Dissecting Reasons for Not Telecommuting: Are Nonusers a Homogenous Group?

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Studies examining the association between telecommuting and the work–life interface have often defined telecommuting use dichotomously (“used” vs. “not used”). Drawing on Organizational Justice Theory, it was hypothesized that nonusers would differ in their perceptions of organizational work–life balance support (WLB support), and such differences could be predicted by the reason for not telecommuting. In particular, employees who chose not to telecommute were expected to report similar WLB support and WLB as users of telecommuting. Survey data from the Singapore Public Service were used in the analyses. Results largely supported the hypotheses, suggesting that past studies that defined telecommuting use dichotomously might have inadvertently introduced a confounding factor in their design. Implications for practice and future research are discussed.

Keywords: telecommuting users/nonusers, flexible work arrangement, work-life balance, organizational justice, human resources

Telecommuting refers to work that is “conducted away from the usual place of business but mostly at home and that is often supported by telecommunications, Internet access, or computer” (Kossek, Lautsch, & Eaton, 2006, p. 348). It is a form of flexible work arrangement, the use of which has risen in tandem with advances in information communications technology. Telecommuting from home is perceived to bring about personal benefits such as the reduction in stress associated with commuting and greater autonomy (Mokhtarian & Bagley, 2000). Surveys in the United States on undergradu-
ates (e.g., Thompson & Aspinwall, 2009) and part-time MBA students (e.g., Fish & Fish, 2010) suggest that the latitude to telecommute ranked high on their workplace wish list. A recent survey conducted by the recruiting firm Robert Half International on 1,777 Human Resources Directors in 13 countries estimated that 79% of the companies allow staff to telecommute as part of their talent attraction and retention initiatives (Robert Half Singapore, 2012).

Because of the widespread appeal of telecommuting, a great deal of research has focused on examining outcomes associated with its use. Although organizations offer telecommuting for a range of reasons, the relationship between telecommuting and work–family related outcomes has been of particular interest (e.g., Golden, Veiga, & Simsek, 2006; Lapierre & Allen, 2006). Meta-analytic research investigating such relationships has produced equivocal results in terms of effect size (Allen, Johnson, Kiburz, & Shockley, 2013; Gajendran & Harrison, 2007). Within this body of research, an area that has received very little attention is variation among nonusers. Nonusers of telecommuting are typically treated as the control group. This is a key oversight in the literature as the failure to differentiate among nonusers may help explain the small effects observed when users are compared with all nonusers (e.g., Allen et al., 2013). In the current study, we suggest a typology of different nonusers and compare work–life balance (WLB) and WLB support among these different groups.

**REVIEW OF TELECOMMUTING AND WORK–FAMILY LITERATURE**

One reason for the popularity of telecommuting is that it is thought to help reduce work–family conflict. Work–family conflict occurs when role pressures that emanate from the work and the family domains are mutually incompatible in some respect (Greenhaus & Beutell, 1985). The constituents of work–family conflict—work interference with family and family interference with work—have been shown to be distinct constructs with unique antecedents and consequences (e.g., Carlson, 1999). In their meta-analysis, Gajendran and Harrison (2007) estimated the true score correlation between telecommuting and work interference with family to be −.16 and that between telecommuting and family interference with work to be −.15. In a more recent meta-analysis based on a larger number of primary studies, Allen et al. (2013) reported smaller effect sizes: −.08 between telecommuting use and work interference with family and −.01 between telecommuting use and family interference with work.

A construct related to, but distinct from, work–family conflict is WLB (Allen, 2012; Carlson, Grzywacz, & Zivnuska, 2009). Greenhaus and Allen
(2010) defined WLB as “an overall appraisal of the extent to which individuals’ effectiveness and satisfaction at work and family roles are consistent with their life values at a given point in time” (p. 174). WLB differs from constructs such as work–family conflict in that it represents an integrative overall interrole phenomenon, whereas work–family conflict is a linking mechanism that specifies how conditions or experiences in one role are causally related to conditions or experiences in the other role (Greenhaus, Collins, & Shaw, 2003). WLB is often preferred over work–family conflict, work interference with family or family interference with work in organizational campaigns; for example, the U.K. government launched a national Work-Life Balance Campaign in 2000 (Wheatley, 2012). However, only a very small number of studies have examined the relationship between telecommuting and WLB. In one of these studies, Hill, Hawkins, and Miller (1996) compared IBM teleworkers and nonteleworkers and reported no difference in WLB. Given its prevalence in the applied setting, organizations and managers can benefit from more studies using WLB as the focal construct.

Another construct of interest within the work–family literature is perceived organizational support for dealing with the work–family interface (e.g., Allen, 2001). Morganson, Major, Oborn, Verive, and Heelan (2010) found a relationship between organizational WLB support and work location, but with both home- and main-office-based workers reporting a similar level of WLB support. Perceived WLB support was defined as individuals’ perceptions of the organization’s readiness and proactivity in supporting their family and personal life needs (Morganson et al., 2010). Rhoades and Eisenberger (2002) has broadly defined perceived organizational support as a global belief developed by employees regarding how their contributions are valued and how much the organization cares about their well-being. In this light, perceived WLB support can be positioned as a specific type of organizational support perception. In the current study we focused on WLB and perceived WLB support in relation to telecommuting.

Apart from focusing on different work–life interface constructs, studies also differ in their operationalization of telecommuting. The majority of studies have treated telecommuting use as dichotomous (i.e., user vs. non-user). Others have captured the intensity of telecommuting (e.g., Golden et al., 2006), whereas some have examined both (e.g., Kossek et al., 2006). In their meta-analysis, Gajendran and Harrison (2007) treated effect sizes from both types of indicators as equivalent, but they also tested intensity of telecommuting as a moderator and found that only high-intensity telecommuting (defined as working remotely 2.5 or more days a week) was associated with lower work–family conflict. Although variation has been captured from within the telecommuting group, we are aware of only one study that has captured differences among nontelecommuters. Lapierre and Allen (2006) differentiated two types of nonusers—those from organizations that...
offered telecommuting and those from organizations that did not. However, the two subgroups did not differ in term of work interference with family or family interference with work.

NONUSERS OF TELECOMMUTING

Focus group discussions conducted in the focal organization of this study revealed at least five types of nontelecommuters. First, there are employees who cannot telecommute because their organization does not have a policy supporting it or the organization has a policy against it. Second, some employees are not able to telecommute, even when the organization has made the option available, because their supervisor does not approve the arrangement (i.e., supervisors often act as gatekeepers). Third, some employees may be hindered by the nature of the job (e.g., frontline customer service), within organizations that otherwise support telecommuting. Fourth, some employees may not receive the technical support needed to telecommute. Organizations dealing with confidential materials often impose Virtual Protocol Network (VPN) for external access, so employees who want to telecommute would also need a company-approved VPN account, on top of an office-issued laptop and home Internet access. Fifth, there are employees who can telecommute if they want to, but choose not to. For example, some employees may prefer working within an office environment rather than at home.

The first type is probably the prototypical nonuser in the conceptualization of much of the telecommuting research. However, this prototype has often been assumed rather than verified; to our knowledge there is no published research that includes comprehensive data on reasons for nonuse. The current study focused on the latter four types of nonusers.

ORGANIZATIONAL JUSTICE PERCEPTIONS AND PERCEIVED WLB SUPPORT

To our best knowledge, no study has proposed a theory on how telecommuting can affect perceived WLB support. We leverage organizational justice (Colquitt, Conlon, Wesson, Porter, & Ng, 2001) and its consequence on perceived organizational support (El Akremi, Vandenberghe, & Camerman, 2010) to guide hypothesis development.

From their meta-analysis, Colquitt et al. (2001) identified four distinct justice dimensions. Distributional justice refers to fairness perceptions based on whether resource allocation or outcomes are equitable. Procedural justice concerns fair process in determining the outcome. Interper-
sonal justice reflects the extent that people are treated with respect or courtesy during the deliberation process or when executing the allocation. Informational justice focuses on whether the information conveyed to stakeholders satisfactorily explain why certain procedures are adopted and how outcomes are determined. At the core, dynamic comparative and evaluative processes within the individual drive perceptions of organizational justice. The practice of telecommuting is very likely to prompt such comparisons and evaluations among employees because (i) telecommuting is a highly salient work arrangement, so coworkers will possess awareness of who does and who does not telecommute, and why; (ii) with such information, employees will be able to compare their own telecommuting situation to that of coworkers; and (iii) the comparisons and associated evaluations may then influence justice perceptions. Without knowledge of the actual interaction between employees and their organization, it is not possible to make inferences with regard to interpersonal justice, but it is possible to do so for the other three forms of justice.

Employees whose telecommuting requests are not approved but continue to perceive that they should be allowed to do so would likely feel the most intense violation of organizational justice. Unlike some of their colleagues, they cannot telecommute (low distribution justice) despite their own assessment that they should be allowed to (low procedural justice). Clearly, the explanation given was not convincing (low informational justice), or they would otherwise have changed their mind about their eligibility to telecommute.

Employees who cannot telecommute due to the nature of the job may perceive a violation of justice when they compare themselves to colleagues in other jobs who telecommute (low distributional justice). Because colleagues in the same job are also not telecommuting, they may perceive some procedural justice. However some of them may also wonder if the job could be redesigned to accommodate flexibility, whereas others may just accept the restriction as part of their job (low to average informational justice). In the case of employees who cannot telecommute due to technology issues, perception of distributional justice is likely low. However, these employees probably understand how the organization allocates technology resources (average informational justice) although some of them may not totally agree with the principles of allocation (low to average procedural justice). In short, these two groups of employees may wish they could telecommute, but they also acknowledge the practical constraints in their workplace.

Employees who choose not to telecommute are unlikely to feel any violation of organizational justice. They made the decision themselves (no issue with distributional justice), and they can probably take it up anytime if they change their mind (no issue with both procedural and informational
justice). Likewise, users of telecommuting should not experience any justice violation. In other words, the perception of some nonusers could be more similar to users of telecommuting than they are to other nonusers.

Perceived violation of organizational justice affects trust in the organization (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012). When trust is low, employees become more vigilant and tend to scrutinize the actions of the organization (Rosseau, 1995). Most importantly, distributational and procedural justice perceptions have both been shown to be related to perceived organizational support (El Akremi et al., 2010). Presumably, justice violations arising from specific organizational treatments may also affect specific organizational support perceptions. That is, to the extent that nonusers of telecommuting perceive varying degrees of violation of justice arising from their individual telecommuting situations, they are also likely to report correspondingly different levels of organizational support specific to WLB.

**Hypothesis 1:** Reason for not telecommuting is associated with perceived organizational WLB support, such that (a) those whose telecommuting request is turned down without a reason acceptable to them are expected to report the lowest WLB support; (b) those who choose not to telecommute are expected to report the highest WLB support; and (c) the WLB support of those who cannot telecommute due to practical constraints is expected to be in between.

Following our reasoning above, voluntary nonusers’ perceived WLB support is expected to be more similar to that of users of telecommuting. However, because studies to date have typically assumed that nonusers of telecommuting should be less satisfied with their work–life situation, even when nonuse could be voluntary, we put this assumption to the test.

**Hypothesis 2:** Employees who telecommute report higher organizational WLB support than employees who choose not to telecommute.

**Telecommuting and WLB**

To the extent that telecommuting enhances perceived control over where work is done (Allen et al., 2013), employees who adroitly manage the flexibility to meet the needs of work and other life roles may experience greater WLB. Therefore the use of telecommuting is expected to positively relate to WLB. However, there is also recognition that despite its potential benefits, there can be boundary management concerns associated with telecommuting that make it an unattractive work option
for some employees (e.g., Kossek et al., 2006). Employees who choose not to telecommute may be relatively satisfied with their WLB. Otherwise, they may at least try telecommuting. In the absence of prior empirical data, we pose the following Research Question: Are there differences in WLB between employees who choose not to telecommute and those who do telecommute?

Although perceived WLB support among nonvoluntary nonusers may be associated with reasons for not telecommuting, WLB should not. Whether it is due to practical constraints or absence of formal approval, all nonvoluntary nonusers who want to telecommute are in the same situation. That is, they are not able to leverage telecommuting to enhance their WLB. As a result, their WLB should be lower than that of the telecommuting users and of those who choose not to telecommute.

**Hypothesis 3:** Employees who telecommute report higher WLB than do nonvoluntary nonusers.

**Hypothesis 4:** Employees who choose not to telecommute report higher WLB than do nonvoluntary nonusers.

**METHOD**

Hypotheses were tested using data from the Singapore Public Service Work–Life Harmony Survey (WLHS). The Service believes that promotion of work–life harmony will bring about a healthy, resilient, and well-rounded workforce. Work–life harmony is defined holistically, encompassing four key areas in an individual’s life—service to the community, self, work, and family and friends, but individuals are encouraged to discover the unique mix that serves them best. In this sense, the concept of work–life harmony is similar to WLB as defined by Greenhaus and Allen (2010). The Public Service Division (PSD), whose role is similar to that of the U.S. Federal Government Office of Personnel Management, leverages human resources (HR) tools to facilitate employee WLB. It uses the WLHS, a service-wide survey involving 88 government agencies, to obtain indicators of WLB and awareness of various support measures available in the workplace. At each agency, a junior executive in the HR department assisted with local survey administration. The first WLHS was conducted in 2008. Data for the current study were from the 2011 survey.
Sample

All government agency employees were invited to participate in the survey, which could either be completed anonymously online or through a hardcopy. The final sample consisted of 15,910 employees, 60.4% of whom were married and 28.9% who had at least one child under the age of 13. In terms of tenure, 16.0% had less than 1 year in service, 29.3% had between 1 to less than 5 years of service, 11.6% had 5 years to less than 10 years of service, and 41.6% had 10 or more years of service; 1.5% did not report their tenure. The majority of the participants (56.5%) were at junior executive or higher grade (university graduates), 27% were in management support jobs (polytechnic graduates or equivalent), 15.8% were in the corporate support/clerical grade (those with high school certificate or equivalent), and 0.5% were manual workers, for example, cleaners.

The sample is representative of the population in terms of distribution of age and job level. However, the proportion of women was higher in the sample (59.1%) than in the population (54.0%).

Measures

WLB

WLB was measured with a single item, “I am able to balance my work, family, and/or personal commitments” (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

WLB Support

Three items measured perceived organizational WLB support: “Achieving work–life harmony for employees is important to my organization”; “My senior management is supportive of, and actively promotes, work–life harmony in the organization”; and “Overall, my organization is successful in helping employees achieve work–life harmony.” Responses were based on the following response scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree. Coefficient alpha associated with the scale was 0.85.

Telecommuting Situation

Participants were asked to indicate their telecommuting situation by selecting one of eight options. Four options described telecommuting at
various levels of intensity: “I telecommute 3 or more days per week”; “I telecommute 1–2 days per week”; “I telecommute, but no more than 1 or 2 days per month”; and “I telecommute very infrequently, on an unscheduled or short-term basis.” The four other options described nontelecommuting situations: “I do not telecommute because I choose not to telecommute”; “I do not telecommute because I have technical issues (e.g., connectivity, inadequate equipment) that prevent me from telecommuting”; “I do not telecommute because I have to be physically present on the job (e.g., law enforcement officer, security personnel)”; and “I do not telecommute because I did not receive approval to do so, even though I have the kind of job where I can telecommute.”

Analysis

We conducted data analysis in a series of steps. We first present descriptive statistics for the study. In the next step we categorize participants into five groups according to their reported telecommuting situation. Because our focus was on variability in perceived WLB support and WLB among the nonusers of telecommuting, data from participants who reported using telecommuting to a varying extent were combined into a single “user” group ($n = 4,748$). There were four groups of nonusers in the study. Group A consisted of 2,374 employees who did not receive approval to telecommute even though they thought that the job should allow it; Group B comprised 1,207 employees who could not telecommute due to technical issues; Group C consisted of 4,783 employees who could not telecommute because of the nature of their job; and Group D comprised 2,798 employees who chose not to telecommute. Samples matched on demographic variables were then drawn from the groups, and one-way ANOVA was used to test for the main effect of telecommuting situation on perceived WLB support and WLB. Finally, Tukey’s honestly significant difference (HSD) test was used to make pairwise comparisons between groups.

RESULTS

Descriptive statistics and correlations of study variables (except telecommuting situation) are presented in Table 1.

Most of the correlations (except that between WLB support and WLB, and some of those between demographic variables) were small, but some were significant. Employees at higher job levels tended to report lower levels of WLB support and WLB. This is not surprising given that higher-level
employees have more job responsibilities and therefore might find it harder to attain balance. As such, they might also expect greater support from the organization.

For a convenience sample where a substantial sample size is available (i.e., statistical power is not a concern), matching is a viable approach to control for the effect of demographic covariates (e.g., Kohls & Wallach, 2008). Because Group B had the fewest number of employees, it was used as the referent group. Matched cases were drawn from each of the other groups by gender, marital status, parental status (i.e., whether they had a child under 13 years old), tenure, and job level. Generally, the greater the number of control variables, the harder it is to get an exact match for every case in the referent group. SPSS FUZZY syntax was used to execute the matching. It allows the user to state a tolerance level for each control variable. For example, if age is a control variable and actual age is available, a tolerance of 2 on age would increase the chances of finding a match for a referent case that consists of a 50 year old, because FUZZY could consider all cases in the 48–52 age range. However, because the demographic variables in the current study were all ordinal, no tolerance was allowed in the matching. As a result, all the matched groups had fewer cases than the referent group (“No tech support,” 1,207 cases), although not by many (n ranged from 1,125 to 1,186).

### WLB Support

One-way ANOVA was used to test if there were group differences in perceived WLB support. The mean score, standard deviation, and 95% confidence interval (CI) for each mean for each telecommuting situation are presented in Table 2. There were significant group differences in WLB support, $F_{4,5867} = 57.18$, $p < .01$, $\eta^2 = 0.04$.

#### Table 1. Summary of Means, Standard Deviations, and Intercorrelations Among Study Variables

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender$^a$</td>
<td>15,910</td>
<td>1.59</td>
<td>0.49</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Marital status$^b$</td>
<td>15,910</td>
<td>1.67</td>
<td>0.56</td>
<td>-0.3*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Child under 13$^b$</td>
<td>15,910</td>
<td>0.29</td>
<td>0.45</td>
<td>-0.04*</td>
<td>0.40*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Tenure$^c$</td>
<td>15,674</td>
<td>2.80</td>
<td>1.15</td>
<td>-0.01</td>
<td>0.35*</td>
<td>0.09*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Job level$^d$</td>
<td>15,910</td>
<td>3.40</td>
<td>0.77</td>
<td>-0.11*</td>
<td>-0.11*</td>
<td>0.06*</td>
<td>-0.25*</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. WLB support</td>
<td>15,909</td>
<td>10.78</td>
<td>2.36</td>
<td>-0.02*</td>
<td>0.05*</td>
<td>-0.03*</td>
<td>0.01</td>
<td>-0.15*</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>7. WLB</td>
<td>15,910</td>
<td>3.54</td>
<td>0.87</td>
<td>0.00</td>
<td>-0.07*</td>
<td>0.00</td>
<td>-0.13*</td>
<td>0.61</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

Note. WLB = work–life balance.

$^a$ Male = 1; female = 2. $^b$ Yes = 1; no = 2. $^c$ Less than 1 year = 1; 1 to less than 5 years = 2; 5 to less than 10 years = 3; 10 or more years = 4. $^d$ Manual workers = 1; corporate support/clerical = 2; management support = 3; junior executive and above = 4. * $p < .01$. This document is copyrighted by the American Psychological Association or one of its allied publishers. This article is intended solely for the personal use of the individual user and is not to be disseminated broadly.
To address the hypotheses, Tukey’s HSD test was used to make pairwise comparisons among all the groups. All the comparisons yielded significant results ($p < .01$), except for two. The 95% CI for the mean difference between the “No technology support” and “Job not conducive” groups was [-.19, .32], whereas the 95% CI for the mean difference between the “Chose not to” and “User” groups was [-.04, .47]. The test also identified three homogenous subsets. The first subset, with the lowest mean score on WLB support, consisted of employees who were not given approval to telecommute, $M = 10.14$, 95% CI [9.99, 10.29]. This supported Hypothesis 1(a), which stated that those whose telecommuting request is turned down without a reason acceptable to them are expected to report the lowest WLB support. Hypothesis 1(c) was also supported, because employees who could not telecommute due to technical issues, $M = 10.66$, 95% CI [10.53, 10.78], and those who needed to be physically present on the job, $M = 10.59$, 95% CI [10.46, 10.72], were in the next subset. Consistent with Hypothesis 1(b), which stated that those who choose not to telecommute are expected to report the highest WLB support among the nonusers, the third subset comprised employees who chose not to telecommute, $M = 11.40$, 95% CI [11.28, 11.52], along with those who were telecommuting, $M = 11.18$, 95% CI [11.06, 11.31].

Hypothesis 2 stated that employees who telecommute would report higher organizational WLB support than those who choose not to telecommute. This hypothesis was not supported because the telecommuters did not report a higher level of WLB support when compared with the voluntary nonusers. In fact, the trend of results suggested that employees who chose not to telecommute tended to report a higher level of WLB support.\(^1\)

\(^1\) To check if data from the entire sample would lead to different results, the analysis was repeated without matching. The pattern of results from this analysis (in terms of how the groups were partitioned into subsets by Tukey’s HSD test) was identical to that from the matched samples.
The analysis was repeated with WLB as the outcome variable. The mean score, standard deviation, and 95% CI for mean for each telecommuting situation are presented in Table 3. Group differences in WLB were significant, $F_{4,5868} = 28.01, p < .01, \eta^2 = 0.02$.

The majority of the pairwise comparisons from Tukey’s HSD test yielded significant results ($p < .01$). The comparisons involving the following three pairs were not significant: “Not approved” and “Job not conducive” (95% CI for the mean difference $= [-.16, .04]$); “No tech support” and “Job not conducive” (95% CI for the mean difference $= [-.03, .15]$); and “No tech support” and “User” (95% CI for the mean difference $= [.18, .01]$). Four homogenous subsets were identified (see Table 3). Hypothesis 3, which stated that employees who telecommute would report higher WLB than would nonvoluntary nonusers, was partially supported. Employees who telecommute reported significantly higher WLB, $M = 3.60, 95\%$ CI $[3.55, 3.65]$, than those who were not approved to telecommute, $M = 3.40, 95\%$ CI $[3.35, 3.45]$, and those who could not do so due to nature of the job, $M = 3.46, 95\%$ CI $[3.41, 3.51]$, but the telecommuters’ WLB was not significantly higher than those who faced technology support issues, $M = 3.52, 95\%$ CI $[3.47, 3.57]$. Hypothesis 4 was supported. Employees who chose not to telecommute reported significantly higher WLB, $M = 3.74, 95\%$ CI $[3.70, 3.78]$, than all the nonvoluntary nonuser groups. In fact, with regard to the Research Question, this group also reported significantly higher WLB than did the telecommuters.

Although no specific hypothesis was proposed with regard to how WLB should vary across the nonvoluntary nonuser groups, differences were observed. In particular, the “No tech support” group reported significantly

Table 3. Means, Standard Deviations, and 95% CI of WLB in Different Telecommuting Situations

<table>
<thead>
<tr>
<th>Telecommuting situation</th>
<th>$N$</th>
<th>Mean (SD)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not approved</td>
<td>1,125</td>
<td>3.40 (.91)$_a$</td>
<td>3.35 3.45</td>
</tr>
<tr>
<td>No tech support</td>
<td>1,207</td>
<td>3.52 (.84)$_bc$</td>
<td>3.47 3.57</td>
</tr>
<tr>
<td>Job not conducive</td>
<td>1,184</td>
<td>3.46 (.88)$_ab$</td>
<td>3.41 3.51</td>
</tr>
<tr>
<td>Chose not to</td>
<td>1,170</td>
<td>3.74 (.75)$_d$</td>
<td>3.70 3.78</td>
</tr>
<tr>
<td>User</td>
<td>1,187</td>
<td>3.60 (.85)$_c$</td>
<td>3.55 3.65</td>
</tr>
</tbody>
</table>

Note. Responses were made on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Means that do not share subscripts differ at $p < .05$ in Tukey’s honestly significant difference comparison. CI = confidence interval; WLB = work–life balance; LL = lower limit; UL = upper limit.
higher WLB, $M = 3.52$, 95% CI [3.47, 3.57], than did the “Not approved” group, $M = 3.40$, 95% CI [3.35, 3.45].

**DISCUSSION**

This study involved a large sample of participants from the public sector in Singapore. One might ask whether findings from the study would apply to the American workforce. Although this is ultimately an empirical question, it should be noted that Singapore is highly connected to the global economy; in fact, it has been ranked as the most open economy in the world (World Economic Forum, 2012). Ever since it transited from being a British colony to a city-state in 1965, steady inflow of foreign investments along with the establishment of subsidiaries of foreign multinational corporations have led to a tight labor market with high turnover rates (Reiche, 2009). Continuous industrial and skills upgrading are key elements of Singapore’s economic agenda. Similar to other highly competitive companies across the globe, human resource policies in Singaporean organizations are typically talent-driven. For instance, 87% of organizations in Singapore reported that they allowed their staff to telecommute, compared with the global average of 79% (Robert Half Singapore, 2012). Public sector compensation is reviewed regularly to ensure its competitiveness; career advancement is merit-based, salary structure is flexible, and the proportion of total annual remuneration that is performance-driven increases with job grade. Slightly more than half of all public sector employees hold at least a bachelor’s degree. Therefore the sample in this study shares many similarities with the workforce in large American metropolitan areas.

Studies investigating the association between telecommuting and the work–life interface have often compared the experiences of users to nonusers. This study was motivated by the rationale that such comparisons might have omitted important diversity within the nonuser group. In addition, the study contributed to the relatively small literature on WLB, which is the work–life construct of interest in many organizations. Specifically, it was hypothesized that perceived WLB support and WLB would vary among the nonusers. By comparing users to different types of nonusers and by focusing

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2 When the analysis was repeated using the entire sample, both the “No tech support” and “Job not conducive” groups reported significantly higher WLB than the “Not approved” group and significantly lower WLB than the telecommuters. Hypothesis 3 was fully supported, compared with the outcome where it was only partially supported in the matched analysis (i.e., the matched analysis was more conservative). The group that chose not to telecommute reported significantly higher WLB than the telecommuters and other categories of nonusers. Therefore Hypothesis 4 remained supported, as in the case of the matched analysis.
on WLB, our research makes a unique contribution to the telecommuting literature.

A key finding of this study is that different reasons for not telecommuting are associated with meaningful variation in perceived WLB support. Telecommuting situation accounts for 4% of the variance in perceived organizational WLB support. Compared with employees who chose not to telecommute, those who wanted to do so but did not receive approval perceived significantly lower support. In fact, they also reported significantly lower support than employees who could not telecommute due to practical constraints (job requirement or lack of technical support). Employees who made the choice to not telecommute perceived a similar (if not higher) level of support as those who telecommuted. The current research therefore reveals nuances in telecommuting that extend beyond the user versus nonuser dichotomy.

Different levels of WLB were reported even among the nonvoluntary nonusers. Although employees whose jobs were not conducive for telecommuting reported a level of WLB similar to those whose telecommuting application was not approved, employees who could not telecommute due to technological constraints reported a significantly higher level of WLB than the latter. The matching process controlled for a number of demographic covariates, but it is possible that reasons for not telecommuting are associated with other job characteristics (e.g., many customer service jobs are not conducive to telecommuting) that have direct effects on WLB. For instance, there is evidence that high emotional labor at work may spill over to interactions at home and adversely impact well-being (Sanz-Vergel, Rodríguez-Muñoz, Bakker, & Demerouti, 2012). More importantly, the different levels of WLB among nonvoluntary nonusers again expose the limitation of the artificial user versus nonuser dichotomy.

Telecommuting users generally reported a higher level of WLB than did nonvoluntary nonusers, especially the “not approved to telecommute” and “job not conducive” groups. However, their WLB was still lower than employees who chose not to telecommute. This provides some indirect support for the conjecture that employees who seek out flexible work arrangements may be those who experience greater work–life challenges in the first place (e.g., Allen et al., 2013). Furthermore, the results are not inconsistent with Hill, Erickson, Holmes, and Ferris’ (2010) assertion that telecommuting enables employees to work longer hours before reporting work–family conflict; it is entirely conceivable that the extra hours can take a toll on WLB.

Some previous studies that defined telecommuting dichotomously and subsequently found very small or nonsignificant effects on work–family conflict, work interference with family, or family interference with work (e.g., Kossek, Lautsch, & Eaton, 2012) might have been affected by the presence of a large proportion of voluntary nonusers in the study. Interestingly, Golden et al. (2006), who reported relatively larger bivariate
correlations of $-.27$ between work interference with family and telecommuting and $.15$ between family interference with work and telecommuting, measured extent of telecommuting as the predictor variable and did not have a nonuser group in their study. Again, future studies comparing users to nonusers of telecommuting should probably not assume that the nonusers are a homogenous group in terms of work–life interface outcomes; otherwise, the risk of Type II error may increase. To illustrate this point, a regression analysis with WLB as the outcome variable was carried out. The demographic control variables were entered in Step 1 followed by telecommuting use ($1 = yes, 0 = no$; those who chose not to telecommute was in the 0 group) in Step 2. Although the $\beta$ for telecommuting use was still significant, the change in $R^2$ was only 0.001, in contrast to the $\eta^2$ of 0.02 in the ANOVA analysis above.

**Implications for Practice**

The findings here have two main implications for practice. First, employees who chose not to telecommute generally reported the highest level of WLB. Therefore, although it may be helpful to make telecommuting available to staff, organizations should not be overzealous about take-up rate or even use take-up rate of telecommuting as a key HR performance indicator. HR’s role is to ensure that managers and employees are aware of the availability, eligibility, application process, and implementation details. Information Technology departments could help to remove the technical hindrances to telecommuting. Another good practice may be to create a channel for employees to seek advice on whether telecommuting would work for them. Second, it is critical to have a clear procedure on how applications for telecommuting are evaluated. Employees who acknowledged that they could not telecommute due to a valid constraint had a less negative attitude than those who perceived that their application was rejected without a good reason. If the latter group is substantial in size and their perception is not addressed, their sentiments may become contagious and ultimately undermine the organization’s efforts to promote WLB. Enlightened supervisors may be able to preempt this by carefully explaining the constraints they face when they need to turn down an employee’s telecommuting application.

**Limitations**

There are two main limitations to this study. First, the data were originally gathered for practical purposes by the organization. Thus, the opera-
tionalization of the variables was not ideal. WLB was measured with a single item, and the measure for WLB support did not sample the domain as comprehensively as some other measures (e.g., Allen, 2001). However, these limitations would restrict the amount of variance in the study and therefore are not a likely alternative explanation for the significant findings. Second, the study relied on self-report. We cannot be certain that the reasons for not telecommuting (e.g., lack of technical support) reported by employees would match the reasons reported by their employer.

**Directions for Future Research**

Organizational justice perception was stipulated to account for the differences in perceived organizational WLB support found among the nonusers of telecommuting in this study, but it was not measured. This is a limitation of the current research, but offers a clear area for future research. Future studies are needed that investigate whether organizational justice perceptions indeed play a mediating role in the relationship between reasons for not telecommuting and perceived WLB support.

It will also be useful to know if similar heterogeneity exists among nonusers of other flexible work arrangements such as flextime. If the current finding generalizes to other flexible work arrangements, and a significant number of past studies had operationalized flexible work arrangements dichotomously (i.e., “being used” vs. “not being used”), then the effects of flexible work arrangements may have been systematically underestimated in the literature. As stated in Allen et al. (2013), there may be many nuances in implementation of flexible work arrangements. With reference to a distinction that is often emphasized in the personnel selection literature, perhaps “telecommuting” (or any other form of flexible work arrangement) would be more appropriately modeled as a method rather than a construct (Arthur & Villado, 2008). Instead of continuing to test relationships at the more macro level, the field may benefit from research that focuses on design features and contextual factors that increase the effectiveness of flexible work arrangements. Longitudinal designs using the experience sampling approach (e.g., Shockley & Allen, 2013) may also yield richer information on how telecommuting facilitates the work–life interface on a day-to-day basis.

To the extent that the findings of voluntary nonusers experiencing higher WLB and organization WLB support are generalizable, it may be useful to study the work–life strategies adopted by these employees. Their insights may not only be beneficial to fellow employees, but may also enable organizations to look beyond formal policies and practices in their efforts to promote WLB among employees.
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