

Motivation and Employee-Supervisor Discrepancies in a Psychiatric Vocational Rehabilitation Setting

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ABSTRACT: Supervisor ratings of employees' motivation and adjustment in psychiatric rehabilitation settings are among the best predictors of future work potential (Anthony & Jansen, 1984). Additionally, some research reports low correlations between supervisor ratings and employee self-reports with regard to adjustment and motivation. Consequently, we examine (a) how current program participation and estimates of readiness for competitive employment relate to employee and supervisor ratings of motivation; and (b) the correlates of rating discrepancies between employees and supervisors. Program participation and work-readiness were associated with both employee and supervisor ratings of motivation after controlling for employee benefit plan, residential status, and social adjustment. Additionally, the degree of supervisor-employee discrepancy in these ratings was negatively correlated with program participation, work-readiness, and estimates of premorbid social competence. The role of motivational factors in vocational rehabilitation and the dynamics of supervisor and employee perceptions of work motivation and adjustment are discussed.

The choice of an occupation and the concern for work are considered by many psychological theorists as hallmarks of both maturity and identity formation (Adler, 1958; Erikson, 1959; Sullivan, 1953). Such conceptions emphasize work as an important aspect of one's integration into society as well as a developmental achievement. Accordingly many psychiatric rehabilitation programs emphasize

work as a central component in the process of preparing individuals for real-world responsibilities and economic independence. Consequently, sheltered workshops and supervised work programs can be crucial components of psychosocial treatments (Jacobs, 1988) and the social policy of deinstitutionalization (Kiesler, 1982). One important problem facing such programs concerns the factors motivating employee participation and performance and predicting readiness for competitive employment.

Some clues to understanding motivation in rehabilitation settings may be provided by the literature on work involvement in nontreatment settings. McGregor (1960), Hackman and Oldham (1980), Deci and Ryan (1985), and others have suggested that an individual's motivation to work is sustained not only by extrinsic contingencies, but also by satisfactions intrinsic to work, such as the psychological experiences of effectiveness, autonomy, and relatedness. In other words, people will be more motivated in the workplace if they find themselves feeling more autonomous, competent, and related (Vroom & Deci, 1992). Some of these same motivational factors associated with job satisfaction and performance among workers in nonrehabilitative employment are probably relevant to employees in sheltered workshops; however, the literature on work motivation in these settings is sparse.

Populations with chronic psychiatric disorders are undoubtedly characterized by difficulties in work motivation and adjustment. Kraepelin (1971) made early mention of this issue regarding individuals diagnosed with schizophrenia, describing them as having "lost every independent inclination for work ... although they are perhaps still capable of employing themselves in a reasonable way if stimulated from outside" (p. 37). Shakow (1963) and Rodnick and Garnezy (1957) have also suggested that difficulties in goal direction and motivation are characteristic of schizophrenia. More recently, research on individuals diagnosed with schizophrenia provided evidence of discontinuity between their past work achievements and future aspirations, implicating motivational difficulties as an explanation for their poor work adjustment (Serban, 1980). Individuals in this diagnostic group, however, are not the only employees with motivational difficulties. In fact, Anthony and Jansen (1984) suggested that these motivational problems are typical of the larger population of employees in psychiatric treatment settings and that diagnostic category is a poor predictor of vocational behavior.

Anthony and Jansen (1984) argue that among the best predictors of future work performance are staff or supervisor ratings of an employee's work adjustment and motivation within sheltered-workshop or rehabilitation-program settings. They reviewed a number of studies in which work adjustment skills were rated and an overall motivation or adjustment score was calculated, concluding that this score was consistently predictive of work-related outcomes. Particularly important were the work adjustment skills of "getting along with others, doing the job, and being dependable" as rated by work supervisors (Anthony, Howell, & Danley, 1982; Bond & Friedmeyer, 1987). Supervisor ratings of motivational factors such as "keenness to work" (Griffiths, 1973, 1977)

and "enthusiasm" (Watts, 1978) have also predicted eventual employment status. Taken together, this literature suggests that supervisor ratings of self-motivation, ability to relate, work competence, and dependability may be critical in assessing the work adjustment of employees with psychiatric disorders.

Empirical evidence has been less consistent in showing relationships between employee self-ratings of motivation and employment outcomes. For example, both Griffiths (1975) and Watts (1978) found that correlations between supervisors' and employees' ratings regarding work performance tended to be nonsignificant, and that supervisor ratings were better predictors than employee self-reports. Despite the questionable validity of employee self-ratings of work motivation and adjustment, the inner experience of these individuals may nonetheless play a critical role in sustaining motivational processes. In particular, we contend that the work environment has a "functional significance" (Deci & Ryan, 1985; Deci, Connell, & Ryan, 1989) for *any* worker that can play a determinative role with respect to performance and maintaining motivation. For example, low self-ratings of felt competence, autonomy, or relatedness in a sheltered workshop setting would likely indicate that the employee has relatively few poor work adjustment and is not yet ready for competitive employment.

Furthermore, low correlations with supervisor ratings are not unique to psychiatric vocational rehabilitation settings. Harris and Schaubroeck (1988) conducted a meta-analytic review of the correlations between workers and supervisors in nontreatment populations, finding a moderately low correlation of .35. Research investigating children's ratings of their own academic ability also supports the importance of discrepancies, as both extreme over- and underratings are associated with poorer mental health and achievement (Assor, Tzelgov, Thein, Ilardi, & Connell, 1990). Additionally, Griffiths (1975) demonstrated that the self-ratings of those rehabilitation employees with higher intelligence, less likelihood of denying abnormal behavior, and a shorter history of hospitalization were more congruent with supervisor ratings than those without such characteristics.

As a whole, this research literature suggests that workers who are more discrepant from their supervisors are likely to be defensive, have poorer mental health and possibly have poorer performance. These findings imply that rehabilitation employees of presumably lower social competence will show less congruence with supervisor ratings than those of higher social competence. Furthermore, lack of congruence between supervisor and employee ratings of the latter's adjustment and motivation may itself index poor work adjustment and lower work-readiness. That is, although supervisor and employee viewpoints may differ for a variety of reasons, the existence of such discrepancies may be associated with poorer participation in rehabilitation programs and less likelihood of success in competitive employment settings.

In accord with these general hypotheses, this study examined both employee and supervisor reports of motivational and work adjustment variables, in the context of a psychiatric rehabilitation program, as correlates of program participation and independent ratings of readiness for competitive employment. Speci-

fically, it was hypothesized that employees' self-reports of motivation, derived from items relating to their felt autonomy, competence, and relatedness in the workplace, are positively related to levels of work participation and readiness for competitive employment. Deci and Ryan (1991) have argued that activities and contexts that fulfill those needs are ones that catalyze internal motivation.

In order to test this prediction most stringently, the influence of motivation was examined after controlling for employee benefit plan, residential status, and level of social competence. Supervisor ratings of employees' motivation and dependability were also expected to be associated with work adjustment, as suggested by prior studies (Anthony & Jansen, 1984). An important further aspect of the study entailed the examination of discrepancies between employees' and supervisors' ratings of work-motivation. Larger discrepancies were expected to occur for workers of relatively poor previous social adjustment. Additionally, the magnitude of discrepancies regarding the ratings was expected to be inversely related to work participation and adjustment, suggesting that congruence between employee and supervisor ratings in rehabilitation settings may be an important dynamic indicator of vocational adjustment.

METHOD

Subjects

Subjects were 80 employees in a sheltered workshop and transitional employment program affiliated with a state psychiatric hospital. As part of a larger psychosocial rehabilitation plan, the program provides vocational training, experience, and income for both inpatient and outpatient employees by placing them in a variety of jobs, ranging from piecework and low-skill employment to computer programming in the community. The sample included in this study represented only outpatient individuals who were judged by a licensed mental health professional as having the capacity to consent (i.e., were not currently showing symptoms of acute psychosis), and who were willing to participate voluntarily. The sample was 57.5% male, 23.8% nonwhite; and 63.8% were individuals with a diagnosis of schizophrenia. Other diagnoses in the sample included bipolar disorder, depression, anxiety disorders, and various personality disorders. All subjects had a previous history of psychiatric hospitalization and were currently being followed by local hospitals. Subjects ranged in age from 21 to 75 years, with a mean age of 43.

Measures

Premorbid Status. Demographic variables were collected from each subject's medical file to compute the Social Competence Index (SCI) of Zigler and Phillips

(1961), used in many studies as a measure of premorbid social adjustment (see Strauss, Klorman, Kokes, & Sacksteder, 1977). The SCI quantifies prognosis on the basis of the level of social adjustment the individual has achieved. In accord with Serban (1980), the present study used an abbreviated SCI, computed by assigning scores of 0, 1, or 2 on subjects' marital status, education, previous occupation, and work history. For example, subjects who had never held a job in competitive employment for six months received a score of 0 for work history (25%), those who had worked between 6 and 12 months received a 1 (20%), and those who had worked at one job over a year received a 2 (55%). Reliability for the SCI in this sample was adequate (Cronbach alpha = .58). High scores on the SCI represent greater premorbid social competence.

Extrinsic Factors. Two extrinsic factors specific to this population may influence work participation and adjustment. First, most employees receive money from the Social Security Administration in the form of SSI and/or SSD to replace their regular income while they are considered disabled. Because disability payments are tied to an employee's earnings, these plans may be salient extrinsic factors that influence work participation. In this sample 36.3% received benefits from SSI, 30% from SSD, 26.3% from both sources, and 7.5% received no benefits. Second, not all employees live independently; many live in community residences where rules require them to participate in some rehabilitative program. Consequently, this variable may influence work participation and performance. Of this sample, 53.8% lived in supported apartments or group homes and 46.2% lived independently. Although not a major focus of this study, information on these two extrinsic variables was collected from the employee records of the rehabilitation program, then controlled in the primary analyses by representing benefit status through three contrast codes and residence status through a dummy code.

Motivation and Adjustment Ratings. Motivational factors with respect to work were assessed by the Work Motivation Form-Employee (WMF-E), developed for this study. The WMF-E is composed of 15 items rated on 5-point Likert-type scales (see Appendix A). A similar form, the Work Motivation Form-Supervisor (WMF-S), was given to each subject's supervisor. The items and scale labels on the WMF-S are the same as on the WMF-E, except for wording changes required by administration to a different target group. The WMF measures three areas of motivation believed to be important in work (Deci & Ryan, 1985): Competence, Relatedness, and Autonomy. A three-item dependability subscale was also included on the WMF to measure this nonmotivational aspect of work performance. A total-motivation score was computed by averaging the scores on the three motivational subscales, i.e., autonomy, competence, and relatedness. High scores on the WMF reflect higher levels of these motivational factors. Finally, discrepancies were computed a priori by finding the absolute value of the difference between the WMF-E and WMF-S dependability and total motivation scores.

The WMF was created by adapting some items from the Intrinsic Motivation Inventory, which has documented construct validity (Ryan, 1982) and a well-

developed factor structure (McAuley, Duncan, & Tammen, 1987), and by constructing new items on the basis of theoretical notions. Similar versions of the WMF have been used in two other samples. In a sample of employees at a shoe factory, Ilardi, Leone, Kasser, and Ryan (1992) found that the internal reliability of the total motivation score was adequate ($\alpha = .74$), and that this score correlated significantly and positively with five of the subscales from the Job Description Index (Smith, Kendall, & Hulin, 1969), a well-standardized measure of job satisfaction. Williams, Krusch, Papciak, and Ryan (1992) used the WMF to measure motivation to return to work in a sample of individuals with chronic back pain. Internal consistency of the total motivation score was also acceptable ($\alpha = .85$), and the score correlated positively and significantly with a measure of internally self-regulated reasons for returning to work ($r = .75, p < .01$) and with the general self-esteem scale of the Multidimensional Self-Esteem Inventory ($r = .36, p < .05$) (O'Brien & Epstein, 1988). Internal consistencies in the present sample were quite adequate for the total motivation score: $\alpha = .79$ for employees and $.87$ for supervisors. However, Cronbach alphas were somewhat lower for the dependability subscale of the WMF: for employees, $\alpha = .41$ and for supervisors, $.71$.

Current Level of Work Adjustment. Three measures of work adjustment were used as dependent variables. Employees' average earnings and hours worked per month over the last two to nine months were used as two variables which reflect program participation and persistence. Means, standard deviations, and ranges were as follows: for pay, $m = \$154.8$, $SD = \$125.8$, range of \$12.7 to \$708.4; for hours, $m = 49.8$, $SD = 26.8$, range of 9.7 to 124.3. Information on these two variables was drawn from the employee records of the rehabilitation program. Also, a rating of readiness for competitive employment was assigned by the director of the program, who was naive with respect to scores on the WMF. The work-readiness rating conforms to a 6-point anchored scale, ranging from unsuited for sheltered employment to fully ready for competitive employment, and is used for legal purposes in communicating with the Social Security Administration (Davey et al., 1991). Ratings of employees are assigned on the basis of behavioral performance attributes such as attendance, production ability, and amount of supervision required, according to both supervisor input and employee records. Because this rating serves as the criterion variable for employees' benefit status and program planning, it provides a "real world" outcome variable for this setting.

Procedures

Subjects were interviewed individually by a licensed social worker to assess their capacity to consent to participate in the study. Approved subjects were then contacted by another investigator who was not aware of work adjustment and social competence levels. After a couple of brief, open-ended questions about subjects' work, residential, and disability situations were asked, and the WMF-

E was explained, subjects completed the form themselves or with the investigator's assistance, consistent with their choice. Next, the subject's supervisor was given the WMF-S for self-administration. Finally, trained research assistants collected and coded demographic, background, and work participation data from each subject's hospital file.

RESULTS

T-tests demonstrated that neither subjects' gender nor diagnosis (schizophrenia versus other diagnoses) was significantly related to the outcome measures (all *p*'s > .22), so further analyses were collapsed across these demographic variables.¹

The primary analyses examined the influence of motivational and dependability variables after controlling for the employee's SCI score, benefit plan, and residence status using a hierarchical regression format. These analyses are reported in Table 1. Higher scores on the SCI were positively and significantly related to hours worked, and SCI scores also approached significance in relation to pay and the work-readiness rating. Subject's benefit plan accounted for significant amounts of variance in each outcome measure, but the only significant contrast code showed that subjects receiving no benefits had higher performance and participation than those receiving any type of benefit. Residence status was also significantly related to each outcome variable; subjects living independently had higher levels of participation and performance than those living in supported apartments or group homes.

Table 1. Regression Analyses Examining Effects of Motivation and Dependability Ratings on Work Outcomes, Controlling for Premorbid Status, Benefits, and Residence

Variable	PAY			HOURS			READINESS		
	R ²	ΔR ²	F	R ²	ΔR ²	F	R ²	ΔR ²	F
1. SCI score	.04	.04	3.17 ⁺	.05	.05	4.19*	.04	.04	3.06 ⁺
2. Benefit plan	.23	.19	6.02***	.20	.15	4.66**	.13	.09	2.77*
3. Residence status	.33	.10	11.90***	.31	.11	11.61***	.25	.12	11.10***
<i>Step 4</i>									
Total motivation (employee rating)	.37	.04	3.94*	.34	.03	3.56 ⁺	.32	.07	7.97**
Dependability (employee rating)	.34	.01	1.26	.33	.02	1.98	.29	.04	4.10*
Total motivation (supervisor rating)	.38	.05	5.71*	.36	.05	6.36*	.31	.06	6.91**
Dependability (supervisor rating)	.37	.04	4.13*	.36	.05	5.53*	.26	.01	0.87

+ = *p* < .10
 * = *p* < .05
 ** = *p* < .01
 *** = *p* < .001

When the employee-rated total-motivation score was entered at Step 4, it accounted for a significant amount of variance in how much employees earned over the prior nine months, and in the work-readiness rating. The semipartial correlation for hours worked approached significance ($p < .06$). This suggests that higher self-ratings of motivation are related to greater work participation and performance. Entering the employee-rated dependability score alone at Step 4 significantly increased the amount of variance accounted for in only the work-readiness rating, suggesting a less consistent relationship between self-ratings of dependability and work outcome. Work adjustment variables were also regressed onto the WMF-S total-motivation and dependability scores. The semipartial correlation of supervisor-rated total motivation was significant in each of these analyses, and dependability explained significant amounts of variance in how much employees earned and worked. Again, subjects rated as more highly motivated and dependable had greater levels of work participation and performance.

To provide an overview of the extent to which supervisors and employees agree regarding motivation and dependability ratings, intercorrelations were calculated. Correlations were significant but relatively low for both total motivation ($r = .25, p < .05$) and dependability ($r = .43, p < .001$). Subsequently, comparisons were made between employee and supervisor means on the WMF. For the total-motivation score, employees rated themselves significantly higher than did their supervisors (employee $m = 4.14, SD = .55$; supervisor $m = 3.73, SD = .59$; $t(79) = 5.21, p < .001$). The difference on the dependability subscale approached significance (employee $m = 4.04, SD = .68$, supervisor $m = 3.88, SD = .85$; $t(79) = 1.71, p < .10$) in the same direction.²

Pearson correlations were next computed between the predictor variables from the regression analyses, the absolute value of the amount of discrepancy between employee and supervisor ratings on the WMF scores and the four adjustment measures. These are reported in Table 2. The discrepancy on total motivation was negatively and significantly correlated with both earnings and hours worked, and approached significance for work-readiness. This suggests that the larger the discrepancy between employee and supervisor, the less the employee earned and worked, and the lower were ratings of work-readiness. In addition, the total motivation discrepancy score was negatively correlated with the SCI at a significant level, which indicates that greater discrepancies between supervisor and employee ratings occur for less socially competent employees. Discrepancies on the dependability score were related to neither the work adjustment variables nor the SCI score.

DISCUSSION

Although workers in nonhospital settings are known to be influenced by feelings of autonomy, relatedness, and competence (Vroom & Deci, 1992), little research in the area of psychiatric vocational rehabilitation has explored

Table 2. Correlation Matrix of Dependability and Total-Motivation Discrepancy Scores from the WMF with Work Adjustment and Premorbid Status

	<i>Pay</i>	<i>Hours</i>	<i>Readiness</i>	<i>SCI</i>
SCI score	.20 ⁺	.23 [*]	.19 ⁺	—
Benefit plan	.33 ^{**}	.31 ^{**}	.30 ^{**}	—
Residence status	.39 ^{***}	.39 ^{***}	.33 ^{**}	—
Total motivation (employee)	.20 ⁺	.19 ⁺	.25 [*]	—
Dependability (employee)	.18 ⁺	.22 [*]	.28 [*]	—
Total motivation (supervisor)	.27 [*]	.29 ^{**}	.29 ^{**}	—
Dependability (supervisor)	.24 [*]	.28 [*]	.12	—
Dependability discrepancy	-.13	-.17	-.11	.06
Total motivation discrepancy	-.23 [*]	-.25 [*]	-.22 ⁺	-.27 [*]

⁺ = $p < .10$
^{*} = $p < .05$
^{**} = $p < .01$
^{***} = $p < .001$

employees' perceptions of these motivational variables. This study demonstrated that employee self-ratings of motivation accounted for significant, albeit small, amounts of variance in work outcome variables after controlling for extrinsic factors and social competence. Additionally, in accord with the conclusions of Anthony and Jensen's (1984) review, supervisor ratings of employee motivation were significantly related to the amount an employee earned and worked, and to a rating of readiness for competitive employment. Furthermore, supervisor ratings of dependability were related to employees' concurrent earnings and hours worked. The results of this study support the idea that employees who report experiencing more autonomy, relatedness, and competence, or are perceived by their supervisors as high on these factors, have greater concurrent work participation and performance in vocational rehabilitation settings. These findings suggest that efforts to make sheltered workshops more facilitative of motivation might center on employees' felt autonomy, competence, and relatedness. For example, Deci, Connell, and Ryan (1989) developed an intervention that increased supervisors' ability to support workers' motivation in a nonrehabilitation setting. This program involved teaching supervisors to provide employees with choice, avoid surplus control and pressure, give more effectance-relevant feedback, and acknowledge employees' concerns and emotional states. Similar programs may be effective in sheltered workshops. Additionally, changes could be made in work tasks to increase employees' felt interest and competence.

Factors more specific to psychiatric vocational rehabilitation programs were also examined in this study. Diagnosis was unrelated to work participation and performance, as found in many other studies (see Anthony & Jansen, 1984), but those individuals with higher premorbid social competence tended to show higher work adjustment. Benefit and residence status were significantly related to work outcome, as individuals receiving no benefits or living independently showed higher participation and performance. Although these results were not

a primary focus of the study, they may be useful in assessing work potential. Speculatively, it seems most likely that their influence occurs either because the more "healthy" and responsible employees live without benefits and external support or because this lack of financial support serves as an external pressure on these individuals to work more. A further and distinct possibility is that the Social Security Administration's benefit plans contain specific disincentives to work (Davey et al., 1991) that may function to decrease work participation and performance.

As in previous studies (Griffiths, 1975; Watts, 1978; Harris & Schaubroeck, 1988), low to moderate correlations were obtained between employee and supervisor ratings of motivation and dependability. Employees in this sample generally rated themselves higher on motivational variables than did their supervisors; however, there was considerable variance in the degree of discrepancy. Analyses revealed that employees who are more discrepant from their supervisors show less work participation, readiness for competitive employment, and poorer prognosis (i.e., lower SCI scores). This may occur because these individuals have more difficulty clearly communicating their inner states to supervisors, generally overestimate the degree to which they are motivated to work, or are more defensive. The finding that means of self-ratings were higher than supervisor ratings is also consistent with some versions of an "ego-centricity bias" (Harris & Schaubroeck, 1988) on the part of the employee. On the other hand, these findings may be due to supervisors' viewing less socially competent employees as lacking motivation; such a dynamic could create a self-fulfilling prophecy that in turn decreases employee work participation and performance. Because the correlational nature of the present study makes it difficult to come to firm conclusions regarding the sources of employee and supervisor discrepancies, further research is necessary to replicate these findings and examine the characteristics of both employees and supervisors that lead to large discrepancies in motivational ratings. These findings suggest, however, that continued efforts to involve rehabilitation employees in their own program planning may be effectual (e.g., Farley, Schriener, & Roessler, 1988) insofar as employees and their supervisors achieve a common viewpoint on work-related issues.

A number of limitations of this study warrant discussion. First, the correlational nature of the study precludes its use as support of any causal relationships between motivation, discrepancies, and work outcome. Second, because this sample represents a relatively chronic psychiatric population, generalizing to workers outside sheltered workshops or to those with different characteristics, residence statuses, or benefit plans should be done with caution. Third, this is the first use of the WMF, and further revisions of this device seem warranted to assess other aspects of autonomy, relatedness, and competence. Finally, because the outcomes in this study were specific to sheltered workshop settings, the WMF's relation to competitive employment is as yet unknown.

Nonetheless, the finding that motivational factors known to be important in nontreatment settings were related to the performance and participation of sheltered-workshop employees has relevance for psychiatric vocational reha-

bilitation programs. Because participation in sheltered workshops can provide wages, training, and work experience needed by employees with chronic psychiatric disorders (Anthony & Jansen, 1984), research investigations and interventions developed to address motivational issues may serve such goals of rehabilitation programs.

NOTES

¹ Given this sample's wide range of age (five subjects were past the age of 65) and of number of months on which outcome data were available (20% less than nine months), analyses on the primary hypotheses were also conducted that excluded these "outliers." The patterns of results were quite similar to those reported.

² 23.8% of subjects rated themselves lower than did their supervisor on the total motivation score, and 32.5% on the dependability score. Exploratory analyses detected no differences between over- and underraters on dependent variables (all p 's > .33).

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APPENDIX A

Subscale Questions WMF-E

I. Autonomy

How much do you enjoy your work?

Do you work because you really want to make some changes in your life?

How boring do you find your work?*

Do you keep working because it makes you feel successful?

How interested are you in your work?

How pleasant is work for you?

II. Relatedness

How much do you like your co-workers?

How well do you get along with your supervisor?

How well do you get along with your co-workers?

III. Competence

How difficult is work for you?

How good are you at your work?

In general, how would you rate your performance at work?

IV. Dependability

Do you take breaks when you are supposed to be working?*

How often are you on time for work?

How often do you come to work when you are scheduled to?

*Items are reverse keyed.