New Hires’ Job Satisfaction
Time Trajectory*

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Abstract

This study is aimed at quantifying the job satisfaction trajectory of new hires. The authors compared job satisfaction of 815 new hires to 1,925 remaining (non-new) employees, asking all participating employees a simple question daily for ten months: “How happy are you today at work?” With a full sample of 177,000 data points, we found high heterogeneity in job satisfaction among employees from 12 different companies that participated in our study. Also, supporting previous research, new hires started with very high levels of satisfaction compared to the remaining employees. The level of job satisfaction kept on decreasing (until 64th day), continuing at a slower pace, gradually bottoming out around the middle of the 7th month (195th day), when job satisfaction began an upward trend.

Keywords: Job Satisfaction Time Trajectory; New Hires; Acculturation theory.
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1. Introduction

Analyzing job satisfaction of new hires is important because it can help organizations make and implement appropriate policies to improve new employees' emotional wellbeing (Orpen, 1986; Pulakos and Schmitt, 1983). Understanding the trajectory of job satisfaction of new hires can help companies develop strategies not only to improve performance but also to ensure that new employees stay on to contribute effectively for a longer period of time. This is a critical issue in the "war for talents", a term coined by McKinsey et al. (1998) to refer to the competition and challenges of firms to attract high potential young elite at the upper management level. Beechler and Woodward (2009) show that this does not only apply to higher ranked employees. Therefore, firms are advised to not only ensure that new employees do not quit, but also that they feel satisfied with their job in order to get the highest return possible (Tsai, Wu, Yen, Ho, and Huang, 2005).

To the knowledge of the authors, there is not much research on detailed time trajectories of new hires’ job satisfaction. For example, we do not know exactly at what time an employee’s trajectory of job satisfaction changes. Especially important are the levels of job satisfaction at various points in time as decreasing levels might eventually lead to the new hire leaving the company (Sanda and Adjei-Benin, 2011).

A study on changes in time trajectory was carried out by Boswell, Shipp, Payne, & Culbertson (2009) who provided a thorough background on job satisfaction of new employees. Their research was based on a sample of 132 newly hired employees from a public service sector organization located in southeast United States. They surveyed new employees’ job satisfaction on three occasions (three month intervals). Feedback from the first questionnaire enabled them to compare job satisfaction of new employees, and supported earlier research that job satisfaction of changing employees was higher at the
new firm than it was at the firm they had quit. The authors found that on average, job satisfaction of new hires would have its highest point at the beginning (t=1), and from then onwards, there was a gradual decline for the following three months, before it started to slightly increase from that plateau.

Employee job satisfaction is commonly evaluated by applying the Minnesota Satisfaction Questionnaire (MSQ) with its long form covering 100 questions; the short form contains 20 questions (Spector 1997). Boswell, Shipp, Payne, & Culbertson (2009) attempted to investigate this construct with fewer items in order to elicit a higher response rate from employees. They measured job satisfaction using only three items, one of which was stated simply: “All in all, I am satisfied with my job” (1: strongly disagree, 5: strongly agree).

In the present study, we aimed to throw light on the trajectory of job satisfaction of new hires on a daily basis. Based on the tenets of the Acculturation theory, we investigated the job satisfaction of employees from 12 companies in various sectors. The job satisfaction level of new hires was compared to that of non-new employees. We investigated job satisfaction using a computer application software downloaded to a mobile devise (an “app”) to ask one simple question: “How happy are you at work today?” Our research design, therefore, allowed us to ask all employees on a daily basis to assess their job satisfaction. To the knowledge of the authors, this research design is novel and more precise in receiving information than any other research undertaken so far on job satisfaction of new employees.

The paper proceeds as follows. The next section describes the Acculturation theory that will be used to investigate the fit of new employees to their companies. This is followed by the Method where the sample and data are introduced. The Results are then presented. The next section is the Discussion. Finally, in the Conclusion, the salient points of the study are summarized.
2. Job Satisfaction and the Acculturation Theory

We investigated job satisfaction of new hires vis-a-vis that of the other employees (non-new) to determine the extent to which new employees acculturate to their new firm. Job satisfaction is defined by Locke (1976) as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1304).

Employee job satisfaction is an important topic that has been extensively investigated (Albrecht, 2006). Sanda and Adjei-Benin (2011) note that cultural role conflicts of employees have a negative impact on job satisfaction. There is also evidence that higher job satisfaction of employees leads to more positive psychological outcomes such as a better commitment or a better identity (Bebenroth and Ismail, 2016). Also, there is evidence that higher job satisfaction leads to a lower turnover rate of employees (Coccia, 2001; Joshi and Goyal, 2012). Not surprisingly, a common finding in expatriation research is that non-satisfied expatriates quit their jobs more often than satisfied ones (Shaffer and Harrison, 1998; Nauman 1993; Van Knippenberg and Schippers, 2007).

The so-called “why questions” soliciting reasons for job satisfaction or dissatisfaction have been answered in the literature (Rusbult, Farrell, Rogers, and Mainous, 1988; Sanda and Adjei-Benin, 2011). Early literature such as Pulakos and Schmitt (1983) indicates that prediction of satisfaction is possible when one knows what outcomes the new hires anticipate. Orpen (1986) examined the relationship between perceived task attributes of employees and job satisfaction among 82 plateaued (having more than 7 years of experience at the company) and 130 non-plateaued managers (new managers). He found that job satisfaction of the plateaued managers correlated with four of the five task attributes compared to that of the non-plateaued managers where such association was found with only one attribute. Also, employee satisfaction was found to moderate the positive relationships between stress and employees’ use of assertiveness and coalition building (Zhang, 2017). Prior research also demonstrated the importance of both situational factors and individual difference in determining employee attitudes toward their jobs (e.g. Gerhart,
Acculturation is a cultural learning process experienced by individuals who are exposed to, or have the need to integrate into a new culture or employment background. Acculturation was investigated as early as 1936. Redfield, Linton and Herskovits stated: “acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups” (p. 149).

The Acculturation theory originally proposes that when the integration process between two groups starts, the original culture of one or both may alter having four possible scenarios in the frame of cultural adjustment. This phenomenon can be investigated for a home or a guest country (e.g. Tadmore, Galinsky and Maddux 2012). In assimilation, individuals from non-dominant cultures adjust entirely to the values of the dominant group. In contrast, separation indicates the process in which individuals identify with their own culture when they reject the values of the dominant group. Marginalization refers to minimal identification with both cultures while integration shows double identification i.e. with their own culture and with that of the dominant group. Chun, Organista, and Marín (2003) prefer to think of acculturation as a more complex phenomenon or bi-dimension with interactive perspectives instead of a unidirectional school of thought simply known as assimilation.

Chen, Benet-Martinez, We, Lam and Bond (2013) researched the psychological aspects of bicultural integration. Guarnaccia, and Hausmann-Stabile (2016) researched acculturation from an anthropological angle. Acculturation also received attention from business and management scholars whose findings have proven useful to human resource management (e.g. Samnani, Boekhorst and Harrison, 2012).

In our research, the Acculturation theory provides the framework for our investigation since we hypothesize that new hires would have to adopt the culture of their company in
order to be job satisfied. We employ the Acculturation theory to gain insights into the multifaceted and often versatile interactions between new employees and their non-new peers. The culture of an organization is defined by an overall combination of corporate values, employee beliefs and norms (Appelbaum et al., 2007). The complexity of acculturation is rooted in the fact that an organization comprises individuals and groups, each integrated in networks of subcultures (Elsass and Veiga, 1994). The degree and rate of acculturation varies among these networks, individuals, and subgroups, especially between new hires and other employees.

It is important to note that not everybody experiences acculturation to the same degree (Nahavandi and Malekzadeh, 1988). Some researchers propose that disagreement with the desired mode of integration leads to acculturative stress (Chun et al., 2003; Knilans, 2009). As such, stress and tensions may lead to acculturative conflicts, also known as culture clash (Knilans, 2009). Culture clash is likely when people feel threatened by either the risk of losing their accustomed way of doing things or when they face unfamiliar situations, e.g. upon starting work at a new firm. An important intervention to avoid culture clash is having structured and purposeful interaction between new hires and other organizational members to nurture intercultural tolerance or, in other words, facilitating assimilation of new hires to the culture of the firm that they have just joined (Schweiger and Walsh, 1990).

In the current study, all four modes of acculturation are applicable to new hires in their adjustment to their workplace. In the case of an assimilation, new hires would fully adopt the culture of the organization and hence, we would expect them to be job satisfied i.e. their job satisfaction should be always high from the beginning to the end of the observation. In the case of separation, new hires would either have left the previous firm because they were not satisfied with their previous jobs, or they felt that the new firm offered better opportunities. Such new hires would face a decrease in job satisfaction as time passed. Even if new hires did not have any job experience before starting at the company, we still considered them in the separation category when their job satisfaction declined. The
rationale for doing so is that like other new hires who quit their previous firms, these new job seekers had signed up at the company because they thought they had received the best offer compared to other companies they had applied to. As regards marginalization, job satisfaction should indicate a similar trend as that in the case of separation. Finally, with integration, new hires should retain some of their old values acquired at the previous firms (cases of switching) but would still be able to accept the culture of the new firm and be job satisfied, or at least retain the level of their job satisfaction as time passed.

3. Method

3.1. Sample

We used a sample of 815 new hires from 12 companies and compared their levels of job satisfaction with 1,925 (non-new) employees. The data collection of the first firm started on May 10th 2014 and the last collection ended on March 18th 2017. Hence the duration of the observation period was about 2 years and 11 months. However, as each participant started at a different time, there was an overlapping length of observation spanning a period of around 10 months. During the observation period, the daily job satisfaction level of new hires was reported around 39,111 times. The full sample contained 177,000 data points. Based on this data set, we traced the trajectory of new hires’ job satisfaction. We investigated the critical time periods of new hires and their ups and downs of job satisfaction compared to the remaining employees.

The app to investigate job satisfaction was specifically designed to keep the identity of users anonymous. Therefore, to identify new employees, we applied an assumption. We knew that even if the app was deployed by each company at different times, each participant started to use the app immediately after its introduction. Therefore, we categorized “late users” in fact as new hires. In other words, after the app provider was deployed by the company, we noted that almost all users in the company used the app from the very
beginning except non-users who absolutely declined to use it throughout the duration of the study. After the first week, the daily rate of first-time users decreased exponentially, tailing off to a constant base level of users. Hence, we could confidently state that the base line of first time "late users" was, in fact, a stream of new hires that started to use the app shortly after their first day of employment at the company. A cut-off day was set up; any user that started using the app more than 100 days later than the start of the service provided at the company was assumed to be a new hire. Hence, of the 2,740 users, we marked 815 users as new hires because they started using the app for the first time 100 days after its introduction in their respective companies. Initial interviews with some of the new hires supported our assumption.

3.2. Data

Data were collected via an app which a consulting firm had installed in the mobile phones of employees. The aim of the participating companies was to monitor their employees' job satisfaction by obtaining feedback anonymously to improve the workplace environment so that employees would find it an attractive place to work.

Daily responses were collected from employees at 12 companies in various sectors: e-payment start-up, IT consulting services, retail, manufacturing, services, tourism, and education. About half of the companies were multinational (located near Barcelona) and the other half were Barcelona home-grown companies. Most of the users were Spanish nationals, with 91% from Barcelona.

Employee self-reported job satisfaction was obtained in the following way. Once the employee installed the app in their phone, the app would ask the employee on a daily basis: *How happy are you at work today?* The employee was not asked directly about "job satisfaction" because the word “happiness” reads more naturally, especially for young new hires. When using the app, employees were presented with a screen that had a four icon-
face corresponding to a four-grade scale of 1 = sad, 2 = neutral, 3 = good, and 4 = great. By
design, all new and non-new (remaining) employees could only report their job satisfaction
stated as “happiness level” once a day. The default language of the app was Spanish. About
10% of the employees used the app every day and on average, employees completed the
response to the question every alternate day.

To quantify the job satisfaction trajectory of new employees, we used an exponential
decay model to regress the difference of job satisfaction between new employees and that of
the remaining employees on each observation day. We regressed employees’ data from the
different companies separately since pooling the data of different companies together would
have created noise. We already detected this phenomena in our descriptive analysis. To
support our arguments, in Fig. 2 we show the differences of two companies’ job satisfaction
trajectories, D and K.

4. Results

Table 1 shows the means and standard deviations of responses from all the participating
employees for the 12 companies. A four-grade scale was used to convert the scores into
categorical values. The minimum score (for the company with its lowest value) was 2.48 and
the maximum score (for the company with its highest value) was 3.47. For reference, the
mean value of all responses from new hires and remaining employees was 2.91. As per
Table 1, we can see that each company had their particular baseline (mean) with a relatively
high variability (mean from 2.48 to 3.47). In other words, depending on the firm, some had
employees with rather high job satisfaction while others pointed rather low. Also, employees
in the same company seemed to have very diverse response patterns, with a variability of
0.95 standard deviation. Apparently, global or company specific events could alter the job
satisfaction level of employees in non-uniform ways. For example, company specific events
only affected employees at a given company.
It was found that job satisfaction of new hires started higher than that of the remaining employees but dropped faster thereafter, supporting only partly previous literature (Boswell et al. 2009). To calculate the surplus, we subtracted the remaining employees’ job satisfaction from that of new hires in absolute and relative terms (at each company level, Table 2). The line in Figure 1 is the surplus in job satisfaction between new hires and the remaining employees over time. The 95% confidence limits are shown in grey. On average, a new employee started in the first week 0.17 points more job satisfied than the remaining employees in his/her company. This surplus was highest at the beginning with almost 0.2 points difference. After 64 days of observation it dropped to almost the same level as to non-new employees. After this point, the new hires’ job satisfaction was almost the same level as of that of the remaining employees. On the 195th day, job satisfaction of new hires reached an absolute minimum of minus 0.017 points but after that, it reversed its falling trend and started increasing until the end of our observation period (300th day). The drop in the first week from the peak (day 0) had a zero-mean of 0.13. If we normalize the standard deviation (SD=0.64), the drop was 0.26, similar to the drop reported by Boswell et al. (2009) from the 3rd month the 6th month after the start (SD=0.25). Max to min distance score was 0.37 when normalized by SD. This result was also similar to the so called “hangover drop” of 5% (0.2 points out of 4-point scale) reported by Boswell et al. (2009) between the 3rd month and 6th month.

5. Discussion

New hires started with relatively high job satisfaction compared to the remaining employees. However, their high level of job satisfaction soon started to decline. Our findings, therefore, supported the findings of other researchers, albeit with less frequent observations (e.g. Boswell et al., 2009). We found on a more fine grained study design that already on the 64th day, the job satisfaction of new hires dropped to almost the same level as the remaining
employees. This finding is more precise than others (e.g. Boswell et al. 2009). We also found that the lowest level of job satisfaction of new hires was on the 195th day.

This study offers some theoretical insights. On the tenets of the Acculturation theory, we showed that it was a challenge for new hires to acculturate to a firm. There was compelling evidence that most of the new hires had trouble adjusting to their new workplace. Instead of cultivating positive attitudes such as integration or assimilation, new hires tended to have negative attitudes such as separation or marginalization in their new firms. There was theoretical support that new hires’ job satisfaction declined gradually, bottoming out around the middle of the 7th month (day 195th after the start at a company). This can be explained by the fact that working in a company might be different from what was initially expected. Difficulties in adjustment for new hires could be due to the work not being as interesting as previously thought, or not having anticipated the amount of pressure at the new workplace. Interestingly, new hires’ job satisfaction improved approximately after the 7th month. A reality in this trajectory, unfortunately, was that many new hires dropped out of their companies as soon as their job satisfaction decreased to the level of the non-new employees, i.e. they did not stay longer than 7 months.

There was evidence that heterogeneity was high between new hires and remaining ones and also among different companies (12 samples). Therefore, it might not be sufficient to focus research efforts solely on a single company (Boswell et al., 2009). Also, it is not advisable to mix new hires of different companies together to increase the sample size as companies differ in their characteristics (as reflected in our data set).

We also offer some practical implications. Managers should not make overly attractive promises to their new hires that might be difficult to fulfil. We assume that the reason for the decrease in job satisfaction may be due to the inability of new hires to adequately acculturate to the new companies. The top management might have promised new hires too much at the job briefing or interview prior to their joining the company. Also, job seekers
might have been misled by the company website and expect much more from the new company (Baker-Eveleth, Stone and Eveleth, 2016; Banerjee and Gupta, 2016). Management should be sensitized that job satisfaction of their new hires is especially critical until the 195th day. Until then, counter measures should be taken to arrest the falling trend of job satisfaction of new hires so that they do not quit the firm prematurely.

Our study is not without its own limitations. Based on the results of our research, we can only offer a time trajectory of new hires' job satisfaction in contrast to that of the remaining i.e. non-new employees. We do not know the actual reasons behind the changes in acculturation. Decisions of new hires depend on many factors that are beyond the scope of this research. For example, the importance of the job for a new hire, or the tightness of the job market may determine if a new hire makes an effort to integrate into the firm. A new hire may also choose to separate from the company if he is lured by a more attractive offer from another company. In addition, global or company specific events can impact the job satisfaction of employees differently. For example, a company specific event, like a restructuring or a takeover might affect employees with varying seniority in non-uniform ways. Younger and new hires may fear a job loss much more than experienced employees because the firm would usually retrench younger employees (Bebenroth and Ismail, 2016).

Finally, the data set in this study contained valuable information of employees from 12 companies spanning several industries. The participants were relatively young, blue and white collar employees, entrepreneurial and from Barcelona or its surroundings. The general behavior of Spanish new hires as well as the remaining employees may not be generalizable to employees in other countries. Also, Barcelona is a dynamic city and offers many opportunities especially to young people. New employees may be tempted to switch jobs in such an environment where international and entrepreneurial companies are hiring more new employees than in other cities. With such a scenario in the job market in Barcelona, it was not surprising that the 12 companies in this study were keen to extend their cooperation in a job satisfaction study of their employees.
6. Conclusion

We have shown how the time trajectory of job satisfaction of new hires differs from that of the remaining employees. Job satisfaction also exhibits a great variance across companies. On average, we found support in our data for existing literature that new hires started with higher job satisfaction compared to the remaining employees. This surplus of new hires' job satisfaction was lost after roughly two months in our observation (day 64). It reached a minimum near the middle of the 7th month (day 195). Mean reversion started after that, gradually leading to a somewhat higher job satisfaction again. In view of such a trajectory, management should take counter measures to stabilize job satisfaction level of new hires, especially during the first 2 months to keep the high performing new hires motivated and to continue not only to stay but also to be satisfied and more productive.
Table 1. Marginal Means and SD of New Hires and Remaining Employees in 12 firms

<table>
<thead>
<tr>
<th>N of employees participating per firm</th>
<th>Max</th>
<th>Min</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>572</td>
<td>34</td>
<td>182</td>
<td>144</td>
</tr>
</tbody>
</table>

**Number of responses**

<table>
<thead>
<tr>
<th></th>
<th>Max</th>
<th>Min</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>All employees</td>
<td>50k</td>
<td>153</td>
<td>11k</td>
<td>4.6k</td>
</tr>
<tr>
<td>New Hires</td>
<td>19k</td>
<td>21</td>
<td>3.2k</td>
<td>388</td>
</tr>
<tr>
<td>Remaining Employees</td>
<td>30k</td>
<td>132</td>
<td>10.8k</td>
<td>5.8k</td>
</tr>
</tbody>
</table>

**Job satisfaction**

<table>
<thead>
<tr>
<th></th>
<th>Max</th>
<th>Min</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>All employees</td>
<td>3.47</td>
<td>2.48</td>
<td>2.91</td>
<td>2.88</td>
</tr>
<tr>
<td>New Hires</td>
<td>3.90</td>
<td>2.63</td>
<td>3.05</td>
<td>2.95</td>
</tr>
<tr>
<td>Remaining Employees</td>
<td>3.36</td>
<td>2.59</td>
<td>2.89</td>
<td>2.84</td>
</tr>
</tbody>
</table>

**SD of Job satisfaction**

<table>
<thead>
<tr>
<th></th>
<th>Max</th>
<th>Min</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>All employees</td>
<td>1.15</td>
<td>0.54</td>
<td>0.93</td>
<td>0.934</td>
</tr>
<tr>
<td>New Hires</td>
<td>1.05</td>
<td>0.30</td>
<td>0.74</td>
<td>0.74</td>
</tr>
<tr>
<td>Remaining Employees</td>
<td>1.15</td>
<td>0.72</td>
<td>0.95</td>
<td>0.94</td>
</tr>
</tbody>
</table>

Table 2: Absolute and relative Job Satisfaction (of all, new and remaining employees).

<table>
<thead>
<tr>
<th>Month of reporting*</th>
<th>Absolute job satisfaction</th>
<th>Relative surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Employees</td>
<td>New</td>
</tr>
<tr>
<td>1</td>
<td>2.976</td>
<td>3.033</td>
</tr>
<tr>
<td>2</td>
<td>2.931</td>
<td>2.942</td>
</tr>
<tr>
<td>3</td>
<td>2.877</td>
<td>2.931</td>
</tr>
<tr>
<td>4</td>
<td>2.853</td>
<td>2.968</td>
</tr>
<tr>
<td>5</td>
<td>2.856</td>
<td>2.945</td>
</tr>
<tr>
<td>6</td>
<td>2.834</td>
<td>2.864</td>
</tr>
<tr>
<td>7</td>
<td><strong>2.809</strong></td>
<td><strong>2.775</strong></td>
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<tr>
<td>8</td>
<td>2.77</td>
<td>2.843</td>
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<tr>
<td>9</td>
<td>2.759</td>
<td>2.835</td>
</tr>
<tr>
<td>10</td>
<td>2.76</td>
<td>2.809</td>
</tr>
</tbody>
</table>

* average of the first week
Fig. 1: Time trajectory of new hires' relative job satisfaction in days

New hires' relative job satisfaction

The 95% confidence limits are shown in grey

Fig. 2: Examples of job satisfaction time trajectory at two companies, D and K

New hires at company D start with high job satisfaction (compared to non-new employees) but decline; company K shows the opposite trend.
References


