequently, AS was controlled statistically when investigating the effects of II, and vice versa. To predict each of the three criterion variables (sales performance, job satisfaction, and depression), two separate regression analyses were computed. In the first, the effects of AS were assessed after controlling for any relevant demographic variable and II. This procedure was repeated, and the effects of II were tested after controlling for any confounding demographic characteristic and AS (see Table 2).

From Table 2, it can be seen that AS was positively associated with the number of policies sold and job satisfaction but unrelated to depression, whereas II was positively associated with depression, unrelated to policies sold, and negatively associated with job satisfaction. Specifically, AS accounted for 3% of the variance in policies sold (beta = .19, F change = 3.88, $p < .05$) after statistically controlling for tenure and II. After partialing out the effects of age and II, AS predicted 4% of the variance in job satisfaction (beta = .20, F change = 4.12, $p < .05$). When the effects of II were statistically controlled, AS did not account for a significant proportion of variance in depression. In contrast, II explained 11% of the variance in depression after controlling statistically for AS (beta = .35, F change = 13.08, $p < .01$). After controlling for tenure and AS, II did not account for a significant amount of variance in policies sold. An unexpected finding was that after controlling for age and AS, II was negatively related to job satisfaction (beta = -.24, R^2 change = .05, F change = 5.76, $p < .05$; see Table 2).

Discussion

Our results replicate and extend past Type A research in organizational settings. AS was positively related to sales performance and job satisfaction but unrelated to depression; II was

¹ Details of the confirmatory factor analysis can be obtained from Stephen D. Bluen on request.

Table 2
Summary Table of Multiple Regression Analyses

Predictor	Beta	R ²	R ² change	F change
No. of policies sold				
Tenure	.38	.15	.15	16.55**
AS	.21	.19	.05	5.36*
II	.07	.20	.00	0.49
Tenure	.38	.15	.15	16.55**
II	.13	.16	.02	0.13
AS	.19	.20	.03	3.88*
Job satisfaction				
Age	-.17	.03	.03	3.13
AS	.13	.05	.02	1.94
II	-.24	.10	.05	5.76*
Age	-.17	.03	.03	3.13
II	-.19	.06	.03	3.56
AS	.20	.10	.04	4.12*
Depression				
AS	-.07	.00	.00	0.48
II	.35	.11	.11	13.08**
II	.29	.08	.08	9.75**
AS	-.18	.11	.03	3.63

Note. AS = Achievement strivings; II = Impatience-Irritability.
* $p < .05$. ** $p < .01$.

unrelated to sales performance, negatively associated with job satisfaction, and positively associated with depression. These results suggest that conceptualizing and operationalizing Type A behavior as a global construct obscures differential associations, because AS and II are conceptually distinct and yield different relations with sales performance, job satisfaction, and depression.

Our results extend the growing body of data in support of the AS and II dichotomy derived from global Type A behavior in at least three ways. First, past research failed to find relationships between global Type A behavior and sales performance (e.g., Lee & Gillen, 1989; Matteson et al., 1984). By predicting sales performance from AS but not II, our findings suggest that failure to find significant results can be attributed to treating Type A as a global construct. Indeed, Matteson et al. (1984) suggested that certain aspects of Type A (e.g., hostility, aggression, and impatience) may detract from sales success. Future research should investigate the role of AS and II in different organizational settings to test further the generalizability of these findings.

Second, past research has found associations between AS and measures of performance such as academic publications and citations (Helmreich et al., 1988), grade point averages (Barling & Charbonneau, 1988; Spence et al., 1987), and proofreading (Barling & Charbonneau, 1988). None of these studies examined work attitudes. In finding a significant relationship between AS and job satisfaction, our study extends the scope of correlates of AS solely from performance variables to include work attitudes. Similarly, although emotional outcomes of

global Type A behavior have been investigated (Booth-Kewley & Friedman, 1987; Friedman & Booth-Kewley, 1988; Matthews, 1988), past research has focused on the physical health correlates of II (Barling & Charbonneau, 1988; Spence et al., 1987) but largely ignored possible emotional consequences of II. By finding a positive association between II and depression, the scope of correlates of II is extended beyond physical criteria to include a psychological measure of strain.

Third, job satisfaction was positively associated with AS and negatively related to II. These findings may help explain the inconsistent relationships reported between global Type A behavior and job satisfaction (e.g., Burke & Weir, 1980; Dearborn & Hastings, 1987; Greenglass, 1987; Howard et al., 1977; Matteson et al., 1984). The AS and II components of Type A behavior are both associated with job satisfaction but in opposite directions, a feature that is obscured when Type A is measured globally. Our findings lend further support to the notion of AS and II being independent constructs.

Our findings yield important practical implications. Type A behavior has traditionally been associated with career success, but at some cost to the individual's health (Wright, 1988). Our results show how such a viewpoint may be consistent with empirical data. Wright (1988) concluded that the job-related component of Type A behavior does not appear to be related to coronary heart disease. Thus, in noting that it is possible to maintain high levels of positive, work-related components of Type A (AS) without suffering the consequences of its negative components (II), Wright (1988, p. 12) states that "It would be nice if we were able to keep 'the baby' (drive, ambition) without the 'bath water' (hyperactivation and the resulting CHD [coronary heart disease])." Future intervention efforts do not need to eliminate Type A behavior altogether. Rather, such attempts should be directed at reducing II while enhancing AS.

Some priorities for further research on AS and II emerge. First, because a cross-sectional design was used in our study, no causal inferences can be made regarding AS and II on the one hand, and sales performance, job satisfaction, and depression on the other. Although sales performance figures were collected 9 months after the self-report data, no causal inferences could be made because the figures covered a 12-month period. Future research should make use of longitudinal designs to facilitate causal inferences. Second, research should assess whether AS differentially predicts intrinsic and extrinsic job satisfaction, because satisfaction with extrinsic job features is more dependent on environmental factors (Arvey, Bouchard, Segal, & Abraham, 1989). We could not assess this in our study because of the substantial correlation between the intrinsic and extrinsic job satisfaction components ($r = .76$) generated by Warr et al.'s (1979) scale. Third, future research might focus on non-South African samples, even though the use of samples generated in South Africa may not threaten the generalizability of these findings: Type A behavior scores on the Jenkins Activity Scale for White South African managers are at least as high as American, European, British, and New Zealand samples (Strumpfer, 1986). Fourth, both self-reports and objective performance data were used in this study, thereby excluding problems associated with monomethod bias. However, future research investigating sales performance should still include other criterion measures such as the total value of the policies sold and the

amount of commissions earned. We were limited in our study because such measures were not readily accessible to us. Future research should also establish the reliability of the sales data and ensure that the sales data are not contaminated by extraneous factors such as the socioeconomic status of the area to which the salesperson is assigned. Fifth, studies now consistently show that AS and II are associated in the appropriate direction with relevant outcomes. Research might now begin to investigate under what conditions the effects of AS and II are exacerbated or reduced.

In conclusion, in line with past research investigating AS and II (Barling & Charbonneau, 1988; Barling et al., in press; Helmreich et al., 1988; Spence et al., 1987), one major implication of our findings is the need to conceptualize Type A behavior as a multidimensional construct. Our study demonstrates the construct and predictive validity of the AS and II dimensions. On a practical level, interventions aimed at reducing impatience and irritability can decrease the risk of depression and increase the potential for job satisfaction. Conversely, high achievement striving is not associated with depression but is positively related to sales performance and job satisfaction.

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