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Who's buying the company stock? An investigation into identity and stock purchase plan participation in a newly public firm

CEO Publication
G 12-02 (610)

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January 2012

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An investigation into identity and stock purchase plan participation in a newly public firm

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WORKING PAPER

ABSTRACT

Most of the research on employee ownership or employee stock plan participation investigates the effects of such forms of ownership on employee attitudes. In order to supplement that literature, our study explores the effect of a set of employee attitudes (work related identity) on the decision to participate in an employee stock purchase plan. The study is conducted with a newly public firm, and we examine the effect of work identity on the purchase decision at two periods of time. The first is the initial public offering, when the employee has no information on how the firm's stock will perform in the market. The second is the first quarter following the IPO, when employees do have market data to help them with their decision making.

There may be a revolution quietly taking place among the ownership of American corporations. This revolution is the result of a rapidly expanding number of companies with substantial employee ownership of stock. This ownership has come about primarily through company-sponsored employee stock ownership plans (ESOPs) replacing defined benefit plans (such as profit sharing), but the true revolution may be the result of companies "creating share-purchase programs, which encourage employees to buy stock directly on favorable terms underwritten by the corporation and by including greater numbers of employees in stock-option plans" (Blasi & Kruse, 1991, 243).

Major corporations, such as IBM and Duracell International (Capell, 1996; Sager, 1998) are following the lead of the high-technology companies by offering stock options to rank and file employees. It is hoped that stock options will prove a powerful incentive to aid in bringing the best people to the corporation and to halt the "brain drain" (to high-tech startups) experienced in recent years by these older, established corporations. Additionally, the benefits of employee shareholders aligning their interests with those of outside shareholders and management are also tempting.

In contrast, new startups and high technology firms have trumpeted the potential of stock purchase plans for many years. In these firms turnover is a constant dilemma and, for employees, the risk of joining at an early stage in the firm's life cycle is relatively high. Promises of large salaries and bonuses are impossible because of initial cash flow problems. That coupled with the need to provide employees with income potential as well as a shared stake in the organization's future" (Edwards & O'Neill, 1995, 73) has led to the creation of stock purchase plans as a form of employee compensation. These plans are also expected to solidify the link between employee strategic interests and those of the firm, and serve as both retention and attraction tools.

A recent survey conducted in 1998 by a consulting firm (iQuantic)[1] found that among the high technology firms they surveyed, 75% of managers and 42% of exempt employees received some form of stock option grant. Additionally, as new technology firms go public, they often implement stock purchase plans. These plans are designed, in many cases, to provide all employees (exempt and non-exempt) with a share in the ownership of the firm. Thus, today we find that the type of employees to which the opportunity to purchase company stock is offered has expanded from primarily executives to the inclusion of <u>all</u> employees in many organizations (Newman & Waite, 1998). This is particularly true within younger, high technology firms, which are the foci of our study.

Given the prevalence of stock plans and the inherent risk borne by employees, our research investigates the determinants of the employee's decision to participate in a stock purchase plan[2]. We focus on a particular stage in a firm's life cycle, the time prior to and immediately following a firm's initial public offering[3]. Unlike many prior studies of stock ownership in larger, more established organizations (Blasi et al., 1991; Rosen & Young, 1991), the employee decision to spend his/her own money to buy stock at the time of the IPO is based on no prior knowledge of the market for the company's stock. Therefore, the decision to invest (and at what level) involves more speculation than it may when an employee works for a larger, more established firm.

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[1] Iquantic newslettter, Comminique, 1998. Results of iQuantic 1998 High Tech Equity Practices survey reported in their 1998 newsletter.

[2] A stock purchase plan requires an employee allocate a certain percentage of his/her base pay to purchase company stock at a rate that can be discounted up to 15 percent of the current market price. Employees can make the decision to participate and at what rate on a periodic basis (usually quarterly).

[3] The initial public offering is the time an organization offers its stock to the public for the first time.

Prior conceptual work on employee ownership suggests that we should expect to see a "positive relationship between ownership and identification with the organization" (French, 1987: 30). We build on this idea by employing identity theory to the study of the determinants of employee stock participation. Although identity theory has not been applied directly to the study of employee ownership, there is some suggestion in the conceptual literature that employee ownership and identity with the organization should be related (e.g., French, 1987; Pierce, Rubenfeld, and Morgan, 1991

We conduct our study with a high technology firm that initiated a stock purchase plan prior to their initial public offering (IPO). The study involves collection of employee survey data prior to the IPO event (in the survey we obtain measures of employee identity), and then examining the effect of identity on the percentage of base pay each employee allocated to the stock plan at two different time periods. The first is at the time of the IPO (employees had to make a decision about participation before they knew how the market would react to the company's stock), and the second is the quarter following the IPO (after employees had some experience with the rates at which the firm's stock was trading).

STOCK PURCHASE PLANS

Employee stock ownership can be accomplished in a number of ways. Companies can use stock option grants with various vesting periods (from one to five years in most cases) or stock purchase plans that include the purchase of stock through payroll deductions. Stock purchase plans are designed such that employees must decide to forego part of their base pay in order to obtain the stock. Although stock is purchased by the employee at a discounted rate (thus, the hope is that the stock can later be sold on the market for more than the purchase amount), there is no guarantee that employees will realize a positive return from their stock. As a result, an employee may forego guaranteed income for a promise that does not pay out. Of course, the opposite can also occur. Employees may be able to sell their stock at a premium, thus capitalizing on their investment. In summary, it is important to note that stock purchase plans are not an employee 'give away.'

The use of stock ownership or option grants as part of a comprehensive compensation package is expanding. Many more organizations are considering adopting this type of plan (stock ownership) with the expectation of various outcomes. For example, older established firms may be seeking to develop and attract entrepreneurial talent, to foster a sense of ownership among employees (Newman & Waite, 1998) or to create a small company environment within a large organization (Anfuso, 1995). On the other hand, start-up companies and high technology firms may offer stock options in lieu of high salaries (Shimko & Tucker, 1993) or to attract and retain employees who are risk takers (Newman & Waite, 1998).

Given the increased use of stock as a form of 'incentive' and the risk inherent in employees giving up base pay to purchase stock, we think it important to understand what drives the stock purchase decision. Are employees foregoing guaranteed income because they understand the financial implications of their decision, or are they doing so because they are loyal and identified with the company? The answer to this question has important implications for theory development and for practice. The next section of our paper discusses the impact that organizational identity can have on the stock purchase decision. We build on prior research done on employee ownership and suggest that organizational identity impacts the initial 'buy' decision.

ORGANIZATION IDENTITY

The study of identity has long been a focus in the social psychology literature. Research into an individual's various identities and the salience of various identities has shown that identity is an active driver of behavioral intentions (Stryker & Serpe, 1982) and performance (Sparks & Shepherd, 1992). And, although not directly utilizing the identity literature, conceptual models of employee ownership have suggested that one particular identity (identity with the organization) should be positively related to employee ownership (French, 1987).

Organization identity or commitment focuses on a strong belief in and acceptance of the values and goals of an organization (Mathieu & Zajac, 1990). High levels of organizational commitment can signal the existence of a psychological engagement or bond between the values and goals of the organization and the employee and may contribute to an increased employee willingness to put forth efforts on behalf of that or a similar organization. Given the lack of market data on a newly IPO firm's stock (or what the stock will be priced at and subsequently selling at after the IPO), the purchase of stock by employees may be the result of high levels of organizational commitment or identity.

The Pierce, et al., (1991) model of employee ownership explores the network of relationships through which employee stock ownership may produce a variety of effects, both social psychological and behavioral. In fact, most conceptual work conducted to date considers the *consequences* of employee ownership rather than the *antecedents* of such ownership. This model depicts a fairly complex causal relationship that has employee ownership leading to expectations of formal ownership rights including equity, influence, and information. Further, the model theorizes that formal ownership rights, in turn, induce feelings of psychological ownership. These feelings of psychological ownership are hypothesized to produce individual behavior in support of common goals (Hammer & Stern, 1980).

We suggest that the purchase of employee stock by employees (via the stock purchase plan) is one of the predictable individual behavioral responses of organizational identity. This interpretation is consistent with the work done by French (1987) in that he suggests (via a formal hypothesis) a direct relationship between organization identity and ownership. However, French's work proposes that ownership will affect identity, rather than identity affecting ownership. In summary, we suggest and test the proposition that organizational identity predicts employee stock purchase as indicated by the *psychological ownership --> integration --> individual outcomes* aspect of the Pierce (1991) model and as supported by the general proposition suggested by French (1987).

Hypothesis 1: Organizational identity will be positively associated with higher levels of employee participation in the stock purchase plan.

In a recent study based upon prior performance research (Welbourne, Johnson & Erez, 1998), Welbourne and Washington (1999) introduce and report the results of an initial validation study for the Role-Based Identity Scale (RBIS). This scale is a measure of 5 work-related identities: career, entrepreneurial, team, job and organization.

Given the limited work done to date on the *determinants* of employee participation in stock plans, particularly in the context that we study (initial public offering, high technology firms), we decided to examine the effect of all five identities on stock participation. However, the literature only suggests that organization identity, as defined in the organizational commitment literature, should be expected to predict stock participation rates. Thus, as a way to supplement our study, we suggest that although organizational identity will be positively associated with the employee stock purchase decision, the other work-related identities will <u>not</u> be related to the percentage of base pay allocated for stock purchase.

Hypothesis 2: Work-related identities, other than organization identity, will not be related to the employee's level of participation in the stock purchase plan.

METHODS

Sample

In order to test our hypotheses, we collected survey data (including identity measures) from employees at a high technology firm that was planning to conduct an initial public offering. The survey was done approximately one year prior to the IPO event. Unfortunately, we were unable to collect identity data closer to the IPO (as the company was extremely busy and unwilling to conduct an additional employee survey at that time). One year after we collected the individual survey data, the firm completed its initial public offering. We obtained data on employee participation in the stock purchase plan from the firm's finance department. Data were collected for two points in time. Time 1 was the time of the initial public offering (IPO). Employees had to make the 'buy' decision prior to the actual IPO event. This means that they had no knowledge of the expected trading value of the company's stock. We also collected data at Time 2, which was after the first quarter of being a public company (employees had access to market data at this point in time). The company went public at $15 per share, and during the first quarter the stock had experienced several swings, but at the end of the first quarter the stock was trading at close to $15 per share. The maximum trading price during the first quarter was in the $25 range[4].

The data were collected from employees at a high-technology software firm located in the western United States. The total number of employees who completed the survey was 141 employees (at the time of the data collection that was approximately

[4] Exact stock price data are not provided per the request of the firm – in order to conceal its identity.

65% of the workforce). At the time of the IPO (approximately one year after the survey was administered), the firm had doubled its workforce (there were about 440 employees). Therefore, our study is conducted with a sub-sample of workers, perhaps those who are more committed to the organization because they had been employed with the company for at least one year. Average tenure of respondents at the time of survey was 41.01 weeks (S.D. = 117.13).

Work assignments of the respondents included administrative personnel, sales staff, technical support and management employees. Demographic data including age, gender and education level were provided by the respondents. In addition, the firm provided a variety of archival information including gender, current salary, length of service, performance data, team assignments, and after the IPO we obtained employee stock purchase information. There were no statistically significant differences between stock purchase plan participants and non-participants with regard to age, education, salary and survey participation. However, there was a significant difference between male and female percentage participation at both Time 1 ($F = 5.32$, $p < .05$) and Time 2 ($F = 7.59$, $p < .01$). The mean percentage participation rate for the male employees was higher, at 8.08% at Time 1 and 7.10% at Time 2. For the female employees the mean percentage participation was 6.55% at Time 1 and 5.13% at Time 2.

We also examined the differences between survey respondents and non respondents on the demographic data provided by the firm, and there were no statistically significant differences (on performance, stock participation rates, age, gender, or performance levels).

Independent Variables

The items included in the Role-Based Identity Scale (RBIS) were originally developed for use in a multi-company study of work-related identities (see Appendix A for the items included in the scale). The inceptive validation study investigated the reliability, distributional properties, and the discriminate and convergent validity of the scale. The scale consists of 20 items, with four for each of the five identities: career, entrepreneurial, job, organizational, and team.

Control Variables

The control variables utilized in the analyses include age, gender (1 = male and 0 = female), education, and salary. Education level was coded using a scale that went from 1 = less than high school to 10 = doctorate degree. We controlled for salary due to the fact that employees with lower base salaries may have less disposable income with which to purchase stock.

Dependent Variables

The two dependent variables (Owner1 and Owner2) were obtained from archival data provided by the participating firm. These variables represent the percentage of income that a particular employee invested to purchase the company's stock. The percentages exercisable ranged from a minimum of 1% to a maximum 10% of the employee's base salary. The stock could be purchased at 85% of the lowest market price during the quarter (or 85% of the 'going out' price at the time of the IPO). For the regression analyses, we transformed the ownership variables by taking the log of each term.

Sample Characteristics

Table 1 presents means, standard deviations, and sample sizes for each of the demographic variables and the five identity measures. At Time 1, the occurrence of the IPO, very little was known about how the stock would perform in the market. Since we were interested in understanding which employees would be likely to purchase stock in the company for which they work it is important to note that among those employees who participated, the mean ownership percentage participation at this initial offering was 7.4%. At Time 2, the quarter following the IPO, employees had much more information about stock performance and, in a sense, were able to make a more informed judgment. The mean ownership percentage participation at Time 2 was 6.15%.

Table 1

Means, Standard Deviations, Correlations and Sample Sizes

	Means	SD	N
Owner1	7.37	3.24	91
Owner2	6.15	3.34	81
Owner 1 (log)	.80	.29	91
Owner 2 (log)	.70	.30	81
Tenure (in weeks)	41.01	117.13	141
Last percentage increase (log)	2.80	1.33	141
Age	36.76	7.81	141
Education	6.17	1.36	141
Gender	.43	.50	141
Salary (log)	10.94	.45	141
Career	3.48	.84	141
Entrepreneur	3.99	.56	141
Job	3.35	.74	141
Organization	3.87	.79	141
Team	3.22	.81	141

Notes: S.D.=standard deviation; N=sample size

Table 2 presents the Pearson product moment correlations for the variables used in the analyses. Ownership participation was significantly positively correlated with education, gender and salary at Time 1, but it was only significantly correlated with gender at Time 2.

Table 2

Correlation Table

	1	2	3	4	5	6	7	8	9	10	11	12
1. Owner1												
2. Owner2	.75***											
3. Age	-.08	- .16										
4. Education	.24**	.15	.14									
5. Gender	-.26**	- .33**	- .12	-.08								
6. % increase	-.02	.08	-.06	.04	-.13							
7. Salary (log)	.19*	.10	.46***	.20**	-.31***	-.27**						
8. Tenure	-.06	-.01	.02	.00	.11	-.19*	.10					
9. Job	-.09	.10	-.01	-.00	.01	.19*	-.24**	-.13				
10. Entrepreneur	.01	.01	.07	.07	.03	.05	.01	.05	.27***			
11. Career	.14	.05	-.06	-.01	-.03	.10	-.15*	.03	.17*	.43***		
12. Team	.14	.15	-.02	.04	.02	.19*	-.07	-.13	.39***	.17*	.11	
13. Organization	.10	.20*	.03	.02	.10	.20*	-.05	-.11	.68***	.33***	.09	.68***

Notes: *p<.05; **p<.01; ***p<.001

RESULTS

Coefficient alpha was utilized to analyze the reliabilities of the RBIS. The coefficient alpha values are as follow: career = .82, entrepreneur = .74, job = .70, organization = .86 and team = .82. These values approximate the average reliability values reported in the initial validation study (Welbourne & Washington, 1999).

We ran three separate regression analyses using percentage ownership as the dependent variables. Table 3 presents these results for Time 1 and Time 2. Additionally, we controlled for time 1 and ran a third analysis predicting stock ownership in time 2. The supplemental analysis allows us to investigate the effect of identity on the employee's decision to change the amount of payroll contributed after learning more about the overall market. Given the situation for this firm, that stock price was not significantly higher than the IPO price at time 2; the analysis provides some additional insights.

Table 3

Results of Regression Analyses

	Log of Percentage Ownership at Time 1	**Log of percentage at Time 2**
Variables	Beta	Beta
Tenure	.08	.15
Last percentage increase	.09	.21+
Age	-.28+	-.40**
Education	.37**	.34**
Gender	.26*	.36**
Salary (log)	.14	.23
Career Identity	.17	.10
Entrepreneurial Identity	-.20	-.16
Job Identity	-.41**	-.21
Team Identity	.06	-.04
Organization Identity	.63***	.60***
	R^2 = .39 F = 3.37***	R^2 = .43 F = 3.96***

Dependent Variable: Log of Percentage Ownership at Time 2 (with time 1 as a control)

Variables	Beta
Ownership at time 1	.57***
Tenure	.10
Last percentage increase	.14
Age	-.23*
Education	.14
Gender	.23*
Salary (log)	.10
Career Identity	-.001
Entrepreneurial Identity	-.05
Job Identity	-.01
Team Identity	-.05
Organization Identity	.30*

$R^2 = .65$ F = 8.87***

Standardized beta coefficients are reported.

Note: + $p \leq .10$ *$p \leq .05$; **$p \leq .01$ *** $p \leq .001$

The overall results of the regression at Time 1 are significant with an R^2 of .39 (F = 3.37, $p < .001$). Among the control variables, education (Beta = .21, $p < .05$) was a significant and positive predictor. Job identity (Beta = -.41, $p < .01$) was a significant and negative predictor of percentage ownership, while organizational identity (Beta = .63, $p < .001$) was a significant and positive predictor.

At Time 2, the results of the regression are again significant with an R^2 of .43 (F = 3.96, $p < .001$). Among the control variables, age (Beta = -.40, $p <.01$) was a significant negative predictor, while education (Beta = 34, p < .01) and gender (Beta = .34, $p < .001$) were significant and positive predictors. The only identity variable that was significant was organizational identity (Beta = .60, $p < .001$). The last analysis includes ownership at time 1 as an additional control variable (thus analyzing in effect the change in ownership from time 1 to time 2). In this analysis, ownership at time 1 is highly significant and positive (Beta = .57, $p < .001$), and gender remains significant and positive (Beta = .23, $p < .01$) while age is negatively related (Beta = .23, $p < .01$). The only identity variable that is significant is organizational identity (Beta = .30, $p < .05$).

DISCUSSION

Overall, our results provide support for the hypothesis that employees with higher levels of organizational identity will purchase higher levels of company stock; the results hold true when we consider both time periods and when we study the change in employee ownership from time 1 to time 2. Even though employees saw that the stock price did not settle at a price much higher than the "going out" IPO price, those employees who had higher identity in the organization were more likely to have higher levels of ownership at time 2.

Contrary to what we anticipated, the results from time 1 do not provide complete support for our second hypothesis, that none of the other identities would be related to the stock purchase decision. Job identity was negatively associated with ownership. Given that job identity was only related to stock plan participation at time 1 and that we have no theory to support the relationship, we cannot adequately interpret these data. If may be that people who are job focused are more inclined to "wait and see" before purchasing the company stock. However, additional research on the relationship between other types of identity (including job identity), perhaps within specific occupations, is needed to adequately address this outcome.

Implications for Employee Ownership Research

To date, it appears that most research on employee ownership has focused on larger firms, and as a result, studied the effects of employee ownership on employee attitudes. This type of research has been critical for development of our understanding of employee ownership as a motivational and/or control tool. However, to supplement that work, we studied the factors that predict levels of employee participation in a stock participation plan in a newly public company.

We found that organizational identity is related to level of participation in the stock purchase plan. This raises important issues for researchers and for firms using these plans. Employees may be making decisions to forego cash to buy stock as a result of their emotional attachment to the organization, even though the decision may not be in their best financial welfare.

With all the stock option and stock purchase plans being used today, particularly in very high risk firms that have a high probability of failure (the massive numbers of internet companies going public with little or no profits is a recent example), it is critical that employees make stock purchase decisions based on facts rather than emotion. Further understanding of the employee ‘buy’ decision is critical for researchers as well as for practitioners.

Implications for Identity Theory

Identity theory has been widely used by social psychologists in the study of salience and commitments of individual to relationships from a personal life perspective, but its use in organizational research has been much more limited. We hope that our exploratory examination into multiple identities within the much narrower confines of work role identities will help spur both conceptual development of identity at work and empirical research using the multi-identity at work concepts. Identity theory can be used to study a number of organizational phenomenon in addition to the topic we examined (stock purchase plan participation). Given all of the work on the new employee contract and the changing work environment, the study of multiple identities at work may help to understand the implications of how employees view themselves on the job. Additionally, as firms undergo major changes (such as the IPO), it would be valuable to understand how these events affect identity. Unfortunately, we could not do so in this particular study, but we think that an examination of identity stability in the work setting would be useful.

Limitations

As with any study, ours has several limitations that should be considered when interpreting the results. Our inability to repeat the employee survey (and obtain more recent identity data) at a time closer to the IPO event is problematic. However, the question of the temporal stability of identity commitment remains an open question. Traditional research in this area indicates that identity is relatively stable and is a good indicator of behavior when the level of commitment to a particular role is fairly strong (e.g. Leary, Wheeler & Jenkins, 1986; Strykler, et al., 1982). On the other hand, Ashforth (Whetten & Godfrey, 1998, p. 213) proposes that identity is a “perpetual work in progress”. She goes on to describe a fairly complex process (based upon Lewin’s stage model) of change that includes the unfreezing, changing and refreezing of identity. She notes, though, that identities are developed in a mutual shaping process with others (including an employing organization) and that identity enactment is usually cued by a specific context or setting. Therefore we propose that within the given context of a stable environment (employing organization) it is reasonable to assume that identity would remain stable within the relatively short time frame encompassed by this study. However, the stability of identity is a question that should be addressed in future research studies.

Another possible limitation is the fact that the study encompasses a single organization. Given the increasing numbers of firms going public in recent years, the characteristics of this organization (high technology, fast growth, at the stage of IPO) make it particularly interesting for study. However, generalizability is a potential problem and a call for more studies of this type is warranted.

Conclusion

The findings in this study expand both the identity theory literature and the employee ownership literature. Identity theory has been primarily focused on the evaluation of the social roles occupied by a given individual and on understanding the development of an individual's sense of self (e.g. Burke, 1991) through these social roles. Our study helps to move the identity research further into the management arena. By merging identity theory with prior work on employee ownership, and by studying ownership in a way that has not been addressed (the determinants of employee stock purchase decisions vs. the consequences of ownership), we contribute to two different literatures while studying a type of firm that has received little attention by researchers studying ownership. Given the importance of entrepreneurship and stock ownership in smaller, entrepreneurial firms, we hope that our work will inspire others to examine employee ownership in this unique context.

Organizations are attempting to become more creative and innovative in their efforts to motivate employees to experience a stake in the outcomes of the organizations to which they belong. Therefore, the ability to predict employee responses to efforts to enhance a sense of ownership and also to evaluate the effects of various forms of compensation on employee behavior becomes increasingly important. Much of existing research focuses on work related behavior (such as turnover) (Buchko, 1993) that is presumed to impact the organization's effectiveness. Our research examines behavior that includes some risk for employees -- both short term and long term. It is a short term risk because employees must forego cash from their base pay, and it is a long term issue because of possible market downturns -- falling stock market prices leading to long term losses -- rather than gains.

Given the current trend toward organizations seeking more career oriented (rather than loyal employees or those high in organizational identity), our findings suggest that the prevalence of stock purchase plans may be troublesome. If organizational identity is the only form of identity that predicts stock purchase participation, and firms are creating an environment where organizational identity may be lowered, then this suggests stock purchase plans may not be a viable form of incentive compensation.

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Appendix A

The Role-Based Identity Scale[a,b]

Please rate how important the following are to you using the scale provided.

CAREER IDENTITY
1. Reading journals or books associated with my profession
2. Having time to really think about my career
3. Doing things that will help me in my career
4. Being involved in programs that allow me to talk to others in my field

ENTREPRENEURIAL IDENTITY
5. Trying out new ideas and approaches to problems
6. Being able to change the way things are done
7. Working on complex problems
8. Being able to change things so they're better

TEAM IDENTITY
9. Doing things that involve working with the people I work with now
10. Spending time with the people in my work group
11. Staying in a position that lets me be with my work group members
12. Staying with the group that I am currently working with

JOB IDENTITY
13. Being able to talk about my job with friends
14. Telling my family and friends about my job
15. Staying in the job that I have now
16. Being employed in my current job

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ORGANIZATIONAL IDENTITY
17. Being part of the company[c]
18. Working for the company
19. Being proud of the company
20. Being loyal to the company

[a] Use of the RBIS requires permission from the first author
[b] The response format was a 1-5 Likert-type scale, with 1 = "not important at all," 2 = "not very important," 3 = "somewhat important," 4 = "important," 5 = "very important."

[c] "The company" was replaced with the name of the firm being studied.