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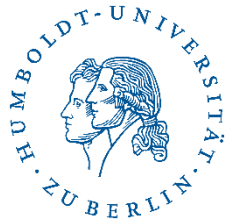

The Effect of Change in Supervisor Support and Job Control on Change in Vigor: Differential Relationships for Immigrant and Native Employees in Israel

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Abstract

Building on the premises of the conservation of resources theory the aim of this study was to investigate long-term effects of job resources on vigor among native and immigrant employees in Israel. More specifically, we investigated the effects of baseline and change in job control and supervisor support on change in vigor levels, as well as the degree to which these effects differ among educated native and immigrant employees in Israel. We surveyed 235 white-collar Eastern European and Russian immigrants and 235 white-collar native Israelis matched on occupational and demographic characteristics at two points of measurement with a 30-month time lag. Latent change score modeling revealed that among both immigrants and natives, change in job control was related to change in vigor. Multiple group analyses further revealed that among immigrant employees only, baseline levels of supervisor support were associated with change in vigor. In conclusion, these findings suggest that the utilization of resources as a means of acquiring new resources may be influenced by immigrant background. Managerial implications are discussed.

Keywords: Immigrant employees, job resources, social support, job control, vigor, well-being

The Effect of Change in Supervisor Support and Job Control on Change in Vigor: Differential Relationships for Immigrant and Native Employees in Israel

Vigor is a positive affective state that denotes a combination of positive energy balance and pleasantness. Following Shirom's (2011) conceptualization, vigor consists of three components, namely physical strength, cognitive liveliness, and emotional energy that interact with one another. Vigor leads to numerous desired outcomes for employees such as physical and mental health (e.g., Armon, Melamed, & Shirom, 2012) and performance (Reis, Arndt, Lischetzke, & Hoppe, 2016) over and above physiological and affective factors. It also benefits the organization by increasing employee creativity (e.g., Carmeli, McKay, & Kaufman, 2014). As a work-related resource, vigor is distinct from other positive states such as positive affect or mood and explains more variance in work-related outcomes such as performance (Reis et al., 2016). Given the positive effects of vigor on both employees and organizations, understanding its antecedents is crucial for developing interventions that promote vigor in the workplace. Several work-related resources have been associated in past studies with vigor, such that baseline levels of resources relate to or predict higher levels of vigor. These resources include, among others, job characteristics, interactions with others, transformational leadership style, teamwork, and organizational reward practices (for a review see Shirom, 2010).

As work life is subject to ongoing transformations, with changes that affect individual employees as well as the organization as a whole, changes in job resources may lead to changes in vigor. This dynamic view is rooted in the conservation of resources theory (COR, Hobfoll, 1989), and specifically in the notion of gain and loss spirals. Gain spirals occur when an increase in the level of a specific resource (e.g., instrumental support at work) leads to an increase in positive work-related outcomes (e.g., higher levels of vigor or higher performance rates). Similarly, loss spirals occur when a decrease in specific resources lead to a decrease in positive

outcomes (e.g., lower levels of vigor). We argue that in order to better explore such gain and loss spirals as well as the relationships between job resources and vigor, one has to understand how changes in, and not merely baseline levels of job resources, lead to increases or decreases in vigor levels. Accordingly, in this study, we aim to fill this gap in the literature and focus on the static and dynamic effects of two core job resources, namely the effects of both baseline and changes in supervisor support and job control, on the development of vigor. Both of these resources have been identified as key resources in the organizational literature that builds on COR theory (see Halbesleben et al. 2014 for a review), in part due to their fundamental role in the Job Demand-Control-Support Model (Johnson & Hall, 1988), and both have been associated in the past with vigor (Cheng, Mauno, & Lee, 2014; Mauno, Kinnunen, & Ruokolainen, 2007; Shraga & Shirom, 2009). By examining changes in these resources (in addition to baseline and endpoint levels), we expand this literature to better capture the dynamic nature of resources and contribute to our understanding of COR's gain and loss spirals.

Another gap in the vigor literature relates to the population studied, and specifically to the fact that vigor has not been studied, to date, among immigrant workers. This is surprising in light of the increasingly diverse workforces in Western countries and the active role immigrant employees play in numerous workplaces (UN, 2013). Still, the industrial-organizational literature lacks a resource-oriented perspective targeting job resources that can potentially help immigrants to improve their work-related well-being. Most studies assessed the negative consequences of immigration on well-being, including higher levels of stress (Berry, 2006), depressive symptoms (Lindert, von Ehrenstein, Priebe, Mielck, & Brahler, 2009), and poorer general health (Nielsen & Krasnik, 2010). Yet, the studies that assessed resources such as social support and job control among immigrant employees are rare (for an exception see Grzywacz, Quandt, & Arcury, 2008; Hoppe, 2011; Hoppe, Heaney, & Fujishiro, 2010). Indeed, immigration is considered a critical

life event (Berry, 1997) that triggers the loss of important resources, such as social networks and support systems in the home country (Schwarzer, Hahn, & Schröder, 1994). Nevertheless, we argue that it is important to focus on resource enhancement and not only on resource loss among immigrant employees, and understand whether the mechanisms of resource enhancement differ between natives and immigrants.

In the present study, we aim to fill this gap in the literature and shed light on the role immigrant status plays in the effect of job related resources on vigor. We build on COR theory and study the differences between immigrant and native employees, in the effects of baseline and change in supervisor support and job control on change in vigor. In doing so, we also follow the call made by Halbesleben and colleagues "to examine whether the meaning and value of resources differ across cultures" (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014; p.9), as a means of providing tailored interventions for ethnically diverse work groups and teams.

Last, but not least, a third gap in the literature relates to the specific immigrant populations studied thus far. Immigration data points to an ever-growing global trend in immigration of educated employees that pursue white-collar jobs in their new country (Tsai, 2012). Yet, the few studies that have assessed favorable psychosocial working conditions among immigrants have primarily focused on blue-collar immigrant employees. These have included mainly immigrants from low-income countries who, after migration, worked in blue-collar jobs in higher income countries such as Germany or the United States (see Grzywacz et al., 2008; Hoppe, 2011; Hoppe et al., 2010). While the work experience of blue-collar immigrant employees is of importance, it does not necessarily represent the experience of white-collar immigrant employees in Western countries. White-collar immigrant employees often hold a lower job status in the destination country. Yet, they do not necessarily experience a loss of occupational resources to the extent of blue-collar immigrant employees who experience more

substantial changes in job status (e.g. from white-collar to blue-collar jobs), extended work hours, or the need to perform physical work. However, they face challenges due to cultural differences such as language and different negotiation styles (e.g., Cox, 1993). Moreover, when assessing the potential impact of favorable job resources on white-collar immigrant employees, the availability of work-related resources such as job control and work-related social support may differ between blue-collar and white-collar immigrant employees. By comparing immigrant and native employees holding similar white-collar jobs that match their educational background, we aim to better understand the effects of immigration on resource utilization and acquisition among white-collar employees.

Theoretical Background

According to Shirom's conceptualization of vigor people with high levels of vigor, both natives and immigrants, feel physically, cognitively, and emotionally energetic and can consequently gain additional work-related resources in the near or far future (through spirals of gain). The combination of physical, emotional and cognitive energies also accentuates vigor's role as an important outcome, because it extends beyond the focus on each of these dimensions separately. As physical, emotional and cognitive states are often intertwined, the holistic approach taken by Shirom (2011) allows us to get a better understanding of an employees' overall energy level. This conceptualization has been validated in a qualitative study by Shraga and Shirom (2009), who also found that vigor, as a whole, is sought after by most people.

Vigor also shares some similarities with Bakker and Demerouti's (2008) work engagement construct (i.e., a combination of vigor, dedication and absorption). The 'physical strength' vigor dimension is indeed similar to the energetic component of work engagement, but the two other components are more distinct: The 'cognitive liveliness' vigor dimension is related to various cognitive abilities (focus, concentration), while the 'absorption' work engagement

dimension relates specifically to the experience of flow while working. The third vigor dimension - emotional energy, relates to positive social interactions at work (e.g., ability to show warmth to others), while the dedication dimension of work engagement relates to identification with one's work. Taken together, vigor portrays a holistic view of employees' energetic level, while work engagement is more focused on the association between the employee and his work.

Vigor has been shown to be an important resource for employees and a source for employee health and performance outcomes: It has been used as an indicator of the ability to recover after work (Oerlemans & Bakker, 2014), it is associated with enhanced self-rated health (Shirom, Toker, Berliner, Shapira, & Melamed, 2008), with lower levels of physical health such as hyperlipidemia and inflammation biomarkers (Shirom, Toker, Melamed, Berliner, & Shapira, 2010; Shirom, Toker, Melamed, Berliner, & Shapira, 2013), and with performance (Reis et al., 2016), over and above other physiological and affective factors. Vigor has also been shown to be distinct from other constructs such as feelings of happiness (Bakker, Demerouti, Oerlemans, & Sonnentag, 2013) or positive affect (Reis et al., 2016). First, vigor is a work-related construct that specifically addresses physical, cognitive and emotional energy among employees. As such, it has been shown to be a stronger predictor for work-related outcomes such as performance compared to context-free constructs such as affect (Reis et al., 2016). Next, as vigor relates solely to the employees' level of physical, cognitive and emotional energy, it is also distinct from work-related attitudes such as commitment (aimed at the organization) or motivation (aimed at the task).

As proposed above, we aim to understand the way vigor develops (i.e., treating change in vigor as an outcome), while building on COR theory's notion of 'spirals of gain': an aggregation of resources that spirals up to additional external and internal resource acquisition. Using this dynamic view, we argue that job-related resources and vigor have the potential to change over

time (Armon et al., 2012; Brauchli, Schaufeli, Jenny, Füllemann, & Bauer, 2013), and are especially important in light of the loss spirals that immigrant employees experience. Immigration bears a price; it involves the loss of numerous resources including aspects of one's identity or social support system (Schwarzer et al., 1994). However, especially in light of such losses, resource gains are increasingly important. As suggested by Hobfoll (2001, p. 343): "resource gains are seen as acquiring their saliency in light of loss. That is, in the context of resource loss, resource gains become more important". Interestingly, most studies to date have focused on the association between immigration and negative outcomes, while vigor has not been studied among immigrants yet. This is unfortunate, given the desired outcomes associated with vigor, including physical and mental health (e.g., Armon et al., 2012), intrinsic motivation (e.g., Van Beek, Taris, & Schaufeli, 2011) and employee creativity (e.g., Carmeli et al., 2014). Within COR framework Hobfoll, Freedy, Lane, & Geller (1990) have identified social support as one of the most important resource: it can have a direct value by enhancing one's self-esteem, mastery, and identity and can also have an indirect value, as it enables individuals to acquire new resources from others, thus expanding their overall resource reservoir (through gain spirals). In addition, by integrating self-determination theory (Deci & Ryan, 2012) into COR, Halbesleben et al (2014) argue that the motivation to acquire autonomy-related resources such as job control would have the greatest impact on well-being outcomes. In what follows, we will introduce supervisor support and job control as two core work-related resources, which may both affect change in vigor. Our research model is presented in Figure 1.

[INSERT FIGURE 1 ABOUT HERE]

Supervisor support and vigor. Social support is widely recognized as having favorable consequences for both employees (e.g., Uchino, 2006) and organizations (Baruch-Feldman, Brondolo, Ben-Dayan, & Schwartz, 2002). As there can be many types of social support (i.e.,

emotional, instrumental, appraisal and informational, House, 1981), social support can contribute to the expansion of one's resource reservoir in numerous ways: it can have a direct value by enhancing one's self-esteem, mastery, and identity (which are all crucial for immigrants); and it can also have an indirect value, as it enables individuals to acquire new resources from others through resource passageways - the routes through which resources can flow from or to individuals (Hobfoll, 2011; Hobfoll et al., 1990). Research suggests that the mere existence of a resource passageway to others is more important in reducing distress compared with its actual use (Bolger, Zuckerman, & Kessler, 2000; Kalish, Luria, Toker, & Westman, 2015). A similar notion was introduced by Nahapiet and Ghoshal (1998), who saw social support as a 'social capital at work' that is valued by the individual and allows him or her to minimize resource loss (Luchman & González-Morales, 2013).

We argue that social support can initiate a gain spiral by enhancing employees' vigor. Indeed, a qualitative study has shown that meaningful interactions with others are among the most frequent work-related antecedents of vigor (Shraga & Shirom, 2009). Quantitative studies have also supported a direct effect of social support on vigor (Armon et al., 2012; Cheng et al., 2014). Several mechanisms may account for these relationships: Social support may enhance vigor by providing instrumental and informational support (covering for employees, exchanging shifts and information) and thus contribute to physical and cognitive energy. Support may also enhance one's sense of belongingness and empathy (for a review see Thoits, 2011) in a way that contributes to emotional vigor. Thus, employees who experience an increase in social support over time benefit from a gain spiral through which physical, cognitive, and emotional energy are enhanced (i.e., vigor). On the other hand, employees who experience a decrease in social support may suffer from a loss spiral through which physical, cognitive, and emotional energy decrease.

Social support can be acquired from numerous sources. Yet, in an attempt to acquire new resources and protect existing ones, employees often seek their supervisor's support, as supervisors have access to major tangible resources (e.g., monetary resources) as well as non-tangible resources (e.g., informational or emotional support, Luchman and Gonzalez-Morales, 2013). As such, supervisor support serves as a social anchor to numerous resources, and is therefore a valuable resource passageway that can help employees to acquire physical, mental and emotional energy. Another reason for focusing on supervisor support is that it enables us to compare employees in different settings. Most employees have a main supervisor, whereas the number of colleagues that can potentially provide support is more diverse. Therefore, in the present study we focus on supervisor support. We also take into consideration the fact that a supervisor's level of support can change over time, and therefore it is important to find out whether high baseline levels of supervisor support, and change in supervisor support over time, are positively associated with change in vigor levels. We therefore expect the following:

Hypothesis 1: Baseline supervisor support and change in supervisor support are positively associated with change in vigor.

Supervisor support and vigor among immigrant and native employees. As argued above, immigration involves the loss of numerous resources, therefore, social support may act as a key resource that enables immigrants to replenish their resource pool (Chataway & Berry, 1989; Mirsky, Baron-Draiman, & Kedem, 2002) such that the mere presence of a support provider serves as a resource passageway. Indeed, the strong positive effect of supervisor support on immigrants' well-being has been shown in two studies. These studies compared blue-collar immigrant and native employees in both Germany and the US, and found that supervisor support had stronger positive effects on the well-being of immigrants compared to that of natives (Hoppe, 2011; Hoppe et al., 2010). The study investigating Latino immigrants in the US (Hoppe et al.,

2010) revealed that supervisor support had stronger direct and buffering effects on job distress among immigrants, compared with their native counterparts in the same jobs. Likewise, the study investigating immigrant employees in Germany (Hoppe, 2011) showed stronger direct and buffering effects of supervisor support on impaired well-being among immigrants, compared with native German employees in the same jobs. In both studies, the authors argued that immigrants might be at higher need for support in the workplace as they are likely to experience more stressors in their daily life. In addition, given immigrants' status as minority as well as potential negative previous work experiences, their expectations toward supervisor support may have been low. Accordingly, when experiencing supervisor support, immigrants may also respond more positively to it.

It should be noted though that both studies were cross-sectional in nature, included blue-collar workers, focused on baseline effects of supervisor support rather than on change in support, and assessed negative well-being outcomes only. Advancing this perspective, we argue that the dynamic nature of supervisor support (supervisors may change, relationships may evolve or decay) calls for a longitudinal approach and should be investigated in relation to positive outcomes (i.e., vigor) rather than a reduction in negative outcomes only (i.e., distress) among a sample of white-collar employees.

We therefore propose that supervisor support serves as a resource for all employees, but that it has stronger effects among immigrant employees.

Hypothesis 2: The effect of baseline supervisor support and change in supervisor support on change in vigor is expected to be stronger for immigrant compared to native employees.

Job control and vigor. Over and above social support, job control has been widely studied as a core work-related resource. It has been defined as perceived control over one's tasks

and conduct during the work day, and involves having the option of changing one's work environment by altering aspects of the work task or work procedure (Karasek, 1979). Longitudinal research has repeatedly demonstrated positive effects of job control on physical and mental health (see De Lange, Taris, Kompier, Houtman, & Bongers, 2003 for a review) and on job performance (Bond & Flaxman, 2006). Studies have also shown that low levels of job control are associated with impaired physical health (Bosma et al., 1997; Steptoe & Willemsen, 2004) and mental health (Griffin, Fuhrer, Stansfeld, & Marmot, 2002).

In the context of COR, job control has been defined as an external energetic resource that derives from the work environment and builds positive energetic mood states, such as feelings of vigor (Shirom, 2011). Indeed longitudinal research has confirmed the positive effect of baseline levels of job control on vigor even over long time lags of one and two years (Cheng et al., 2014; Mauno et al., 2007). In these studies, job control emerged as one of the best-lagged predictors of vigor. However, investigating the baseline effects of job control on vigor does not take into account the dynamic nature of job control. Given that job control already shows some variability from one day to the next (Butler, Grzywacz, Bass, & Linney, 2005), it is even more so likely to change over the course of several months to years. Building on Hobfoll (1989), we argue that changes in job control are likely to initiate gain or loss spirals and to predict change in vigor over time.

Several mechanisms may account for this hypothesized association. First, job control has an impact on work schedule, tasks, and other aspects of the job that may affect physical energy (see Van der Doef & Maes, 1998 for a review). Job control enhances cognitive liveliness as well, due to its' strong cognitive component (Frese & Zapf, 1994). Controlling one's work involves the activation of independent thinking and problem solving, especially when complex and challenging tasks are involved. This activation, in turn, is likely to promote mental agility and

flow of thought and, thus, increase cognitive vigor over time (Shirom, 2011). Job control may also positively enhance emotional vigor: Employees who experience decision latitude at work may interpret this as being trusted by their supervisor. This positive interpretation may promote a sense of belonging and thus enhance the employees' emotional energy. Similar arguments have been raised in the leadership literature (for instance in the leader-member exchange model), according to which supervisors who value employees' contributions to the work task and show confidence in them contribute to high-quality interpersonal relationships (Atwater & Carmeli, 2009). Thus, employees who experience an increase in job control over time are likely to benefit from a gain spiral through which physical, cognitive, and emotional energy are enhanced (i.e., vigor). On the other hand, employees who experience a decrease in job control over time may suffer from a loss spiral (as evident in the studies cited above that linked low control with impaired health). As health deteriorates, physical, cognitive, and emotional energy may decrease as well. Therefore, we expect the following:

Hypothesis 3: Baseline levels of job control and change in job control are positively associated with change in vigor.

Job control and vigor among immigrant and native employees. As in the case of social support, the literature provides some empirical evidence that the experience of job control differs between immigrant and native employees in Western countries. These studies have associated job control with well-being outcomes mainly among native employees rather than among their immigrant counterparts. For example, the previously cited study of German postal workers by Hoppe (2011) found that job control has direct and indirect effects on impaired well-being among native employees but not among immigrant employees. Likewise, two studies on immigrants in Northern European countries have shown that job control functions as a resource among natives

but not among immigrant employees in Sweden (Rosmond, Lapidus, & Björntorp, 1998) and Great Britain (Wadsworth et al., 2007) respectively.

In an attempt to explain this discrepancy, we suggest that the specific work situation of immigrants affects their experience of job control. Immigrants are likely to experience uncertainty due to value discrepancies and communication problems in the workplace, thus augmenting ambiguity regarding how to perform a task or what is expected from them. These higher levels of ambiguity in the workplace have, for example, been revealed among Latino immigrant employees in the US compared to white employees in the same jobs (Hoppe et al., 2010). Accordingly, as ambiguity is considered to be a major work stressor (Pearce, 1981), immigrant employees with high levels of job control who lack information on the right way to utilize this control may experience fear of losing resources (i.e., manager's admiration, adequate job performance, etc.) and these worries may counterbalance the positive effects of job control on their vigor levels. We therefore propose that job control serves as a resource for all employees, but that it leads to less favorable effects among immigrant employees.

Hypothesis 4: The effects of baseline levels and change in job control on change in vigor are expected to be stronger for native compared to immigrant employees.

Method

Study Background, Sample and Procedure

For Israel, immigration has always been a major target, with Jews in all countries encouraged to immigrate due to the open-door policy set out in the Law of Return (Shuval, 1998). More than three million people immigrated to Israel between 1948 and 2013, which accounts for almost 40% of the entire population (Central Bureau of Statistics, 2013). Most immigrants (over one million) came in two waves in the 1970s and 1990s from former USSR member states such as Russia, Ukraine, and Eastern European countries. Due to the high

prevalence of immigrants with higher education, a large percentage of these employees have been employed in white-collar professions (Central Bureau of Statistics, 2009). In an attempt to study this population, we focus on white-collar immigrants in Israel.

The data for this study were collected from 8,394 employed men and women (immigrants and natives) who visited an Israeli Center for routine health examinations for the first time between December 2002 and January 2011. These examinations were sponsored or subsidized by employers as a fringe benefit, and each employee, independent of his or her health status, was eligible to attend screenings every 18-48 months until retirement. Among the employees who were approached, 91 percent agreed to participate in the study, signed an informed consent form and completed a survey in addition to having their physical examinations. This resulted in an initial sample of 7,638 participants (T1). Employees' medical records did not reveal any significant differences between participants and non-participants at T1 in terms of gender or age. 5,065 employees (66.3% of the original sample) returned for a second physical examination and survey (T2), averaging about 30 months between both visits.

As this paper focuses on comparing immigrant and native employees, the sample was split into two subsamples of 3,615 native and 1,450 immigrants (i.e., all participants who were born abroad). Second, we excluded 95 participants who were not Jewish in order to rule out a confounding effect of religion. Third, we excluded all immigrant employees who were from a region other than Eastern Europe, Russia and Ukraine, who arrived before 1970 and who immigrated to Israel before the age of six to minimize group heterogeneity. Finally, we matched our two subsamples on several job characteristics, namely, type of occupation, supervisory tasks, physical work, and on the demographic variables age, gender, and years of education. In a first step, immigrant employees were matched one on one with native employees upon job characteristics. In a second step, they were matched upon demographic characteristics: gender,

age, and education. To avoid loss in participants, we allowed the matched pairs to differ to some extent on age (mean difference of 2.24 years) and education (mean difference of 1.2 years) without these differences being statistically significant. The final sample included 470 employees for T1 and T2 (235 natives and 235 immigrants) of which 208 (44 %) were female. The average age was 43.8 (*SD* = 8.64) years. Participants were highly educated with 15.34 (*SD* = 2.48) years of education (including years of school plus vocational training, college, and university) and worked 9.38 hours per day on average. The distribution across professions was as follows: technical and engineering (55 %), administration (19 %), professional occupation (3 %), sales and customer service (5 %), medical services (10 %), security and protection (8 %). Across these occupations, 211 employees (45 %) had supervisory tasks. Altogether, 90 % of immigrants arrived from former USSR countries, with the majority coming from Russia and Ukraine, and 10 % from Eastern European countries (i.e., Romania, Hungary, Czech Republic, and Bulgaria). The study participants immigrated between 1970 and 2005.

Measures

Supervisor support. Supervisor support was assessed using a four-item subscale of the social support scale developed by French and colleagues (French, Caplan, & Van Harrison, 1982) (e.g., “My supervisor would do anything in order to facilitate me”). The participants were asked to refer to their direct supervisor (no cases of dual management were presented to the research assistant who administered the questionnaire). Participants rated the items on a five-point Likert scale, ranging from 1 = *not true at all* to 5 = *very true*.

Job control. Job control was measured with a seven-item scale adapted from the decision authority scale of the Job Content Questionnaire (JCQ) (Karasek & Theorell, 1990). Participants rated the extent to which they experienced job control in different situations at work (e.g., “My

opinion and what I have to say have an influence on what is happening.") on a five-point Likert scale ranging from 1 = *to a very little extent* to 5 = *to a very large extent*.

Vigor. Vigor was measured with the three subscales of the Shirom-Melamed Vigor Scale (Shirom, 2004). Participants were asked to think about their last 30 workdays and rate the frequency with which they experienced feelings of physical, cognitive, and emotional vigor. The physical vigor subscale includes five items and is based on Thayer's theory of energy (2001). It includes items like "I feel full of pep". The subscale of cognitive vigor includes four items and consists of items like "I feel I am able to contribute new ideas" (Yik, Russell, & Barrett, 1999). The subscale of emotional vigor includes three items related to the participant's inter-personal relations. It includes items like "I feel I am able to show warmth to others". For all three subscales, the items were rated on a seven-point Likert scale ranging from 1 = *almost never* to 7 = *almost always*.

Control variables. As the two groups were matched with regard to the type of occupation, supervisory tasks, physical work, age, gender, and years of education, the groups did not differ on these variables. However, we controlled for subjective job demands and job change during the 30-month time lag, in all analyses. In addition, we controlled for immigration status (in models that included the full sample) and the time lag of data collection, as this varied from 6 to 83 months (30 months on average). Job demands were assessed by six items adapted from the JCQ job demands scale (Karasek & Theorell, 1990). Participants were asked to rate the items (e.g., "I am requested to work too quickly") on a five-point Likert scale ranging from 1 = *to a very little extent* to 5 = *to a very large extent*.

The internal consistencies of all scales are set out in Table 1.

Statistical Analyses[1]

Descriptive statistics were calculated with R (Version 2.15.2) (Team, 2014). All structural equation models were tested with MPlus (Version 7, Muthén & Muthén, 2012) using the robust maximum likelihood estimator (MLR) and the full information maximum likelihood (FIML) approach to deal with missing data.

Latent change score modeling. To test our hypotheses, we used structural equation modeling with a latent change score approach (hereafter: LCS, McArdle, 2001). One direct benefit of LCS modeling compared to autoregressive approaches is that differences in participants' changes over time as well as the average change across participants can be considered within latent change variables (Selig & Preacher, 2009). Moreover, when this approach is based on latent variables representing both measurement occasions, the specified change score is free of measurement error (McArdle, 2009). When compared to growth curve models, the LCS approach is more flexible in modeling change as it allows modeling change with only two measurement points (McArdle, 2009). Finally, LCSM is also advantageous compared to simple difference score analyses. Difference scores can be unreliable (Lord, 1956) under certain circumstances (Edwards, 2001). Thus, correlations between such an unreliable difference score and other variables are bound to misrepresent the true relationships due to attenuation (Loevinger, 1954). The LCSM approach based on structural equation modeling renders a latent variable representing change, which is not distorted by measurement error. Thus, correlations between this variable and other variables are not distorted due to measurement error.

In order to create latent change scores, all latent T2 variables were regressed on their corresponding latent T1 variables with a fixed regression weight of 1. Residuals for this

[1] An Appendix with a more detailed description of the statistical analyses is available from the authors upon request.

regression were fixed with a variance of zero. The LCS variables were then defined by their corresponding T2 variable with a fixed loading of 1. Thus, all changes between T1 and T2 are captured within the LCS. Next, latent baseline variables were constructed using the corresponding latent T1 variables as indicators. Again, the loading was fixed to 1 and the residual's variance to zero. These latent baseline variables were used to predict the respective LCS. Means of all latent T1 and T2 variables as well as latent baseline scores were fixed to zero. With this procedure, all mean differences are captured by the LCS. In summary, the LCS represents the portion of a variable experienced at the second measurement point, which deviates from the baseline level of this variable, i.e. its change. The mean of the latent change score reflects the average amount of change within a group, whereas the variance provides information on individual differences in this change.

Research model. To test Hypotheses 1 and 3, change in vigor was regressed on the baseline and latent change scores of supervisor support and job control. We allowed correlations between all baseline variables to account for shared variance and possible baseline differences between groups. Additionally, change in supervisor support was regressed on baseline job control and vice versa. Finally, change in vigor was regressed on the control variables job demands, changed job, time lag, and immigrated. Figure 1 shows our research model without control variables.

To judge model fit, we applied guidelines as suggested in the literature (Beauducel & Wittmann, 2005; Heene, Hilbert, Draxler, Ziegler, & Buhner, 2011; Hu & Bentler, 1999). We used the following indices and cutoffs: The robust chi-square goodness of fit index (χ^2), the root mean square error of approximation (RMSEA, cutoff < .06) in combination with the standardized root mean square residual (SRMR, cutoff < .10; see Hu & Bentler, 1999, p. 27), and the comparative fit index (CFI, cutoff > .95; Hu & Bentler, 1998). Model parameters and their

standard errors were estimated based on a robust Maximum Likelihood method (Satorra & Bentler, 1994).

Group differences. To ensure that the measures applied tap equivalent constructs across immigrant and native employees, we first tested for measurement invariance with multiple group structural equation models (Chen, 2008). We compared two sets of models separately: The first set included all T1 variables; the second set included all T2 variables. Accordingly, we had two basic models per group (native and immigrant employees) and per time point (T1 and T2). We tested measurement invariance stepwise by increasing the restrictions for each model in each step. Following Chen and colleagues (Chen, Sousa, & West, 2005) we compared a configural, a weak and a strong factorial invariance model across groups. Equal factor loadings and intercepts across groups are needed to ensure that measures are not biased by group differences in psychometric properties of the scores. An increase of RMSEA by .015 or more, or an increase of the SRMR of .030 or more in combination with a decrease in CFI of .010 or more, suggests a lack of invariance (Chen, 2007).

To test Hypotheses 2 and 4, which propose differences between native and immigrant employees in the effects of supervisor support and job control on change in vigor, we conducted multiple group analyses for the LCS models in which we compared an invariant model (Model A) with four less constrained models (Model B – E) (see lower section of Table 3). In Model A, all four paths addressed in Hypotheses 2 and 4 (i.e., associations between baseline as well as change in supervisor support and job control with change in vigor) were set equal across groups. Thus, this model represents the relationships between variables if the null hypothesis was true (i.e., no differences between groups). In Model B, we allowed the path of baseline supervisor support on change in vigor to vary between groups (Hypothesis 2). In Model C, we allowed the path of change in supervisor support on change in vigor to vary between groups (Hypothesis 2).

In Model D, we allowed the path of baseline job control on change in vigor to vary between groups (Hypothesis 4). Finally, in Model E we allowed the path of change in job control on change in vigor to vary between groups (Hypothesis 4). Thus, these models all represent the relationships between variables if the alternative hypotheses were true (i.e., differences in paths between groups). Next, we compared Models B to E each with the invariant Model A and checked whether the model fit improved. An improvement in model fit would indicate that group differences prevail. We considered the following three indices for model comparisons: First, we applied the Satorra-Bentler scaled chi-square difference test ($\Delta\chi^2_{SB}$) (Satorra & Bentler, 2001) to contrast nested models estimated with the robust maximum likelihood estimator. Second, we followed Meade and colleagues (Meade, Johnson, & Braddy, 2008) who suggest that a change of CFI ($\Delta = .002$) indicates a significant difference in model fit. Third, we used the Akaike information criterion (AIC).

Results

Means, standard deviations, zero-order correlations, and Cronbach's alphas are presented separately for immigrant and native employees in Table 1. The mean baseline levels of supervisor support, job control and vigor do not differ significantly between native and immigrant employees. The correlations reveal positive associations for T1 supervisor support and T1 job control with T2 vigor among both immigrant and native employees. Table 1 also displays the correlations between T1 and T2 measures suggesting lower stability over time for supervisor support ($r_{natives} = .44$ and $r_{immigrants} = .39$) than for job control ($r_{natives} = .66$ and $r_{immigrants} = .53$) and vigor ($r_{natives} = .64$ and $r_{immigrants} = .58$).

[INSERT TABLE 1 HERE]

Tests of measurement invariance are presented in Table 2. We found that the basic models for both native and immigrant employees fit the data well, and that all measures had equal factor

loadings and intercepts across groups (see "Equal factor loadings and intercepts" Model in Table 2), ensuring measurement invariance across groups.

To test Hypotheses 1 and 3, namely the effects of baseline levels as well as change in supervisor support and job control on change in vigor, we specified a model for the full sample. Model fit was good (χ^2 (21) = 37.64; p = .014; CFI = .97; RMSEA = .04 (90% CI: .02 – .06); SRMR = .05). As we expected direct positive relations in Hypotheses 1 and 3 significance tests were one-tailed.

[INSERT TABLES 2 & 3 HERE]

The Effect of Supervisor Support on Vigor

As proposed in Hypothesis 1, we expected to find a positive association between baseline levels of supervisor support as well as change in supervisor support and change in vigor. Table 4 shows that for the full sample (i.e., native and immigrant employees), baseline levels of supervisor support did not predict change in vigor (B = .05, p = .241). Similarly, we did not find a significant association between change in supervisor support and change in vigor (B = .03, p = .352). Thus, Hypothesis 1 was not supported.

To test Hypothesis 2, we compared the two groups (native and immigrant employees), expecting to find stronger associations between supervisor support and vigor among immigrant employees. The model results for native employees revealed no significant effect of baseline levels of supervisor support on vigor (B = -.12, p = .093), while among immigrant employees baseline levels of supervisor support positively and significantly predicted change in vigor (B = .20, p = .032). To test whether these differences in regressions weights are statistically significant, we applied multiple group analyses as described above. We compared Model A, in which all paths concerning our hypotheses were set equal across groups, with Model B, in which we allowed the path of baseline supervisor support on change in vigor to vary across groups. The

results of the model comparison revealed that baseline supervisor support was more strongly associated with change in vigor among immigrants than among native employees ($\Delta\chi^2_{SB}[1]$ = 6.24, p = .012; ΔCFI = .003; ΔAIC = - 4.915).

In line with the results for the full sample, we did not find a significant association between change in supervisor support and change in vigor in either group (native employees: B = - .03, p = .412, immigrant employees: B = .06, p = .339), and, accordingly, no differences between native and immigrant employees ($\Delta\chi^2_{SB}[1]$ = .90, p = .343; ΔCFI = .003; ΔAIC = -.470). Thus, Hypothesis 2 was partially supported.

[INSERT TABLE 4 HERE]

The Effect of Job Control on Vigor

As proposed in Hypothesis 3, we expected to find a positive association between baseline levels and change in job control with change in vigor. In the full sample (i.e., native and immigrant employees), we did not find a positive effect of baseline job control on change in vigor (B = .04, p = .302). Yet, as proposed we found a positive association between change in job control and change in vigor (B = .51, p < .001). Thus, Hypothesis 3 was partially supported.

To test Hypothesis 4, we compared the two groups, expecting to find stronger associations between job control and vigor among native employees. First, neither among native nor among immigrant employees baseline levels of job control significantly predicted change in vigor (native employees: B = .11, p = .146, immigrant employees: B = .02, p = .418) and the groups did not differ in the magnitude of these effects ($\Delta\chi^2_{SB}[1]$ = 1.21, p = .271; ΔCFI = -.001; ΔAIC = 1.650). Next, we found that change in job control was positively associated with change in vigor among both groups (native employees: B = .78, p < .001, immigrant employees: B = .42, p = .023). To test whether these effects differed statistically across groups, we compared the invariant

Model A with Model E, in which we allowed the path between change in job control and change in vigor to vary across groups. We did not find an improvement of model fit ($\Delta\chi^2_{SB}[1] = .54$, $p = .542$; $\Delta CFI < .001$; $\Delta AIC = .720$). Even though the effect of change in job control on change in vigor appears to be stronger among native employees (higher unstandardized regression weight), the rigorous test for group differences revealed that the effects are not statistically different between groups. Thus, Hypothesis 4 was not supported.

To summarize, among immigrant employees baseline levels of supervisor support were more strongly associated with change in vigor compared with native employees, while no such differences were found with regard to job control. For both groups change in job control was positively associated with change in vigor.

Discussion

This study focused, for the first time in the I/O psychology literature, on the role job resources play in changing vigor levels among white-collar immigrant and native employees, using a longitudinal design. More specifically, building on COR theory as an overarching theoretical framework and using a uniquely matched sample of immigrants and natives in similar jobs we found that the effect of baseline supervisor support on change in vigor was stronger among immigrants compared with native employees. We also found, across both groups (natives and immigrants), an indication for gain and loss spirals, as changes in job control were associated with changes in vigor. Neither baseline levels of job control nor changes in supervisor support had an effect on changes in vigor. As such, these findings contribute to the I/O literature in three meaningful ways: First, we contribute to COR research by analyzing the static and dynamic effects of two job resources on change in vigor, and thus help to establish the notion of gain and loss spirals. Second, the differential effects of supervisor support on vigor imply that the meaning and value that employees attribute to supervisor support vary based on employees' immigrant

status. Halbesleben and colleagues (Halbesleben et al., 2014) drew attention to Hobfoll's early call to examine the "normative evaluation of resources" (1989, p. 520) to gain a deeper understanding of the function of resources in COR. In an effort to advance our understanding of resources in COR, Halbesleben and colleagues (2014) claimed that both social support and job control may be universal resources, but that the extent to which cultures value these resources may vary considerably (see p. 11). Our study is among the first to empirically test this theoretical proposition with a rigorous research design that ensures measurement invariance across groups. Third, by focusing on resource acquisition (i.e. job resources and vigor) rather than on resource loss (i.e. stressors and strain) among immigrants, and by studying white-collar rather than blue-collar employees, we add novel findings to the immigration research.

The large sample size of immigrant employees and the relatively homogenous group of immigrants are additional major strengths of this study. By matching employees on demographic and job characteristics, we compared immigrant and native employees in similar jobs and positions. This procedure allows for a more conservative testing for group differences and increases the probability that differences in the effects of supervisor support on vigor can be attributed to the immigrant background of employees instead of job- or other person-level characteristics. This conservative approach for comparing immigrant and native employees has been pursued in only few studies, which interestingly provide similar findings in revealing supervisor support to be a more valued resource for immigrant employees (Hoppe, 2011; Hoppe et al., 2010). We will discuss these differences in the following.

Supervisor Support and Vigor among Immigrant and Native Employees

As immigrants are at greater risk of experiencing resource loss after migration and therefore likely to evaluate social support as a key resource (e.g., Mirsky et al., 2002), the associations found between supervisor support and vigor were expected: The effect of baseline

levels of supervisor support on change in vigor was stronger among immigrants. This finding is in line with two cross-sectional studies confirming that formal and informal social support serves a core resource among former USSR immigrants in Israel (Lerner, Kertes, & Zilber, 2005; Mirsky et al., 2002). As argued above, social connections serve as resource passageways (Kalish et al, 2015), and reports of supervisor support among immigrants that are in greater need of resources may indicate that such resources passageways are indeed utilized. These differences between immigrants and natives accentuate the importance of considering immigration status among study participants, especially in samples that constitute a large proportion of immigrants.

Although this study did not focus on explanatory mechanisms that may account for the stronger effects of supervisor support among immigrant employees and did not provide data in this regard, differences in value orientations between Eastern European and Russian immigrant and native employees in Israel may play a role. A core value orientation that has been shown to differ across cultures is that of individualism and collectivism (Hofstede, 2000; Triandis, 1995). Generally, the literature suggests that Eastern societies are more collectivistic, whereas Western societies are more individualistic (Hofstede, 2000; Triandis, 1995). Former USSR and neighboring countries have consensually been classified as having a collectivistic-oriented culture (Bakacsi, Sándor, András, & Viktor, 2002; Hofstede, 2000). For Israel, the classification into cultural clusters is far less consistent and varies considerably across studies (Ronen & Shenkar, 2013), indicating large variance in value orientations. Still, studies indicate that since the 1950s, Israel has increasingly become an individualistic-oriented culture, a change that applies primarily to the Jewish population in Israel (Rozin, 2011), which is also our study population. Also, Schwartz (1999) suggests a classification of countries in which Israel rates higher on value dimensions associated with individual decision making and being independent (characteristics of individualism) than Eastern European countries and Russia. Following these

findings, we draw on Felfe, Yan, and Six (2008) who argue that good relationships with a supervisor are particularly appreciated by collectivistic employees, because the supervisor can fulfill their needs and create a positive team climate and cohesion. Thus, for collectivistic employees who emphasize the relationship and interdependence with their supervisor, receiving supervisor support is likely to evoke more positive effects compared with individualistic employees.

With regard to the dynamic effects (i.e., change in supervisor support on change in vigor), we lack findings for both immigrant and native employees. Several explanations may account for the lack of findings. First, even though the data indicates significant changes in supervisor support over the study period, the timing and use of two points of measurement only, may have failed to detect fluctuations in supervisor support between these two data points. Human behavior is instable and highly affected by a variety of situational and personal factors. As a result, we have no way of knowing when an increase or decrease in supervisor support occurred and how stable this change was. As gain and loss spirals may take time to develop, an increase or decrease that occurred in proximity to the T2 measurement may not have had the opportunity to make an impact. Indeed, a recent diary study showed considerable variability in supervisor support across weeks, with 53 % of the variation in supervisor support attributed to within-person variation (i.e., fluctuations in supportive behavior from one week to the next) (Schreurs, van Emmerik, Günter, & Germeys, 2012).

Second, the time lag used (30 months on average) may have been too long. De Lange and colleagues (De Lange, Taris, Kompier, Houtman, & Bongers, 2004) have argued that specifically for investigating effects of change in social support, shorter time lags of approximately six months are more suitable. Indeed, among a sample of immigrant and native employees in Germany, there were effects of change in supervisor support on change in job satisfaction and

work-related affective well-being over a six-month period (Winkler, Busch, Clasen, & Vowinkel, 2015). When approaching time lags of one year, change in supervisor support no longer affected change in performance related outcomes (Li, Fay, Frese, Harms, & Gao, 2014). As our data does not include shorter time lags, future studies could pinpoint to the preferred duration of measurement by applying a longitudinal design that assesses both static and dynamic effects every six to twelve months for a couple of years.

A third explanation relies on the nature of social support. As suggested in the conservation of social resources theory (Hobfoll et al., 1990), social support may act as a tool for acquiring new resources. As such, high levels of social support serve as a resource passageway, enabling employees to acquire new resources through their relationships with others. However, with time, employees may learn to rely less on external sources of support, and utilize the support given to them, to develop self-competencies. Thus, changes in supervisor support over a relative long period of time may be less relevant than the baseline levels of social support. This notion relies on the Pygmalion and golem effect constructs, which suggest that an employee who perceives his supervisor as supportive and encouraging, may react positively with enhanced performance (Pygmalion effect), while an employee who perceives her supervisor as un-supportive and debilitating may react negatively with deteriorated performance (golem effect). Taking these empirical limitations as well as an alternative theoretical explanation into account, we still expect a consistent, linear change in supervisor support to result in a change in vigor.

The Effect of Job Control on Vigor among Immigrant and Native Employees

Following COR (Hobfoll, 1989) we hypothesized and found an effect of change in job control on change in vigor among both natives and immigrants. Changes in job control may imply a change in the external working conditions (e.g., through work redesign) or a change that reflects an ever-growing experience and an understanding of the organizational procedures, such

that more independence and control can be enacted. Therefore, if employees receive more decision latitude in terms of having more influence on how they approach their work tasks, they are likely to perceive these consistently higher levels of job control on every workday, and therefore fewer fluctuations are expected. Accordingly, as changes in job control are likely to be more sustainable, the effects on change in vigor should be more consistent. This might explain the stronger effects of change in job control on change in vigor compared to the lack of change in supervisor support effect. Interestingly, similar to our findings, the study by Li and colleagues (Li et al., 2014) with yearly measurements over the course of three years shows that change in job control affects change in performance-related outcomes from one year to the next, whereas no effects were found for change in supervisor support.

The lack of baseline effects in job control on change in vigor in our study is rather surprising and is not in line with other studies, which have shown that longer time lags of several years can capture the predictive effect of job control on work-related well-being well (Brauchli et al., 2013). We would like to note though, that baseline levels of job control significantly correlated with both T1 and T2 vigor, among natives and immigrants, indicating that the basic association between these variables exists. Building on our assumption that job control is less likely to fluctuate, we suspect that at any given moment job control is associated with vigor, but in order for it to trigger a change in vigor, a significant change in control should first occur, such that it interferes with the existing equilibrium.

Turning to our findings on group differences in the effect of change in job control on change in vigor, we found that the effect appears to be stronger for native employees than for immigrant employees (with a significant beta weight at the 1 % level for natives compared to effects at the 5 % level for immigrants). Yet, rigorous testing between groups did not reveal a statistical difference between these effects. Previous cross-sectional studies with unskilled blue-collar workers have

shown that job control has indeed a stronger effect on well-being measures for native employees compared for immigrants employees in similar jobs (Hoppe, 2011; Hoppe et al., 2010). Given different research designs across studies, with this study being far more rigorous in testing for group differences, it is difficult to compare and contrast our findings with previous studies. Yet, one possible explanation for the weak evidence of differences in the effect of job control on vigor is that white-collar immigrant employees are not necessarily exposed to the debasement that unskilled immigrants are likely to experience. As such, white-collar immigrants may suffer less from the downsides of immigration by taking advantage of the resource passageways available to them, for example through social connections (Hobfoll, 2011), especially with their supervisors. Furthermore, given that in this study immigrants have lived in Israel for several years, differences in job control may have faded out, the more familiarized immigrants became with work processes and procedures. Future studies should follow newly arrived immigrants over time to investigate changes in the experience of job control within the first years in the destination country.

Practical Implications

Our findings allow us to make several suggestions for practitioners who aim to enhance employees' energetic resources, while understanding that one size may not fit all. First, organizations should be aware that immigrant and native employees might value and respond to job resources differently. On the one hand, the similar effects of job control on vigor suggest that interventions that are aimed at increasing job control may indeed contribute to employees' well-being – irrespective of their immigrant or cultural background. For example, in interventions on health promoting leadership, supervisors are trained to assign tasks that encompass degrees of freedom to employees in order to provide opportunities for personal growth (Moyle, 1998). Given that job control is beneficial for most employees but that at the same time cultural differences may affect the extent to which job control is valued as a resource, the following two

measures should be taken when implementing interventions that are aimed at enhancing job control. First, managers are encouraged to make sure that employees understand the extent to which they are expected to demonstrate job control, thus reducing employees' ambiguity. This may involve providing appropriate feedback. Second, interventions that enhance self-efficacy, namely employees' belief in their ability to exert job control, may facilitate cooperation and resource gain (for an example see Chen, Westman, & Eden, 2009) and may ensure that job control has positive effects on well-being among most employees (Meier, Semmer, Elfering, & Jacobshagen, 2008).

At the same time, interventions aimed at enhancing employees' well-being through supervisors' training (e.g., providing feedback and support), may benefit from taking immigration status into account when designing and implementing the intervention. Some employees will feel comfortable with a supervisor who listens to their personal problems, while others may consider this as crossing the line. In some cultures keeping distance from one's manager or a clear separation between private and work life is the norm (Uhlmann, Heaphy, Ashford, Zhu, & Sanchez‐Burks, 2013). It is advisable to take these cultural issues into consideration.

Our results show that change in job control is related to change in vigor. Thus, building job control can set into motion spirals of gains such that increases in vigor will relate back to further increases in job control (Reis, Hoppe, & Schröder, 2015). As such, true spirals of resource gain may evolve through building job resources (see COR, Hobfoll, 1989). As vigor has desirable consequences, both employees and organizations would strongly benefit from interventions promoting job resources.

Limitations and Avenues for Future Research

In the following, we will discuss several limitations of this study along with directions for future research. First, as discussed above, the present study included a relatively long time lag

that may have limited our ability to capture effects of change in supervisor support on change in vigor. Few studies have employed time lags that exceed one year. Thus, this study is an important addition to the ongoing discussion on appropriate time lags for measuring effects of psychosocial working conditions on work-related well-being. However, future longitudinal studies should combine time lags of several months to over three years in order to provide a better understanding of the appropriate time lags for measuring the effects of supervisor support on well-being and performance outcomes.

A major strength of our study was the use of a latent change modeling approach, which allowed us to test for the stable and dynamic effects of job resources on vigor, thus explaining more variance than could be accounted for by baseline effects only. However, another limitation relates to the difficulty in drawing causal conclusions on these dynamic effects. Even though we had two points of measurements, this does not constitute a real longitudinal design when applying LCS modeling (Voelkle, 2007). Reverse and reciprocal relationships between static and dynamic measures of job resources and vigor are possible (see e.g., Reis et al., 2015), but could not be tested due to the use of two points of measurement only. Ideally, future studies should simultaneously consider both pathways when testing for reciprocal effects between job resources and vigor, and use a full panel design with at least three points of measurement to consider various time lags. To our knowledge, no other study comparing immigrant and native employees has focused on positive outcomes. Therefore, future studies should also investigate whether our findings hold across occupations and countries as well as for other motivational resources such as job satisfaction and commitment.

Next, as we did not account for changes in supervisor positions during the 30 months gap, we do not know whether participants rated the same supervisor at T1 and T2. However, as ratings

of supervisor support are subjective, we believe that it is less important who the target of rating is, but rather to what degree the employee perceived his or her current supervisor as supportive.

Finally, a potential limitation is the unreliability of difference scores, which has been discussed in past research (Cronbach & Furby, 1970; Tucker, Damarin, & Messick, 1966). Since we use simple latent change score models, the results of our study always reflect lower bound coefficients (Loevinger, 1954). That is, potential measurement errors could lower our effects.

Conclusion

This study contributes to our understanding of resources in the workplace by revealing the differential static and dynamic effects of job resources on vigor among immigrant and native employees over a time lag of 30 months. We find that change in job control is a highly relevant resource for both native and immigrant employees, with slightly stronger effects for native employees. On the contrary, baseline levels of supervisor support more strongly predicted change in vigor among immigrant employees, compared with native employees. These findings underline the potential of job control as an enduring job resource, but also imply that the utilization of job resources may vary based on immigrant status. They provide promising approaches for future research on the role and function of job resources across cultures and countries.

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Table 1

Means, Standard Deviations, Cronbach's Alphas, and Zero-Order Correlations for all Study Variables by Groups.

	Native employees		Immigrant employees										
Variables	*M (SD)*	α	*M (SD)*	α	1	2	3	4	5	6	7	8	9
1. T1 Supervisor support	3.91 (.83)	.90	3.83 (.79)	.87	-	.39***	.21**	.14	.21**	.23**	-.06	.12	-.04
2. T2 Supervisor support	3.99 (.76)	.88	3.83 (.84)	.90	.44***	-	.14*	.36***	.11	.26***	-.19**	.10	-.08
3. T1 Job control	3.71 (.82)	.92	3.59 (.83)	.89	.18**	.18**	-	.53***	.31***	.14*	.11	.10	.00
4. T2 Job control	3.80 (.76)	.91	3.39 (.83)	.91	.22**	.35***	.66***	-	.16*	.25**	.12	.17	-.21**
5. T1 Vigor	5.43 (.93)	.84	5.28 (.87)	.77	.27***	.14*	.43***	.29***	-	.58***	-.11	.11	-.07
6. T2 Vigor	5.62 (.91)	.86	5.33 (.94)	.87	.20**	.18**	.27***	.41***	.64***	-	-.12	.06	-.11
7. T1 Job demands	2.82 (.87)	.90	2.74 (.89)	.87	-.09	.01	.12	-.07	.04	-.07	-	-.09	-.06
8. Changed job[a]	-	-	-	-	.07	.07	.06	.31**	-.05	.12	-.04	-	-.05
9. Time lag (months)	68.94 (33.34)	-	73.89 (38.78)	-	.05	-.02	-.07	-.01	.06	.14*	-.04	-.11	-

Note. Native employees (n = 235, below the diagonal). Immigrant employees (n = 235 above the diagonal). *M* = mean; *SD* = standard deviation; α = Cronbach's alpha.

[a] 0 = no, 1 = yes

*p < .05, two-tailed. **p < .01, two-tailed. ***p < .001, two-tailed.

Table 2

Results for Measurement Invariance Tests.

Measures	χ^2 / *df* (*p*)	CFI	Δ CFI	RMSEA (CI)	Δ RMSEA	SRMR	Δ SRMR
Measures (T1)							
Basic model native employees	243.38 / 162 (<.001)	.958		.046 (.034 - .058)		.055	
Basic model immigrant employees	278.83 / 162 (<.001)	.956		.055 (.044 - .066)		.053	
Free factor loadings	521.63 / 324 (<.001)	.957		.051 (.043 - .059)		.054	
Equal factor loadings	545.27 / 340 (<.001)	.955	-.002	.051 (.043 - .058)	.000	.061	.017
Equal factor loadings and intercepts	585.93 / 356 (<.001)	.950	-.005	.052 (.045 - .060)	.001	.062	.001
Measures (T2)							
Basic model native employees	131.40 / 74 (<.001)	.956		.057 (.041 - .073)		.053	
Basic model immigrant employees	106.67 / 74 (.008)	.977		.043 (.023 - .061)		.048	
Free factor loadings	238.66 / 148 (<.001)	.967		.051 (.039 - .063)		.050	
Equal factor loadings	251.31 / 159 (<.001)	.966	-.001	.050 (.038 - .061)	-.001	.063	.013
Equal factor loadings and intercepts	272.30 / 170 (<.001)	.962	-.004	.051 (.039 - .062)	.001	.067	.004

Note. χ^2 = chi-square; CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = confidence interval; SRMR = standardized root mean square residual. For tests of invariance, each model is tested against the less restrictive model listed in the row above.

Table 3

Model Fits for Latent Change Score Models by Groups and Tests of Path Invariance.

	χ^2 / *df* (*p*)	$\Delta\chi^2_{SB}$ / Δdf (*p*)	CFI	Δ CFI	RMSEA [90% CI]	SRMR	AIC	Δ AIC
Full sample	37.64 / 21 (.014)		.970		.041 [.018 - .062]	.048	9980.690	
Native employees	6.83 / 13 (.911)		1.000		.000 [.000 - .026]	.030	4874.142	
Immigrant employees	14.36 / 13 (.349)		.994		.021 [.000 - .070]	.043	5096.788	
Tests of path invariance								
Model A: Invariant over groups	22.46 / 21 (.373)		.997		.017 [.000 - .059]	.039	9984.087	
Model B: Variant path: baseline supervisor support → Δ vigor	15.70 / 20 (.735)	6.24 / 1 (.012)	1.000	.003	.000 [.000 - .042]	.037	9979.172	-4.915
Model C: Variant path: Δ supervisor support → Δ vigor	20.15 / 20 (.448)	.90 / 1 (.343)	1.000	.003	.006 [.000 - .056]	.040	9983.617	-.470
Model D: Variant path: baseline job control → Δ vigor	22.44 / 20 (.317)	1.21 / 1 (.271)	.996	-.001	.023 [.000 - .062]	.039	9985.737	1.650
Model E: Variant path: Δ job control → Δ vigor	21.87 / 20 (.348)	.54 / 1 (.542)	.997	.000	.020 [.000 - .061]	.039	9984.807	.720

Note. Δ = latent change score/ difference score; χ^2_{SB} = Satorra-Bentler scaled chi-square; CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = confidence interval; SRMR = standardized root mean square residual; AIC = Akaike information criterion. For tests of path invariance, each model was tested against Model A.

Table 4

Estimated Path Coefficients for the Latent Change Score Models by Groups.

	Full Sample		Native employees		Immigrant employees	
	Δ Vigor		Δ Vigor		Δ Vigor	
	B (SE)	*p*	B (SE)	*p*	B (SE)	*p*
Baseline supervisor support	.051 (.072)	**.241**	-.120 (.090)	**.093**	.197 (.106)	**.032**
Δ Supervisor support	.034 (.089)	**.352**	-.025 (.113)	**.412**	.055 (.131)	**.339**
Baseline job control	.039 (.074)	**.302**	.112 (.106)	**.146**	.023 (.112)	**.418**
Δ Job control	.508 (.158)	**<.001**	.775 (.215)	**<.001**	.422 (.211)	**.023**
Baseline vigor	-.163 (.065)	.012	-.161 (.099)	.102	-.162 (.085)	.057
T1 Job demands	-.036 (.042)	.390	-.004 (.061)	.948	-.031 (.056)	.581
Changed job[a]	-.107 (.192)	.578	.023 (.296)	.937	-.442 (.236)	.061
Time lag (months)	.009(.009)	.357	.032 (.012)	.008	-.009 (.013)	.481
Immigrated[a]	-.116 (.064)	.068	-	-	-	-
R^2	38%		61%		32%	

Note. Δ = latent change score; B = unstandardized regression coefficient; SE = standard error; Bold *p*-values indicate one-tailed tests of significance. [a] 0 = no, 1 = yes

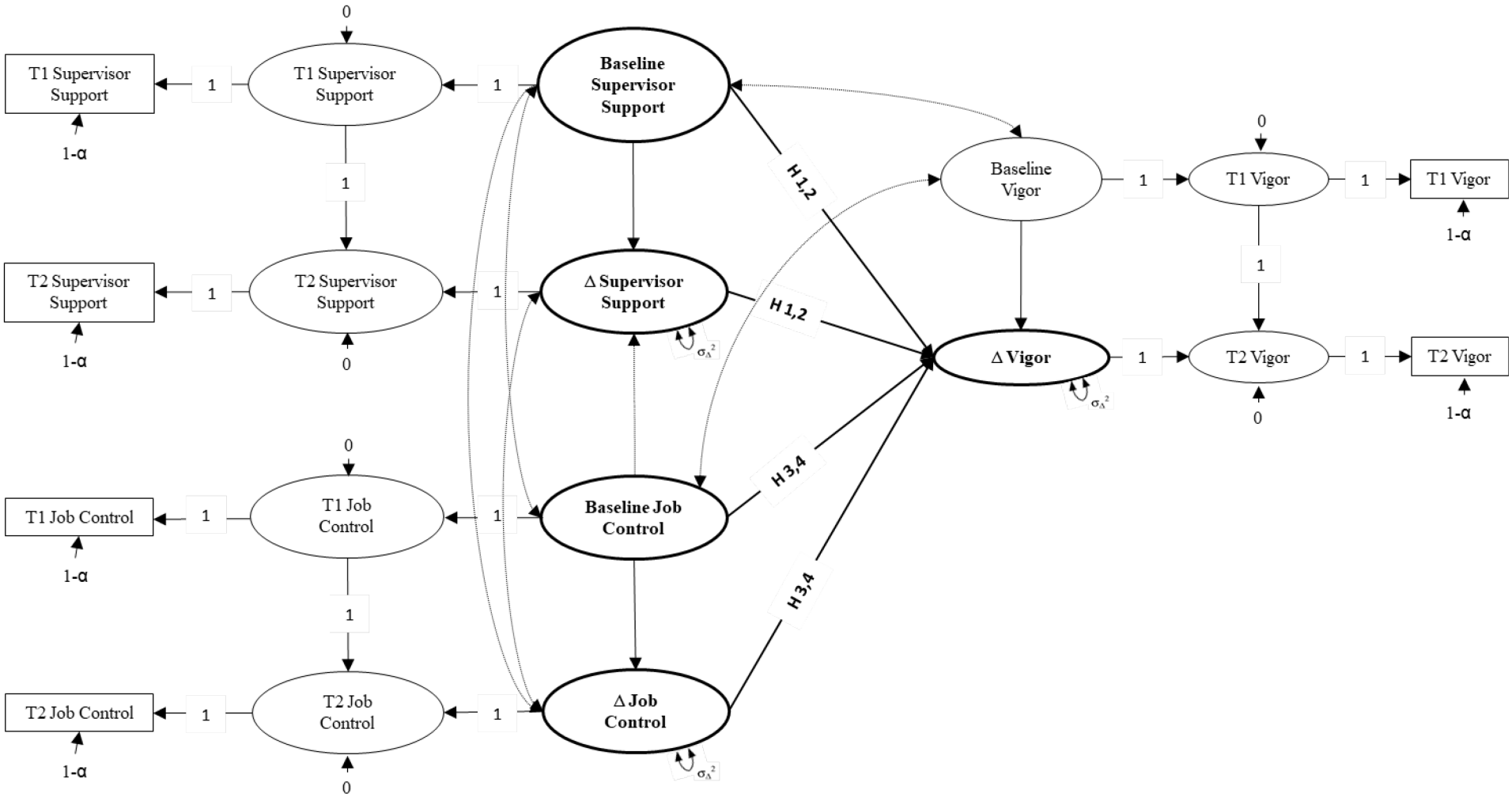

Figure 1. Research model. To simplify the model, control variables are not displayed. Δ = latent change score; σ² = variance; H = hypothesis.