Self-Efficacy Beliefs and Sales Performance

Julian Barling
Russell Beattie

ABSTRACT. Self-efficacy theory predicts that people will perform better when they believe they have the skills necessary for success. It also suggests, however, that believing in long-term rewards for success ("response-outcome expectations") does not correlate with adequate performance. This paper supports the generality of self-efficacy theory and provides evidence that self-efficacy beliefs predict insurance sales performance, whereas response-outcome expectations did not. A questionnaire was developed to measure self-efficacy beliefs and response-outcome expectations using 200 insurance sales representatives. Regression analyses were computed on a different sample of 97 insurance sales representatives using four separate dependent variables (calls-per-week; number of policies sold; sales revenue and a composite performance index on which actual sales commission was based). (1) These analyses established a correlation (but no causal relationship) between self-efficacy beliefs and sales performance. (2) The generality of self-efficacy theory in a business setting is suggested by the relationship between self-efficacy and objective measures of sales performance. (3) The relevance of these results, and the importance of integrating them into the practice of organizational behavior modification is discussed.

Traditionally, the application of organizational behavior modification in organizational contexts has relied on the techniques and methodologies of operant conditioning (cf. Luthans, Paul, & Baker, 1981). A relatively recent development within the general field of

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behavior modification has been the emergence of a "cognitive revolution" (e.g., Bandura, 1977a, 1977b; Mahoney, 1977; Meichenbaum, 1977). Within this approach, cognitive processes are added to the armamentarium of the behavior modifier, resulting in a group of techniques referred to as "cognitive behavior modification" (e.g., self-instruction, covert rehearsal). Although these techniques have been applied to diverse pathological behaviors, their relevance to behavior in organizations has not been addressed empirically, despite suggestions of their relevance in this context (e.g., Brief & Aldag, 1981).

Self-efficacy theory (Bandura, 1977a, 1978, 1982), a recent development in social learning theory (Bandura, 1977b), is a prime exemplar of this cognitive trend. The theory suggests that self-efficacy beliefs serve as a cognitive mechanism mediating behavior change; and that these beliefs can be distinguished from response-outcome expectations. Self-efficacy beliefs are expectations of personal mastery, i.e., the belief that if sufficient effort is expended, successful performance will follow. Response-outcome expectations are beliefs regarding long-term consequences of behavior, i.e., expectations that specific outcomes will follow successful performance.

To date, the effects of self-efficacy beliefs have been investigated on behaviors such as snake phobias (Bandura & Adams, 1977; Bandura, Adams, & Bayer, 1977), agoraphobia (Bandura, Adams, Hardy, & Howells, 1980), deficits in children's achievement behavior (Schunk, 1981), and non-pathological behaviors such as tennis performance (Barling & Abel, in press). In addition, the determinants or predictors of efficacy and outcome beliefs have been investigated (Barling & Bresgi, in press; Keyser & Barling, 1981). However, self-efficacy theory has not been assessed empirically in work organizations (Brief & Aldag, 1981), despite the potential relevance of social learning theory in this context (cf. Manz & Sims, 1980). Accordingly, this study assesses the influence of self-efficacy beliefs on insurance sales performance.

Insurance sales performance was selected as the target behavior of this research for a variety of reasons. In the first instance, other cognitive theories have had some success in predicting this constellation of behaviors (Matsui & Terrai, 1975). Second, consistent with the general focus of organizational behavior modification (Luthans & Kreitner, 1976), assessments of actual behavior (e.g., number of sales visits made, number of policies sold, value of the
policies) are readily available. Third, it is important to assess the extent to which cognitive processes predict behavioral measures of insurance sales performance, given the influence of contingent reinforcement on sales performance (Luthans et al., 1981). Fourth, given the diverse behaviors involved in successful insurance sales performance, where both persistence (e.g., number of visits made) and skill (total value of the policies sold) are involved, a test of the generality of self-efficacy theory becomes most interesting (cf. Brief & Aldag, 1981).

**METHOD**

**Questionnaire construction**

We constructed a 46-item questionnaire to assess the self-efficacy beliefs of insurance sales personnel, since none existed (Kendall & Korgeski, 1979). The format followed that of Keyser and Barling (1981), and a seven-point Likert scale was used. To ensure item relevance, people with experience in insurance selling were consulted, and sales training manuals inspected before any items were included in the scale. In addition, since selling involves a basic social situation, we included items reflecting social efficacy.

Despite the fact that self-efficacy theory relegates the importance of response-outcome expectancies somewhat, their influence should still be assessed for two reasons. First, the perceived consequences of successful behavior may still exert some impact on behavior. Second, where efficacy and outcome expectations vary, both should be considered in predicting behavior (Bandura, 1978, p. 238). Consequently, we constructed 55 relevant response-outcome items in the same manner and format as the efficacy items.

Forty-four of these 101 items were rejected initially on the basis that they were not discriminating between high and low efficacy and outcome expectations if at least 10% of the total sample (N = 200) did not endorse each of the seven options for each item. The remaining 57 items then yielded a Cronbach’s alpha reliability coefficient (internal consistency) of 0.88.

To investigate the construct of this scale, these 57 items were subjected to a principal components factor analysis with varimax rotation. This analysis, based on 200 active insurance sales representatives responses, yielded two factors, with item loadings ≥ 0.30
considered significant. The first factor was comprised of 20 items (e.g., "I believe a good career boosts my prestige in the neighborhood," "I believe that a good socializing ability helps me progress in my career" and "I believe that success in my career will raise my standing in the community") and corresponded with response-outcome expectations (eigenvalue = 9.51, 79.4% of the variance explained). The second factor reflected self-efficacy beliefs (e.g., "I believe I can prepare a good policy delivery interview," "I believe I can listen attentively," "I am a good mixer in social situations" and "I believe I can re-sell the need to the client on delivery of a policy"), and accounted for 20.6% of the variance (eigenvalue = 2.46).  

**Dependent variables**

We used four different criterion measures of insurance sales performance, all obtained from the organization's records. The number of calls made by the sales representatives to obtain interviews each week reflects their persistence, while the total number of policies sold during the preceding year provides an indication of both effort and success. Successful sales performance per se was defined as the total sales revenue generated over this one year period. We also used a composite index of both effort/persistence and skill/success by weighting these three measures. This composite index was also used by the organization to determine individual sales commission. An assessment of any of these variables in isolation, in contrast to the more global perspective of these diverse behaviors taken together, provides a truncated perspective of the full range of behaviors required for successful insurance sales performance. Generating a dependent measure that reflects both effort and skill is important, since (1) successful insurance sales performance undoubtedly involves both aspects, and (2) an adequate test of the generality of self-efficacy theory requires an examination of both these aspects.

**Subjects**

The subjects who participated in this study were 97 insurance salesmen (M age = 37.17 years, range = 19-63 years). They had

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1 Copies of the self-efficacy questionnaire as well as the detailed factor analytic tables can be obtained from the author.
been with the same organization for an average of 8.3 years, and their mean sales experience was 11.00 years. Their average length of formal education was 12.2 years.

Procedure

We constructed the initial self-efficacy questionnaire of a separate sample of 200 sales representatives and then administered the revised form to 97 subjects. These 97 insurance salesmen responded in their own time and were requested to furnish their names so that their responses could be matched with their performance records. They were assured, however, that no individual in the organization would have any access whatsoever to their questionnaire responses.

RESULTS

Multiple regression techniques (Kerlinger & Pedhazur, 1973) were used to analyze the contribution of each of the independent variables (efficacy beliefs and response-outcome expectations, age, educational level, total sales experience and length of organizational experience) to the four dependent variables.²

The only significant predictors of the number of sales calls (visits) were educational level \( (F = 7.01, p < 0.01) \) and efficacy beliefs \( (F = 2.07, p < 0.05) \) (see Table 1), explaining 8% and 2% of the variance respectively. The second multiple regression analysis concerned the prediction of the total number of policies sold, another index of persistence/effort (see Table 2). Again, only self-efficacy expectations \( (F = 7.13, p < 0.01) \) and educational level \( (F = 4.16, p < 0.01) \) accounted for a significant portion of the variance (9% and 3% respectively).

The remaining two dependent variables, viz. the total value of the policies sold and the composite performance index reflect skill or success. In both instances, the same three variables predicted these two indices significantly. With regard to the total value of the policies sold (see Table 3), efficacy expectations was the most

²Since an assumption of multiple regression is that the relationship between the dependent and independent variables is linear, this was assessed. Only in the case of the effort/organizational experience relationship was this assumption violated \( (F = 7.9, p < 0.01) \). Consequently, cubic and quadratic polynomials were also assessed for this specific analysis.

³To ensure a more stringent test of self-efficacy postulates, only the F value in the final regression equation was considered in all four analyses.
significant predictor \( F = 5.03, p < 0.01 \), followed by organizational experience \( F = 4.85, p < 0.01 \) (accounting for 8% of the variance each), and finally educational level \( F = 2.89, p < 0.05 \).

### Table 1

Determinants of the number of visits

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Multiple R</th>
<th>Increase R² change</th>
<th>F in Final equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational level</td>
<td>0.28</td>
<td>0.08</td>
<td>7.01**</td>
</tr>
<tr>
<td>Efficacy expectations</td>
<td>0.32</td>
<td>0.02</td>
<td>2.07**</td>
</tr>
<tr>
<td>Age</td>
<td>0.34</td>
<td>0.02</td>
<td>1.04</td>
</tr>
<tr>
<td>Outcome expectations</td>
<td>0.35</td>
<td>0.01</td>
<td>0.96</td>
</tr>
<tr>
<td>Total sales experience</td>
<td>0.36</td>
<td>0.00</td>
<td>0.29</td>
</tr>
<tr>
<td>Organizational experience</td>
<td>0.36</td>
<td>0.00</td>
<td>0.58</td>
</tr>
<tr>
<td>Quadratic polynomial</td>
<td>0.37</td>
<td>0.01</td>
<td>1.12</td>
</tr>
<tr>
<td>Cubic polynomial</td>
<td>0.38</td>
<td>0.01</td>
<td>0.76</td>
</tr>
</tbody>
</table>

* # p < 0.01
   ** p < 0.05

### Table 2

Determinants of the number of policies sold

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Multiple R</th>
<th>Increase R² change</th>
<th>F in Final equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy expectations</td>
<td>0.30</td>
<td>0.09</td>
<td>7.13**</td>
</tr>
<tr>
<td>Educational level</td>
<td>0.40</td>
<td>0.04</td>
<td>4.16**</td>
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<tr>
<td>Organizational experience</td>
<td>0.44</td>
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<td>1.61</td>
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<tr>
<td>Age</td>
<td>0.47</td>
<td>0.02</td>
<td>1.35</td>
</tr>
<tr>
<td>Total sales experience</td>
<td>0.48</td>
<td>0.00</td>
<td>0.44</td>
</tr>
<tr>
<td>Outcome expectations</td>
<td>0.48</td>
<td>0.00</td>
<td>0.08</td>
</tr>
</tbody>
</table>

* # p < 0.01
Table 3

Determinants of the value of the policies sold

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Multiple R</th>
<th>Increase $R^2$ change</th>
<th>F in Final equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy expectations</td>
<td>0.26</td>
<td>0.08</td>
<td>5.03*</td>
</tr>
<tr>
<td>Organizational experience</td>
<td>0.35</td>
<td>0.06</td>
<td>4.85**</td>
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<tr>
<td>Educational level</td>
<td>0.41</td>
<td>0.03</td>
<td>2.89***</td>
</tr>
<tr>
<td>Outcome expectations</td>
<td>0.44</td>
<td>0.00</td>
<td>0.14</td>
</tr>
<tr>
<td>Total sales experience</td>
<td>0.44</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>Age</td>
<td>0.44</td>
<td>0.00</td>
<td>0.01</td>
</tr>
</tbody>
</table>

* $p < 0.01$

** $p < 0.05$

explaining an additional 3% of the variance). In terms of the composite performance index, efficacy expectations were again the most significant determinant ($F = 4.97, p < 0.01; 7% of the variance), then educational level ($F = 3.04, p < 0.05; with 3% of the variance explained), and finally the duration of organizational experience ($F = 2.63, p < 0.05; again accounting for 3% of the variance), (see Table 4).

**DISCUSSION**

The utility of self-efficacy theory for organizational behavior should be evaluated in terms of two separate criteria. The first involves a theoretical issue: Are the basic postulates valid within the organizational context? The second issue is pragmatic: Does the theory provide information relevant to the management of organizational behavior?

Self-efficacy beliefs significantly predicted all four indices of organizational performance, reflecting diverse aspects of sales performance. Social learning theory suggests that efficacy expectations influence the initiation, persistence and strength of behavior (Bandura, 1977a, 1977b, 1978), and research findings support this (Bandura & Adams, 1977; Bandura et al., 1977; Bandura et al., 1980).
Table 4

Determinants of a composite performance index

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Multiple R</th>
<th>Increase $R^2$ change</th>
<th>F in Final equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy expectations</td>
<td>0.20</td>
<td>0.09</td>
<td>4.97*</td>
</tr>
<tr>
<td>Organizational experience</td>
<td>0.39</td>
<td>0.07</td>
<td>2.65**</td>
</tr>
<tr>
<td>Educational level</td>
<td>0.45</td>
<td>0.03</td>
<td>3.04**</td>
</tr>
<tr>
<td>Outcome expectations</td>
<td>0.48</td>
<td>0.00</td>
<td>0.11</td>
</tr>
<tr>
<td>Age</td>
<td>0.48</td>
<td>0.00</td>
<td>0.07</td>
</tr>
<tr>
<td>Total sales experience</td>
<td>0.48</td>
<td>0.00</td>
<td>0.05</td>
</tr>
</tbody>
</table>

* p < 0.01
** p < 0.05

However, efficacy beliefs also predicted skill or success at sales performance. This latter phenomenon is consistent with research findings in educational psychology, where self-efficacy was related both to the quantity and quality of achievement behavior (Schunk, 1981). On the other hand, response-outcome expectancies predicted neither effort nor performance significantly. Again, this is consistent with theoretical hypotheses: Self-efficacy theory suggests that it is the specific expectation of personal mastery that influences behavior, and not the belief that some outcome will follow successful performance (Bandura, 1977a, 1977b, 1978).

Interestingly, educational level consistently predicted effort, whereas both education and the duration of organizational experience predicted successful performance. This is expected within the formulation of social learning theory, which posits a triadic reciprocality (Bandura, 1982) between cognitive factors, environmental influences and personal/biographical attributes. Accordingly, it may not be surprising that educational level and organizational experience could be related to individuals' performance. Likewise, it may be expected that those personal attributes which bear no direct relevance to the criteria of work performance, e.g., age, would predict neither effort nor success. Consequently, the generality of self-efficacy theory in the area of organizational behavior is supported.
The second criterion against which these results should be evaluated involves the predictive utility of self-efficacy theory for explaining organizational behavior. Although the results of this study suggest that generally (i.e., with the exception of the number of visits) efficacy beliefs account for 8-9% of performance, which is comparable to explanations made by valence-expectancy theory (cf. Matsui & Terrai, 1975), self-efficacy theory may provide a crucial advantage in that it designates the precise nature of the relevant cognitive belief (i.e., given sufficient effort, performance will ensue) that influences subsequent behavior.

The question of the role of self-efficacy beliefs for organizational behavior management emerges. It is suggested that in no way should self-efficacy beliefs be considered a panacea for all organizational problems. Rather, self-efficacy beliefs may be more applicable to specific organizational functions, such as training or motivation. (Using self-efficacy beliefs in the selection process may provide a misleading perspective, since these beliefs would surely change as a function of training.) Even within the training and motivation functions, the implementation of appropriate self-efficacy beliefs would serve only as an adjunct to more typical programs. This is an important point, since any comparisons of the direct relevance of self-efficacy and behavioral interventions may be spurious. They use different dependent variables, hence even a comparison of the variance accounted for in this study and the percentage behavioral change obtained by behavior management techniques such as that in Luthans et al. (1981) would be misleading. Again, therefore, it is reiterated that maximum benefit may be obtained by a program that focuses on both behavioral interventions and cognitive processes.

Another important issue concerns the generalizability of the present findings. Previous self-efficacy research has often been limited in that both efficacy and performance data were derived from subjects' self-reports, resulting in the use of autocorrelations which may produce an artificially inflated perspective (Kazdin, 1978). On the contrary, this study used behavioral measures of performance and self-report data regarding self-efficacy beliefs, eliminating this possible confound. Consistent with an operant framework (Luthans & Kreitner, 1976), behavioral indices were used as the dependent variables. As a result, this study avoids this potential confound. Nonetheless, some caution should be exercised in interpreting these results. First, response-outcome expectancies per se may well have no influence on behavior. Rather, since it is the subjective percep-
tion of the value of the outcome that influences behavior (Moore, Mischel, & Zeiss, 1976), outcome expectations should be combined with their subjective value (valence) in assessing their impact on behavior. Second, this study did not assess the causal direction of the efficacy beliefs/performance relationship. This remains a priority for future research.

REFERENCES


