

# Stress and Burnout in Bicultural Teams in Hi-tech Industry

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**This study examined burnout, stress and work importance among 120 Israelis working in binational teams, using quantitative (questionnaire) and qualitative (semi-structured interview) methodologies. Based on the existential perspective, the study documented low levels of burnout despite high levels of stress, which were explained by the high perceived importance of the work. Hierarchical regression showed that importance moderated the effect of stress on burnout. Findings also revealed that the unexpected social stressors associated with cultural differences between team members were more stressful than the stressors associated with high-tech work.**

## Introduction

Global multicultural teams, task-oriented groups from different national cultures (Marquardt and Horvath, 2001), are becoming the norm in the high-technology (high-tech) industry. Members in such teams face many challenges as a result of the need to work together while being situated at physically large distances from one another (e.g. Cramton and Hinds, 2007; Gibson and Gibbs, 2006; Levina and Vaast, 2008). In addition, cultural differences may lead to misinterpretations in cross-site communications (e.g. Kayworth and Leidner, 2002; Krishna, Sahay and Walsham, 2004; Zimmermann, 2011), fuel conflict (e.g. Hinds and Mortensen, 2005), undermine trust (e.g. Baba *et al.*, 2004; Zimmermann, 2011) and lead to errors (e.g. Grinter, Herbsleb and Perry, 1999).

Cultural differences between members of multicultural teams compound team member stress

levels (Spector *et al.*, 2004), especially when the individuals originate from national cultures with divergent work values and time perspectives, and when team communication is based on a language that is not the mother tongue of all team members (van Marrewijk, 2010; Zaidman, 2001; Zaidman and Brock, 2009).

The challenges facing multicultural teams are compounded by the high stress that is part and parcel of the high-tech industry. This stress is caused by such work features as long work days, overload, demand for innovation and the stiff competition to produce the best and most cost-effective products (Cohen and Fields, 1999; Kunda, 1992).

Based on the literature on the stressors associated with the work of multicultural teams (e.g. Cramton and Hinds, 2007) and with work in high-tech industry (e.g. Cohen and Fields, 1999), it can be expected that high-tech employees working in multicultural teams will report high levels of stress. Will they also report high levels of burnout? Furthermore, while stress in a fast-growing group of employees working in global multicultural teams in the hi-tech industry is evident, work in high-tech is considered a high-status, highly desirable, occupation (Kunda,

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1992). Indeed, earlier research showed that perceived work importance moderated the effect of stress on burnout: the more important the work was perceived to be, the lower was the correlation between stress and burnout (Pines and Keinan, 2005; Silbiger and Pines, 2014).

Based on the above and given that working in high-tech industry is considered meaningful and important (Harpaz and Meshoulam, 2004; see also below), the first goal of this study is to test the relationships between stress, burnout and the meaning of work as it is experienced by the Israeli members of bicultural teams. The second goal of this study is to elucidate which of the stressors are perceived as more stressful, those associated with the cultural differences between team members or those associated with the high-tech work itself.

The following paragraphs will provide the theoretical background for these two research goals.

#### *Burnout in multicultural teams*

Burnout is a state of physical, emotional and mental exhaustion (Pines, 2005; Pines and Aronson, 1988) characterized by cynicism and a lowered sense of accomplishment (Maslach, 1982). Since its introduction to the scientific literature, burnout research has focused mainly on the human service professions (e.g. Cherniss, 1995; Maslach, 1982) – on people who choose to work with people and see it as their calling. In recent years, however, research attention has shifted, and studies have documented the existence of burnout outside the human services (e.g. Schaufeli *et al.*, 2002; Silbiger and Pines, 2014). Yet no studies heretofore have examined burnout in multicultural teams in the high-tech industry. This is surprising considering that the challenges facing such teams are often rooted in the interpersonal dynamics inherent in work relationships, such as the communication problems that emerge during the transfer of knowledge between team members and when providing guidance to team members from different national cultures (e.g. Matveev and Nelson, 2004). However, unlike human service professionals, multicultural global team members, who tend to have technical backgrounds and inclinations, are also typically not formally trained to work with people, making them interesting subjects for the study of burnout. As such, we predict that the unexpected people-related stressors will be more difficult to handle

than the expected stressors related to high-tech work. In addition, the fact that members of multicultural teams work in high-stress, high-status, high-tech industry enables another important comparison, that between burnout and stress.

#### *Burnout and stress*

Burnout is often conceptualized within the framework of stress research (e.g. Cooper, Dewe and O'Driscoll 2001; Hobfoll and Shirom, 2000; Maslach, Schaufeli and Leiter, 2001; Gomesa, Fariab and Gonçalves, 2013). Maslach, Schaufeli and Leiter (2001), for example, define burnout as 'a prolonged response to chronic emotional and interpersonal stressors on the job' (p. 397). Hobfoll and Shirom (2000) view it as a consequence of one's exposure to chronic job stress, and Cooper, Dewe and O'Driscoll (2001) as 'caused by chronic job stress' (Pines and Keinan, 2005).

The problem with conceptualizing burnout within the framework of stress research, however, is that the concept of stress is plagued by the same definitional ambiguity as burnout (Schaufeli and Enzmann, 1998). Indeed, there is no single agreed definition of stress: while the notion is familiar to both laymen and professionals and understood by all when used in a general context, very few have a clear idea of what defines stress when a more precise account is required (Toch, 2002). Not much is gained, therefore, by placing burnout within the conceptual framework of stress. In addition, the results of a study based on Existential Theory demonstrated that burnout and stress have different antecedents, correlates and consequences (Pines and Keinan, 2005).

#### *Burnout and the Existential Theory*

According to Existential Theory, the need to find meaning in life is a primary motivational force in man (Frankl, 1976; Yalom, 1980). People need to believe that the things they do are meaningful (Becker, 1973). Based on Existential Theory, the root cause of burnout is assumed to lie in people's need to believe that the things they do are important and their despair when they feel that they are not. People who expect to derive existential significance from their work enter their careers with high goals and expectations, idealistic and motivated. When they feel that they have failed, that

their work is insignificant, that they make no difference, they start feeling helpless and hopeless and eventually burn out (Pines, 1993).

Support for the existential perspective on burnout was offered in a study of 1182 Israeli police officers during a Palestinian uprising, a time of unusually high stress (the result of frequent attacks by suicide bombers) combined with high work importance (as defenders of their people and country). The study's findings revealed surprisingly low levels of burnout among the police officers despite the high stress, which was explained by the high perceived importance of their work (Pines and Keinan, 2005). The combination of high stress and high perceived work importance is also a characteristic of the Israeli high-tech industry.

### *The context*

The study examined burnout, stress and perceived work importance among 120 Israelis working in binational teams (Indian–Israeli) in the hi-tech industry. Based on earlier research showing that, in transnational virtual teams, nationality characteristics are likely to be the salient attributes that act as a basis of subgroup identities and that such subgroup divides tend to form more strongly in teams composed of only two nationalities (Gibson and Grubb, 2005; Hajro, 2009), we assumed that team members working in binational teams would experience stress similarly, as do members of multicultural teams.

The Israeli high-tech industry is characterized by a dynamic, individualistic, informal and highly competitive work environment, with constant demands for flexibility and multitasking (Cohen and Fields, 1999). In addition, the high-tech industry is known to be highly stressful owing to the very long work hours, pressures to perform within short timetables, constant demands for innovation and fierce competition (Kunda, 1992). But the study was conducted in Israel, a country known for its highly successful high-tech industry (Senor and Singer, 2009), and as such, an additional property of the Israeli high-tech sector has significant relevance to the existential perspective on burnout: high-tech in Israel is an occupation associated with high status.

Israel has an unusually high number of high-tech companies (Senor and Singer, 2009). The present count of about 4000 high-tech companies

represents the largest concentration of such companies in the world outside California. The development of the high-tech industry in Israel has attracted global investors such as IBM, Intel, HP and Motorola, all of whom made significant investments in the Israeli economy.

In fact, the success of the high-tech industry has led to high-tech entrepreneurs being hailed as Israel's new cultural heroes (Lerner and Avrahami, 1999; Pines, Levy, Utasi and Hill, 2005) and employment in the high-tech sector is deemed as highly important and desirable. Thus, Harpaz and Meshoulam (2004), who compared employees in high-tech and traditional industries in regard to their meaning of work, found that work is significantly more central in the lives of employees in the high-tech industry than among those in traditional industries. Expressive orientation was found to be of greater importance in the high-tech industry, which emphasizes the aspects of interesting and satisfying work, variety, autonomy and the opportunity to learn new things.

The high status and high stress associated with work in the Israeli high-tech industry makes Israel an ideal place to test the existential perspective on burnout. It was predicted that, despite the high stress of their work, employees working in multicultural teams in the high-tech sector will, because of the perceived importance of high tech, report relatively low levels of burnout. In other words, the perception that the high-tech industry is immensely important will moderate the effect of stress on burnout (i.e. the more important the work, the lower the correlation between stress and burnout). It was further predicted that the unexpected social aspects of the work will be more stressful than the expected ones.

Research has demonstrated several cultural differences between Indians and Israelis that may be the reason for the report of Israelis on work stressors. Schwartz (2003) showed that Israelis scored higher than Indians in traits such as autonomy, creativity, freedom and equality, while Indians scored higher in collectivism as expressed in harmony and conservatism. It was also found that compared with Indians, Israelis tended to have higher motivation for success, ambition, personal goals and daring, while Indians tended to be more conservative and placed greater value on authority and harmony. Other studies have shown that the Israeli culture is characterized by

very low power distance (Hofstede, 2001) and high assertiveness (Hartog, 2004). Israeli employees in high-tech organizations have been portrayed as disregarding departmental and hierarchical boundaries and as unconfined by the formal bureaucratic structure of the organization. They are expected to take responsibility, and they have a tendency toward improvisation in their work (Shamir and Melnik, 2002). These characteristics are the antithesis of the characteristics of the Indian employee, who is characterized by high-power distance (Carl, Gupta and Javidan, 2004; Hofstede, 2001; Sinha, 1990), low assertiveness (Hartog, 2004) and a tendency to go 'by the book' while performing their work (Zaidman and Brock, 2009). Research focusing on intercultural communication between Israeli and Indian businesspeople shows that directness and the task-oriented approach of the Israelis generated negative feelings among their Indian colleagues. Communication problems emerged when there were major differences between the participants in the simplicity, directness and perceptions of social relationships (Zaidman, 2001).

### *Hypotheses*

Two assumptions needed to be proved before hypothesis testing was possible: Israeli high-tech employees working in bicultural teams (1) report high levels of general stress (because of the stressors associated with work in the high-tech industry and the work of bicultural teams) and (2) report high levels of perceived work importance (because of the high status associated with high-tech work in Israel).

*H1:* The main hypothesis of the study predicted, based on the existential perspective on burnout, that despite the high stress of their work, because of the perceived importance of their work, Israeli high-tech employees working in multicultural teams will report low levels of burnout, and the perceived importance of their occupation will moderate the effect of stress on burnout.

*H2:* Given that the stressors associated with high-tech work are expected, whereas those associated with the social-cultural aspects of the work are unexpected, it was further predicted that the social aspects will be experienced as more stressful.

## **Method**

The study employed both quantitative (self-report questionnaire) and qualitative (semi-structured interview) methodologies. Using mixed methods (Hurmerinta-Peltomäki and Nummela 2006) enabled triangulation and complementarities of the data and reliable, in-depth analysis. Specifically, the quantitative methodology was used to test the hypotheses. The qualitative methodology was applied to (a) explore the relationships between stress, burnout and work importance, (b) assess and explore work stressors and causes of burnout, and (c) explain unexpected quantitative findings.

### *Participants*

The participants were 120 Israeli high-tech employees working in binational teams with Indians: 81% men and 19% women; mean age, 35.9 (SD = 8.9); average years past high-school, 4.5 (SD = 2.3); average time in high-tech, 10.4 (SD = 8.5) years; average time in the organization, 6.2 years (SD = 6.6); average time on the job, 3.3 years (SD = 3.2).

Israeli research students (see below) individually approached team members working in Indian–Israeli teams in the high-tech industry. The participants were employed in 43 Israeli high-tech companies that develop products and offer such services as communication, IT, computer systems and semiconductors as well as web and medical services to various industries. Most organizations have a branch in India or outsource their activities offshore. The criterion for inclusion in the study was daily contact with Indian employees and an employment time of workers in these teams from one to five years.

### *The teams*

The size of a typical team was between three and eight people. In most teams, the number of team members from both Israel and India changed constantly. In more than half the teams, Israeli team members were in charge of guiding Indian team members and often were team leaders.

Team members worked in a virtual environment and communicated using technological tools. Face to face interactions took place when employees travelled abroad to obtain additional job training.

The level of burnout reported by the 120 Israeli high-tech employees was compared with the level of burnout reported by a national sample of Israelis (N = 511), which constituted a representative sample of the Jewish Israeli population (87% of the total population) (Pines, 2004).

### *Procedure*

Participants were interviewed individually in their places of work by 20 specially trained graduate students of psychology and management. The interviews lasted from 20 minutes to an hour. Each student interviewed six employees, who they either knew from their own network or who were employees of several organizations that agreed to participate in the study. In exchange for their participation, two of these organizations received a report on their employees' levels of stress and burnout based on the data collected. The interview started with several open questions followed by a self-report questionnaire that participants responded to on their own.

### *Quantitative methodology*

The self-report questionnaire included the following four parts:

1. *Demographics*: Age, gender, education, time in high-tech, the organization, the job.
2. *Burnout Measure (BM)*: The BM, the second most widely used measure of burnout (Schaufeli and Enzmann, 1998), was developed for use with all occupations. It focuses on emotional exhaustion, which was shown to be the central, dominant and most significant component of burnout (e.g. Burke and Richardson, 1993; Densten, 2005; Evans and Fischer, 1993; Garden, 1987; Koeske and Koeske, 1989). In the current study, the 10-item Burnout Measure Short (BMS) (Pines, 2005) was used. Respondents indicated on 7-point scales (1 = never; 7 = always) the frequency with which they experience various work-related symptoms of exhaustion (e.g. 'hopeless', 'helpless'). Cronbach's Alpha in the current study was 0.87.
3. *General level of stress*: This was assessed using a single item on which respondents estimated overall level of stress (1 = very low; 7 = very high). The use of the single-item general evaluation following a detailed exploration of the

stressors encountered by the respondents, as done in the current study, is an acceptable practice in stress research (e.g. Cohen, Kessler and Underwood, 1995; Moos and Schaefer, 1993). Nagy (2002) has even argued that using a single-item evaluation not only takes less time to complete and is less expensive, but may have more face validity and be more flexible than multiple-item scales. Two additional 7-point scales (with the same anchors) were used to rate the level of tension among Israeli team members and between Israeli and Indian team members.

4. *Work importance* (Pines and Keinan, 2005): A 7-item measure in which respondents indicated on a 7-point scale how true (1 = not at all true; 7 = very true) different statements were regarding their work's importance and significance (e.g. 'I feel that my contribution is significant'). In the current study, Cronbach's Alpha was 0.86.

### *Qualitative methodology*

The semi-structured interviews included the following questions: 'Please describe your work with Indian/Israeli co-workers'; 'What aspects of the work are easy for you? Please explain'; and 'What aspects of the work are difficult for you? Please explain.' Neither stress nor burnout was mentioned in the interviews, to see what responses emerged spontaneously.

The interviews were recorded, transcribed word for word, and coded based on the predetermined codes *stress* and *burnout*. To avoid decontextualization of the text, no subcategories were used. Text analyses were conducted using Atlas.ti software. Two independent coders reviewed each interview and assigned the codes to several sentences or a paragraph. The output came in the form of lists of quotations from the interviewees that were counted and analysed to (a) discover the distinguished ways that participants discussed stress and burnout, and (b) reveal the types of stressors associated with each team member's work and the specific causes of burnout.

Two other independent coders reviewed the quotations and classified them based on their content. A representative quotation was used in the results section. The level of agreement between the coders in code assignment and analysis was very high. The authors and the coders discussed the rare occasions of disagreement.

Table 1. Pearson correlations with burnout in 120 Israeli high-tech employees

Variable	Mean (SD)	Burnout	Stress	Importance	Israeli/Indian	Israeli	Time
Burnout	2.55 (0.8)						
Stress	5.4 (1.1)	0.03					
Importance	5.8 (0.7)	-0.47***	0.35***				
Israeli/Indian tensions	5.6 (1.4)	0.20*	-0.09	-0.28**			
Israeli/Israeli tensions	4.0 (1.7)	-0.06	-0.01	0.11	0.56***		
Time on job	3.3 (3.2)	-0.17	-0.04	0.24**	-0.20*	-0.10	

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

## Results

### Quantitative data

The results revealed a high level of overall stress ( $M = 5.4$ ,  $SD = 1.0$ ), a high level of perceived work importance ( $M = 5.8$ ,  $SD = 0.7$ ), and a low level of burnout ( $M = 2.5$ ,  $SD = 0.7$ ) relative to the high level of overall stress and relative to the level of burnout documented in a national Israeli sample ( $N = 511$ ) ( $M = 2.8$ ,  $SD = 1.2$ ) (Pines, 2004) ( $F(1,119) = 11.74$ ,  $p < 0.001$ ).

A Pearson correlation matrix (see Table 1) documented a number of significant correlations between burnout and the other variables investigated in the study.

As Table 1 shows, work importance correlated negatively with burnout ( $r = -0.47$ ,  $p = 0.000$ ) and positively with the overall level of stress ( $r = 0.35$ ,  $p = 0.000$ ). A test of the difference between correlations revealed a significant difference between the two correlations (Fisher's  $Z = 6.73$ ,  $p < 0.001$ ).

Burnout correlated positively with the tensions between Israeli and Indian team members ( $r = 0.20$ ,  $p = 0.027$ ) but did not correlate with the tension between Israeli team members ( $-0.06$ ,  $p = 0.49$ ) or with the overall level of stress ( $r = 0.03$ ,  $p = 0.76$ ). Paired  $t$ -tests revealed a significant difference between general stress and Israeli/Indian tensions ( $t = 8.30$ ,  $p < 0.001$ ), but not between general stress and Israeli/Israeli tensions ( $t = 1.09$ ,  $p > 0.05$ ).

The tensions between Israeli and Indian team members correlated positively with the tensions between Israeli team members ( $0.56$ ,  $p < 0.000$ ). They correlated negatively with the perceived importance of the work ( $0.28$ ,  $p < 0.002$ ) and correlated positively with burnout.

A hierarchical regression was performed to assess the contribution of the different variables to the explained variance of burnout. In the first step, time on the job ( $r$  with burnout =  $-0.17$ ,

$p = 0.057$ ) was entered into the regression. In the second step, work importance was entered. In the third step, the overall level of stress, Israeli/Indian tensions and Israeli/Israeli tensions were entered. In the fourth step, the interactions of time on the job and importance with the stress and tension measures were entered. In the first three steps, the variables were forced in, while in the fourth step the interactions were entered in a stepwise manner ( $p < 0.05$ ). As Table 2 shows, only the interaction of stress $\times$ importance contributed significantly to the explained variance.

As shown further in Table 2, together the variables explained 33% of the variance in burnout. The contribution of time on the job, which was entered in the first step, was 3%. The  $\beta$  indicated that the longer the time on the job, the lower the burnout. In the second step, the addition of work importance to the regression added another 19% to the explained variance. The  $\beta$  indicated that the higher the importance, the lower the burnout. In the third step, overall stress, Israeli/Indian tensions and Israeli/Israeli tensions were added. These measures contributed an additional 5% to the explained variance. Of the three measures, only overall stress had a significant contribution: the higher the stress, the higher the burnout. In the fourth and final step, the interaction of stress $\times$ importance was entered into the regression. This interaction added 6% to the explained variance in burnout.

Using Aiken and West's (1991) and Dawson and Richter's (2006) method for interpreting interaction effects, it was found that the correlation between stress and burnout among participants who perceived their work as unimportant was positive and significant ( $\beta = 0.35$ ,  $p < 0.01$ ), whereas for participants who perceived their work as important, the correlation between stress and burnout was negative and statistically insignificant ( $\beta = -0.16$ ,  $p > 0.05$ ). This finding was inter-

Table 2. Regression coefficients for predictors of burnout in 120 Israeli high-tech employees

Step predictors	B	Std. error	$\beta$	R <sup>2</sup>	R <sup>2</sup> change
1				0.03*	0.03*
(Constant)	2.70	1.02			
Time on job	-0.04	0.022	-0.17		
2				0.22***	0.19***
(Constant)	5.45	5.18			
Time on job	-0.02	0.021	-0.07		
Importance	-0.49	0.091	-0.45***		
3				0.27***	0.05*
(Constant)	4.73	0.62			
Time on job	-0.01	0.02	-0.04		
Importance	-0.53	0.11	-0.49***		
Overall stress	0.15	0.06	0.21*		
Israeli/Indian tensions	0.05	0.04	0.12		
Israeli/Israeli tensions	-0.03	0.04	-0.08		
				0.33***	0.06**
(Constant)	4.89	0.60			
Time on job	-0.02	0.02	-0.06		
Importance	-0.53	0.10	-0.49**		
Israeli/Israeli tensions	-0.01	0.04	-0.03		
Israeli/Indian tensions	0.03	0.04	0.08		
Overall stress	0.14	0.06	0.19*		
Stress×importance	-0.18	0.06	-0.24**		

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

preted as indicating that work importance moderated the effect of stress on burnout: the more important the work, the lower the correlation between stress and burnout.

In summary, the findings that the participants in the study reported high levels of general stress and high levels of work importance enabled the testing of the predictions generated by the existential theory: that when these two conditions exist, the level of burnout will be low. The finding that work importance moderated the effect of stress on burnout provides support for the main hypothesis of the study. The findings also revealed that the tensions associated with work with Indians were significantly more stressful than the stresses associated with work with Israelis.

### Qualitative data

Responses to the open question about aspects of the work that were difficult for the participants and the follow-up request to explain and provide details and examples, as well as other references to difficulties throughout the interview, were analysed and coded according to references to either 'stress' or 'burnout'.

The first focus of the analysis was to discover the distinguished ways in which participants discussed

stress and burnout. The second was to reveal the types of stressors associated with the work of the team members and the specific causes of burnout. The combined results are presented below.

We found that while 114 of the 120 respondents mentioned difficulties in their work, far fewer respondents specifically mentioned 'stress' (46), and even fewer respondents specifically mentioned 'burnout' (18).

Almost all the interviewee quotations that referred to burnout noted emotional exhaustion. For example: a project manager (age 33) said: 'There is burnout. It simply burns you out. At a certain stage you become tired of all this.' A team manager (age 28) said about his boss: 'He is very burned out, it exhausts him. He has no energy to say the same thing again and again.' This finding confirms the conclusion reached by earlier studies that emotional exhaustion is the central, dominant and most significant dimension of burnout (e.g. Burke and Richardsen, 1993; Densten, 2005; Evans and Fischer, 1993; Garden, 1987).

The causes of burnout cited by participants comprised the frustrating, repetitive aspects of the work. A project manager (age 34) said: 'Working with Indians . . . you move slowly, slowly, slowly, and when you can already see the place you wanted to reach, it moves away from

you . . . it's "full gas in neutral" . . . everything is hard, tiring, burnout causing.' A head program engineer (age 31) said: 'It is difficult to explain to an Indian exactly what needs to be done. I always explain to them several times . . . it's tiring and exhausting.' These quotations reflect the specific aspects of the participants' work that cause burnout, namely, the need to guide Indian team members.

A thematic analysis of the responses that included reference to stress revealed two main themes. The most dominant theme was related to stressors that resulted from cultural differences between the Israeli and Indian team members (28). The second theme was related to stressors that characterize the high-tech industry (18).

The most frequently mentioned stressors that emerged from cultural differences were communication problems (17), and foremost among those had to do with difficulties in understanding the spoken English and the accent of the Indian team members. A product manager (age 39) said: 'Communication with them is difficult . . . their language, the accent, you don't always understand them. I have to ask everything four times until I understand.' A UNIX operator (age 32) said: 'On the telephone it's at times totally impossible because you are never sure you understood what they are saying, and you can make many mistakes this way.'

Other communication problems were the result of cultural differences in style of communication (6). A developer (age 30) said: 'It's not like an Israeli who tells you what he thinks. Sometimes they tell you that they understood but they didn't really get it. Israelis can say: "You're wrong" clearly, and the Indians can't.' A hacker (age 29) said: 'We are very direct . . . and they . . . 50% of the mails I send them, instead of taking me a minute, I sit and edit to make sure the style will not offend them.'

Another theme had to do with differences in attitude toward time (5). A systems maintenance worker (age 24) said: 'They go on many breaks . . . They take everything calmly . . . They are not in a hurry to get anywhere. This is difficult for the Israeli team.' A project manager (age 28) said: 'Much of the difficulty has to do with meeting deadlines. They don't feel pressured.'

These findings support earlier research documenting similar cultural differences, i.e. different perceptions of communication and of time

between Indians and Israelis and between Indian and Dutch employees of information technology companies (Zaidman and Brock, 2009; van Marrewijk, 2010). Cultural gaps between Israelis and Indians in their perceptions of employee autonomy, ambition, power distance, assertiveness and taking responsibility (Schwartz, 2003; Hofstede, 2001; Hartog, 2004; Shamir and Melnik, 2002; Carl, Gupta and Javidan, 2004; Sinha, 1990) combined with age, knowledge and seniority differences may explain these findings.

The cultural differences were compounded by the pressures characterizing work in the high-tech industry (18). A project manager (age 34) described it: 'We work in high-stress projects. The projects are always high-stress. I am stressed, and they are stressed. Many times you make mistakes, and many times when you work together, you know, sparks fly. The stress here is very high, and the frictions are on a daily basis.'

For some Israelis, an especially stressful aspect of working with Indians was the threat of being replaced by the cheaper Indian work force (7). A programmer (age 43) described it: 'You are saying to yourself: "Wait a minute. I am teaching him so he will kick me out afterwards?" Or the company will kick me out and say "Listen, we can make do with this Indian who makes a quarter of what you make." This creates stress.'

On the positive side, another theme that emerged from the interviews was the buffering effect of the significance and challenge of the work. A communication technician (age 25) said: 'Work is not easy or comfortable, but there is challenge. I like it best when I see things that others were unable to solve.' A project manager (age 39) said: 'When you have a challenge and you successfully face it, there is satisfaction.' Framing work with Indian team members as a significant and exciting challenge seemed to buffer against the stressors encountered during the actual work with them: A human-resource manager (age 43) said: 'Work with Indians is interesting, challenging, a sense of being a part of the future, a flat world.'

## Discussion

The study's findings supported two assumptions that were prerequisites for testing the study's hypotheses:



1. Israeli members of virtual binational teams will report high levels of general stress that can be explained by the stress of working in the high-tech industry compounded by the stress of working in virtual multinational groups (e.g. Cohen and Fields, 1999; Cramton and Hinds, 2007; Zimmermann, 2011).
2. Israelis will describe their work as highly important because of the high status and high importance associated with work in the high-tech industry in Israel (e.g. Lerner and Avrahami, 1999; Pines *et al.*, 2005).

In support of the first and main hypothesis of the study, the findings revealed that, despite the high stress of their work, the perceived importance of their work led Israeli high-tech employees working in bicultural teams to report low levels of burnout, both when compared with their level of stress and when compared with the mean burnout of a national Israeli sample. The results of a hierarchical regression indicated that work importance moderated the effect of stress on burnout: the greater the perceived importance of the work, the lower the correlation between stress and burnout. The protective function of the significance of the work, which was also revealed in several quotations, supports the existential perspective on burnout and its notion that people can have low levels of burnout even in high stress jobs when they believe that their work is important.

These findings confirm the conclusions reached by the study of Israeli police officers during a Palestinian uprising, a period of unusually high stress combined with a high sense of work importance (Pines and Keinan, 2005). The fact that the stress in the current study was not the result of frequent suicide attacks, and work significance was not the result of being defenders of people and country, suggests that the existential perspective on burnout is valid for a range of occupations and for different types of stressors.

In support of the second hypothesis of the study, both the quantitative and the qualitative findings revealed that the expected stressors associated with high-tech work were less stressful than the unexpected stressors associated with the social-cultural aspects of the work. Paired t-tests revealed a significant difference between the level of general stress reported by the participants and the tensions between Israeli/Indian team members, but not between general stress and ten-

sions between Israeli team members. In addition, burnout correlated positively with tensions between Israeli and Indian team members, but not with tensions among Israeli team members.

The qualitative data revealed that stressors rooted in cultural differences between Israeli and Indian team members (28) were more prevalent than stressors that characterize the high-tech industry (18).

This supports earlier research documenting the central role of communication problems and differences in attitude towards time in the work of team members (Connaughton and Shuffler, 2007; van Marrewijk, 2010).

Other findings, both quantitative and qualitative, revealed several interesting differences between stress and burnout. In terms of the existential perspective on burnout, the most significant quantitative difference was the finding that, while there was a high negative correlation between work importance and burnout, there was a high positive correlation between work importance and stress. This surprising finding can be explained by the economic crisis in Israel, which generated major concerns about layoffs among employees in the Israeli high-tech industry, a concern that, as noted earlier, was echoed in a number of the quotations in which respondents expressed a concern about being replaced by cheaper Indian labour.

Analysis of the qualitative data revealed that, while there were far more spontaneous references to difficulties at work than to either stress or burnout – probably a result of ‘difficulties’ being perceived as more legitimate in the high-tech industry than either stress or burnout – there were differences between references to stress and the references to burnout. While references to stress noted specific stressors (such as difficulties in understanding the Indian team members’ accents and time pressures), references to burnout noted emotional exhaustion, which is the central, dominant, and most significant component of burnout (e.g. Densten, 2005; Evans and Fischer, 1993). When there was a reference to the cause of burnout, it was to the frustrating, repetitive and insignificant aspects of the work. Specifically, for several participants it was the actual guidance and teaching of the less experienced Indian team members. The different descriptions can be interpreted as suggesting that burnout and stress have different antecedents and are experienced differently.

### *The study's theoretical impact*

Combined, the qualitative and quantitative findings make a number of contributions to the theory on burnout and on multicultural teams.

The most important contribution to burnout theory and research is the finding that, despite the high stress of their work, Israeli employees in the Israeli high-tech industry who view their work as highly important reported low levels of burnout and that work importance moderated the effect of stress on burnout. These findings support the existential perspective on burnout, according to which people need to believe that what they do is important and meaningful. When they feel that their work is unimportant, they burn out. However, when they feel that their work is significant and challenging, they do not burn out, despite the many stressors they encounter in their work.

This is the third study based on the existential perspective on burnout that suggests, based on both the quantitative and qualitative findings, differences between the antecedents and experience of burnout and stress. Taking that line of research one step further, this study demonstrates the relevance of the existential perspective to understanding employee stress and burnout not only in reference to specific circumstances, e.g. stress and burnout of police officers during times of national crises (Pines and Keinan, 2005), or stress and burnout of expatriates operating in novel, stressful situations (Silbiger and Pines, 2014), but rather, it extends the explanatory relevance of this perspective to analyses of employee stress and burnout in a specific occupational field characterized by ongoing stress.

Furthermore, this study demonstrates the relevance of the existential perspective to explaining signs of burnout among employees who report high levels of perceived work importance. We demonstrate that the signs of burnout of high-tech employees are related to those aspects of their work that they perceive as less important and less meaningful. That is, when we apply the existential perspective to employee burnout, we suggest that the different aspects of the work be differentiated based on the importance that the employees attribute to each aspect.

The study contributes to the fast growing body of research on multicultural global teams by applying the conceptual framework of burnout.

This conceptual framework helps explain the dominance of communication problems in the accounts of multicultural team members as the most difficult aspects of their work and their exhaustion in response to these difficulties. Unlike workers in the human services who view themselves as 'people types' of people and who chose to work with people, most workers in the high-tech industry are engineers who have neither the inclination nor the training to work in global teams that challenge their interpersonal communication skills and abilities. The signs of burnout in this growing group of highly motivated high-tech workers deserve attention.

### *The study's limitations*

The obvious limitations of the study are its cross-sectional design and reliance on self-reported data. Future studies will need to use more varied methodologies and more cultural perspectives and should examine the possibility that the burnout, stress and perceived importance of the work reported by members of multicultural global teams change over time.

An additional limitation is the lack of data collection from the entire team, i.e. from both the Indian and Israeli team members. Data collected from the Indian team members would have shed light on whether these findings are generalizable to all team members.

### *Implications for intervention*

Responding to the call for narrowing the relevance gap in management research (Aram and Salipante, 2003), the findings have an important practical implication for organizations and managers who use multinational teams related to the need to focus on interpersonal communication problems that employees of multicultural groups may encounter. An example of such focus is cross-cultural training that introduces concepts such as Indian/Israeli different 'models of conflict management' (Zaidman, 2001), which may be especially helpful for this type of cognitively inclined employees. According to Zaidman (2001), the directness, however painful, that characterizes Israeli communication and the indirectness typical of the Indian team members, who often padded their messages for the sake of politeness, reflect inherent differences between Israelis and

Indians in terms of models of conflict management. The Indians follow ‘the harmony model of conflict management,’ in which the primary goal is to maintain group harmony. In this model, conflicts are seen as part of the long-term relationship between the two parties and the social networks surrounding them. By contrast, in ‘the confrontational model’ followed by the Israelis, conflicts are openly acknowledged and conflict management is governed by norms of fair play, mutual concessions and compromise. This model allows negative emotions to be displayed during conflict (Kozan, 1997). Indians define politeness as a lack of directness in speech, and accordingly, they find the direct and confrontational style of their Israeli colleagues to be harmful to an atmosphere of cooperation. Ideally, such cross-cultural training can use diversity as a basis for shared organizational identity.

The differences found between burnout and stress in terms of their relationship to the sense of the work’s importance (burnout negatively correlated, and stress positively correlated) have another important practical implication for organizations and managers who use multinational teams in the high-tech industry: they suggest that burnout and stress need to be treated differently. In times of shrinking budgets, it is essential for managers to understand that the most efficient way for them to reduce burnout is not necessarily by reducing their employees’ stress, but by enhancing employees’ sense of the importance of their work. Indeed, managing cultural diversity and the stress it entails has become the most common challenge of multicultural global teams (Marquardt and Horvath, 2001). Organizations and managers that fail to address this challenge can expect to suffer a significant competitive disadvantage (Cox and Blake, 1991).

## Conclusions

Using quantitative and qualitative methodologies, the study demonstrated that the importance of one’s work can serve a ‘protective’ function against burnout even in highly stressful occupations as multinational teams in the high-tech industry. This finding supports the existential perspective on burnout, and suggests that treatment of burnout should focus on the perceived importance of the work.

## Appendix

Professor Ayala Malach Pines was a clinical, social and organizational psychologist. She received her BA from the Hebrew University and her MA and PhD from Boston University. She wrote, taught and consulted about topics that are in the heart of existence of each one of us: love, jealousy, stress, burnout, gender and the meaning of life. Professor Malach Pines was a faculty member, Chair of the Department of Business Administration and Dean of the Guilford Glazer faculty of Management at Ben Gurion University of the Negev, Israel.

Ayala’s parents were born in Poland and escaped the Nazi persecutors through Russia, ending up in Kyrgyzstan, where Ayala was born. When Ayala was 5 years old, she and her parents arrived in Israel. Her parents opened a bookbinding shop and a bookstore in the backyard of their house. Ayala was immersed in books and reading from early childhood and, later, in her extensive writing. Her contribution to research is documented in 11 books that she wrote, 3 books that she edited (with Professor Ozbilgin), 103 published papers and 35 book chapters. Her legacy is carried on by her 22 graduate students and by us, her colleagues, who were inspired by her daily presence.

Her research interest reflects not only a vast scope of research topics, but also a genuine curiosity and interest in people. She studied people from a breathtaking range of lifestyles and occupations: prostitutes, managers, nurses, blue-collar women, teachers, entrepreneurs, elite female athletes, prison personnel, small-business owners, police officers, high-technology entrepreneurs, engineers and global team members.

In the area of management, Ayala’s main research interests were: stress and burnout; career choice; working women; entrepreneurs and managers; and recently also global multicultural teams. She promoted and practised an interdisciplinary approach in her research, often collaborating with researchers coming from diverse disciplines and methodologies. She was a pioneer in the study of burnout, and her contribution in this area is well recognized worldwide. Inspired by the existential theory, Pines and Keinan (2005) demonstrated that people report low levels of burnout, even when working in highly stressful situations, when they feel that their work is

important and meaningful. In recent research, Professor Pines and colleagues tested the existential perspective on burnout of expatriates (Silbiger and Pines, 2014) and as presented in the manuscript below in bicultural teams.

Sadly and unexpectedly, Professor Ayala Malach Pine passed away in September 2013.

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