The Relationship Between Job Autonomy and Work-Leisure Conflict: Based on the Person-Job Fit Perspective

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Purpose: Some studies have shown that job autonomy can reduce individual work-leisure conflict (WLC). However, some individuals show that WLC is stronger in situations of greater job autonomy. In light of these inconsistent findings, this study explores the relationship between job autonomy and WLC as well as the mediating role of psychological detachment and the moderating role of boundary flexibility willingness based on the fit perspective of person-job.

Methods: The daily diary research method was used to investigate 97 employees for five consecutive working days, and a multilevel model was established.

Results: The results show that job autonomy is negatively related to WLC. Psychological detachment plays a mediating role in the relationship between job autonomy and WLC. Boundary flexibility willingness can significantly moderate not only the relationship between job autonomy and psychological detachment but also that between job autonomy and WLC.

Conclusion: In light of the inconsistent results of past work, this study explored the relationship between job autonomy and WLC as well as the possible mediating and moderating mechanisms involved. Job autonomy, psychological detachment and WLC are characterized by daily changes occurring at the individual level. Job autonomy is negatively related to WLC, and psychological detachment plays a mediating role in the relationship between job autonomy and WLC. The fit of boundary flexibility willingness and job autonomy will cause a change in boundary permeability, which will lead to the relationship between job autonomy and WLC to varying degrees. The results of this study are helpful for understanding boundary theory and provide guidance for enterprise management.

Keywords: job autonomy, psychological detachment, work-leisure conflict, boundary flexibility willingness, person-job fit

Introduction

In 2021, the COVID-19 pandemic swept the world, bringing about great challenges to people’s lives and enterprise development. In response to these challenges, the employee office model has changed greatly from that used in the past. The office flexibility of employees has significantly improved, where employees can choose to work in their own residences. However, although some individuals report that they have had much more job autonomy during the pandemic than before, they report feeling as if they have less leisure time and experience more work-leisure conflict (WLC). This trend contradicts previous studies on the relationship between job autonomy and WLC.¹⁻⁴ Job autonomy reflects a level of freedom and independence of individuals to carry out work task.⁴ WLC refers to the role conflict caused by employees’ inability to participate in leisure activities for work-related reasons.³ Previous studies have found that job autonomy can reduce experiences of individual WLC.¹⁻⁴ However, based on the boundary theory, there is a boundary between the work domain and the leisure domain, and the work-leisure boundary is flexible and permeable. The increase of boundary permeability will cause the individual’s sense of role conflict, while the increase of boundary flexibility will reduce the individual’s sense of role
The permeability and flexibility of the boundary do not exist independently, and only considering a single attribute of this boundary may result in inconsistent or even incorrect conclusions.\textsuperscript{5,6} When individuals frequently switch work and leisure roles under conditions of greater job autonomy, this may lead to a change in boundary permeability, which will cause their work to permeate their personal lives and occupy their leisure time and energy, resulting in WLC.\textsuperscript{5,7,8} Therefore, the relationship between job autonomy and WLC may be affected by boundary conditions. Previous studies have ignored the boundary conditions of the relationship between job autonomy and WLC and shown lack a discussion of the associated internal mechanisms.\textsuperscript{1–4} WLC will increase individual turnover intention\textsuperscript{9} and job burnout\textsuperscript{9,10} and reduce individual quality of life\textsuperscript{10–12} and work engagement.\textsuperscript{13} Understanding the characteristics of WLC is helpful to reduce the harms of WLC. Therefore, in view of the inconsistent results of previous studies and the negative effects of WLC, this study deeply explores the relationship between job autonomy and WLC.

According to boundary theory, job autonomy can increase flexibility in moving from work to leisure, and individuals can in turn arrange their own work models more autonomously.\textsuperscript{5,6} In the face of demand for leisure, participation is less bound by work, resulting in lower WLC. However, the internal psychological mechanism of this process is unknown. Thus, revealing this mechanism can help us better understand the characteristics of WLC and propose targeted intervention measures. The degree of work constraint of individuals when crossing boundary may affect their psychological detachment from work.\textsuperscript{14,15} Psychological detachment reflects a psychological experience that individuals can keep a distance from their work-related affairs after work.\textsuperscript{16} When individuals can better detach from their work, they can reduce the amount of time they spend thinking about their work, leaving more time to engage in leisure activities and resulting in less WLC.\textsuperscript{16,17} Job autonomy reduces the effect of work on individuals by increasing the flexibility of the work-leisure boundary, improving individuals’ psychological detachment and reducing their WLC.\textsuperscript{18,19} Psychological detachment may play a mediating role in the relationship between job autonomy and WLC. In addition, job autonomy, psychological detachment and WLC may change daily.\textsuperscript{13,20,21} Daily diary research can better reflect the dynamic characteristics of and relationships among such variables. Based on this, daily diary research is used here to explore the relationships between the above variables.

According to its definition, WLC is caused by work that cannot meet an individual’s boundary flexibility willingness.\textsuperscript{3,11} The boundary flexibility willingness refers to the subjective willingness of individuals to make transition between roles of their work and nonwork boundaries.\textsuperscript{22} How does WLC change in the face of different levels of job autonomy for individuals with different levels of boundary flexibility willingness? Previous studies have not addressed this question. In addition, the concept of boundary flexibility willingness has only been applied to work-family boundaries in previous studies.\textsuperscript{8,22} The work-nonwork boundary includes the work-family boundary and the work-leisure boundary. Therefore, this study introduces the concept of boundary flexibility willingness to the leisure field. Based on the fit perspective, when the supply of one side meets the demand of the other side, there will be good compatibility between the person and the environment.\textsuperscript{23} The conflict between roles is caused by the misfit between individual role demand and external supply. Therefore, the fit perspective can well reveal the characteristics of WLC. Individuals with more boundary flexibility willingness may experience less WLC when facing greater job autonomy compared to those with less boundary flexibility willingness.\textsuperscript{24,25} However, this conclusion has major limitations. The fit of boundary flexibility ability and boundary flexibility willingness may cause changes in the boundary in many directions. The flexibility of the work-leisure boundary can reduce individual WLC, but the permeability of the work-leisure boundary will increase WLC.\textsuperscript{5,26} In the face of high job autonomy, individuals with strong boundary flexibility willingness may enter the leisure domain from the work domain more frequently, which increases the ambiguity of the boundary and causes work to flow into leisure life.\textsuperscript{8,27} As a result, it is more difficult for individuals to detach from this work, resulting in WLC. Accordingly, boundary flexibility willingness may moderate the indirect effect of job autonomy on WLC through psychological detachment.

The main content and innovations of this study are as follows. First, based on boundary theory, this study uses a multipoint sampling method to explore the relationship between job autonomy and WLC as well as the role of psychological detachment in this relationship. The internal psychological mechanism of WLC and the daily variation characteristics of each variable are revealed. Second, in view of inconsistent results, this study explores the role of boundary flexibility willingness in the relationship between job autonomy and WLC from the perspective of fit. It is helpful to understand the characteristics of conflict under boundary management. See Figure 1 for the research framework employed.
Theory and Hypotheses

Job Autonomy and WLC

The younger generation has entered the workplace in large numbers, and the working model demands have diversified. These individuals increasingly seek to arrange their own working models around freedom in time and place. Job autonomy refers to individuals’ perceptions of their control over their work activities, which is mainly reflected in the degree to which employees can control and determine their own ways of working, work schedules and work standards. Job autonomy can provide employees with a sense of freedom and comfort, which can stimulate passion for their work. Previous studies have found that job autonomy can improve employees’ innovative and proactive behaviour, which are conducive to enterprise development. In addition, job autonomy can better meet individuals’ role transition needs to not only fulfil roles at work but also balance their nonwork roles. Job autonomy can help employees transition between work and nonwork roles, leading to a lesser sense of role conflict.

As a form of role conflict, work-leisure conflict (WLC) occurs when an individual’s work and leisure roles are incompatible. WLC involves the interference of work roles with leisure roles and the interference of leisure roles with work roles. However, WLC is also asymmetric; that is, the interference of the work role with the leisure role is not equal to interference of the leisure role with the work role. The main requirements of the work role come from the organization or leader. The main requirements of the leisure role come from the leisure participants themselves and involve less mandatory requirements. Previous studies have mainly considered work to leisure conflict. Therefore, the current research on WLC mainly refers to the role conflict caused by individuals’ inability to participate in leisure activities due to work. Because of the negative effects of WLC, the characteristics of WLC have been the focus of many scholars. Studies have shown that job control and role ambiguity can increase individual WLC. Job autonomy can reduce WLC experienced by individuals. Job autonomy can increase boundary flexibility. When individuals have high levels of job autonomy, they can easily enter from the work domain to the leisure domain. Individuals can then better detach from their work to engage in leisure activities and thus perceive lower levels of WLC.

According to previous studies, the individual’s perception of job autonomy is not stable. Daily diary sampling is often used to study the relationship between job autonomy and other factors. In addition, the individual’s perception of WLC will also change with the change of work tasks. Scholars used daily diary sampling to confirm the daily change characteristics of WLC, and called for future research to adopt this method. Therefore, this study will also use the daily diary sampling method to explore the relationship between the factors. The research hypothesis is as follows:

Hypothesis 1: The daily job autonomy of employees is negatively related to their WLC.

The Mediating Effect of Psychological Detachment

Psychological detachment refers to a psychological state in which individuals are detached from their work in terms of time and space and their psychological state outside of working hours; are not affected by work-related matters and stop thinking about relevant work. When exhibiting psychological detachment, an individual does not participate in work after working hours and does not think about work-related issues outside of work. In short, psychological detachment involves the complete release of the individual from the work mode. It requires the individual to complete this transformation at both the physical and psychological levels. Therefore, psychological detachment may experience when an individual leaves the
workplace. An individual’s role conflict is affected by whether he or she detach from a certain role. Individuals with a higher level of psychological detachment can stop thinking about work after working hours, do not think about work-related issues, and devote their time and energy to other pursuits, such as leisure activities.\textsuperscript{47,48} In contrast, individuals with low psychological detachment spend time thinking about work after working hours, which consumes their psychological resources and hinders their opportunity to engage in other activities.\textsuperscript{49} Thus, individuals who can better detach themselves from their work may experience less WLC.

According to boundary theory, job autonomy can increase the flexibility of the work-leisure boundary.\textsuperscript{5,39} Individuals with greater job autonomy are less bound by their work. Such individuals can maintain distance from their work during nonworking hours and can put their work aside during their leisure time without thinking about it, resulting in higher levels of psychological detachment.\textsuperscript{46} When individuals have a high degree of psychological detachment, they are less disturbed by their work. They can spend time and energy on personal leisure activities and experience less WLC. Therefore, psychological detachment may play a mediating role in the relationship between job autonomy and WLC. In addition, psychological detachment is a specific mental state of an individual that may or may not occur in a day. The data collection at a single time point cannot accurately reveal the level of individual psychological detachment, and more scholars use the daily diary sampling method to explore it.\textsuperscript{50} Accordingly, this study continues the practice of previous studies, using daily diary sampling method to explore the role of psychological detachment in the relationship between job autonomy and WLC. The following hypotheses are proposed:

Hypothesis 2a: The daily psychological detachment of employees is negatively related to their WLC.

Hypothesis 2b: Daily psychological detachment plays a mediating role in the relationship between Job autonomy and WLC.

The Moderating Effect of Boundary Flexibility Willingness

Boundaries are formed between different role domains and include boundary flexibility ability and boundary flexibility willingness. Boundary flexibility ability refers to the ability of an individual to cross from one field in consciousness or behaviour to meet the needs of another, which is mainly determined by the organization and its characteristics.\textsuperscript{22} Boundary flexibility willingness reflects the needs of individuals from one activity domain to another, which are mainly determined by the employees themselves and reflect their individual characteristics.\textsuperscript{27} Previous studies on boundary flexibility willingness have mainly focused on the work-family domain, and boundary flexibility willingness is specifically referred to as work-family boundary flexibility willingness.\textsuperscript{8,22} However, with the development of related research, the nonwork domain includes not only family but also personal leisure. The role of leisure in individual life differs from that of family.\textsuperscript{51} Therefore, this study first introduces the concept of boundary flexibility willingness to the field of the work-leisure domain to form work-leisure boundary flexibility willingness. Work leisure boundary flexibility willingness includes work-leisure boundary flexibility willingness and leisure-work boundary flexibility willingness. The former refers to the willingness of individuals to cross the boundary from work to leisure, while the latter refers to their willingness to cross the boundary from leisure to work. WLC in this study refers to the conflict experienced when transitioning from work to leisure. Therefore, this study only discusses the boundary flexibility willingness of individuals transitioning from work to leisure.

According to the connotation of fit, fit can be divided into consistent fit and complementary fit.\textsuperscript{52} Consistent fit and complementary fit are often used in person-job fit. Consistent person-job fit refers to the condition that individual and his or her job characteristics are consistent. Complementary person-job fit refers to the condition that the relevant characteristics of individual and work complement each other.\textsuperscript{52} Complementary person-job fit can be further divided into demand-ability fit and demand-supply fit. The demand-ability fit refers to the fit between the employee’s ability and the job demands. The demand-supply fit refers to the condition that the supply of jobs can meet the needs of individuals.\textsuperscript{53} Demand-supply fit believes that the fit between the supply of work and the needs of individuals is based on whether the needs of individuals are satisfied, and the satisfaction of individual needs affects individual attitude and behaviour.\textsuperscript{54} Based on the perspective of fit, WLC is mainly caused by individuals’ boundary flexibility willingness and boundary flexibility ability does not fit.\textsuperscript{24} When an individual’s boundary willingness is strong and
the flexibility of the boundary is weak, his or her role needs cannot be met, and WLC will occur. In contrast, when work is more autonomous, work-leisure boundary flexibility can make individuals willing to cross the work-leisure boundary, resulting in less WLC. However, the WLC of individuals is affected by both flexibility and permeability. The flexibility of the boundary can reduce WLC, while the permeability of the boundary can increase individuals’ WLC.\textsuperscript{5,6,26} Under situations of greater job autonomy, work is less bound to the individual. Individuals with strong boundary flexibility willingness may cross frequently into the work and leisure domains, which not only increases the permeability of the boundary but may also reduce individuals’ work efficiency and require normal work to be completed outside of working hours.\textsuperscript{8,22} To complete daily tasks, individuals may sacrifice their leisure time to continue working, which will reduce their detachment and thus increase their WLC. In contrast, in the face of greater job autonomy, individuals with lower boundary flexibility willingness also concentrate on completing a day’s work in the work domain, reducing the penetration of work into their leisure lives, thus resulting in higher psychological detachment and less WLC.\textsuperscript{8,27,55} Therefore, the following hypotheses are proposed in this study:

Hypothesis 3a: Boundary flexibility willingness moderates the positive relationship between job autonomy and psychological detachment. That is, the positive relationship between job autonomy and psychological detachment is weaker in individuals with more boundary flexibility willingness.

Hypothesis 3b: Boundary flexibility willingness moderates the negative relationship between job autonomy and WLC. That is, the negative relationship between job autonomy and WLC is weaker in individuals with more boundary flexibility willingness.

Method

Participants and Procedure

The study respondents were employees of Chinese enterprises and public institutions, including manufacturing companies, service companies and government departments. The daily diary sampling method requires data collection at multiple time points on consecutive working days. To reduce the possible interference of the survey itself in WLC, we collected online data to conduct our survey. The subjects of this study were selected by publishing recruitment information on network platforms. Participants had to have worked at their current company for three months or more and to have worked on working days. For qualified subjects selected to participate in the survey, a fixed number was issued for data tracking. One-time and daily sampling were employed. One-time sampling was performed the day before daily sampling and involved collecting data on the participants’ demographic information and boundary flexibility willingness. Individuals’ sense of control over work may change on different working days. For example, on working days with more work tasks, their sense of autonomous control over work may decrease. To better reveal the relationship between factors, it is necessary to use daily diary sampling method to investigate on different working days of a work cycle (from Monday to Friday). In addition, job autonomy, as an individual’s job feeling, may be measured more accurately during working hours and before going off duty, while WLC, as an interference from work to nonwork, and psychological detachment, as an individual’s psychological feeling after leaving work, may be measured more accurately after individuals leaving work. Therefore, for the next five continuous working days, the job autonomy questionnaire was distributed to the participants at 3 p.m., and they were required to complete it before 6 p.m. The questionnaire on psychological detachment and WLC was distributed to participants after work hours, and the questionnaire was to be completed before 10 p.m. We paid individuals 40 CNY to participate in the research. Before the questionnaire was distributed, the subjects were introduced to matters requiring attention in detail. The questionnaire was sent to the subjects as a link. The researchers continued to pay attention to the subjects’ answers given on the questionnaire distribution platform and reminded the subjects who had not submitted the questionnaire to complete it in a timely manner.

From the one-time and daily sampling, a total of 485 valid questionnaires were collected from 97 subjects. According to an analysis of the sample, 42 of the participants were male, accounting for 43.30% of the sample; 55 of the participants were female, accounting for 56.70% of the sample; the average age was 28.81 years (SD = 2.27); the participants worked an average of 8.44 hours per day (SD = 1.96); the average work tenure period was 5.55 years (SD = 2.39); and 33 of the participants were married, accounting for 34.02% of the sample; 64 of the participants were unmarried, accounting for
65.98% of the sample. A total of 82 participants had a bachelor’s degree or above, accounting for 84.54% of the sample; 12 participants had a college degree, accounting for 12.37% of the sample; three participants had high school degree, accounting for 3.09% of the sample. In total, 37 participants worked for private companies, accounting for 38.14% of the sample; 17 worked for state-owned enterprises, accounting for 17.53% of the sample; 5 worked for Sino foreign joint ventures, accounting for 5.15% of the sample; 2 worked for wholly foreign-owned enterprises, accounting for 2.06% of the sample; and 36 worked for public institutions, accounting for 37.11% of the sample.

Measurement

Job Autonomy
The job autonomy scale developed by Spreitzer, a one-dimensional scale composed of three items, was used in this study. A sample item is as follows: “Today, I can decide on my own how to go about doing my work”. Each item was scored on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The average Cronbach’s α of the job autonomy scale was measured as 0.84 (0.79–0.87) in this study.

WLC
We used the WLC scale developed by Wong and Lin, which is a one-dimensional scale composed of five items. A sample item is as follows: “Today, I am not able to participate in leisure activities because of my job”. The scale was scored on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The average Cronbach’s α of the WLC scale was measured as 0.91 (0.89–0.92) in this study.

Psychological Detachment
We used the psychological detachment scale developed by Sonnentag and Fritz, which is a one-dimensional scale composed of four major items. A sample item is as follows: “Today, I can leave work without thinking about it”. Each item was scored on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The average Cronbach’s α of the psychological detachment scale was measured as 0.93 (0.90–0.95) in this study.

Boundary Flexibility Willingness
We used the boundary flexibility willingness scale developed by Matthews et al which is a one-dimensional scale composed of four items. To meet the purpose of this study, the items of the original scale were modified according to the characteristics of leisure. A sample item is as follows: “I am willing to take time off from work to deal with my personal leisure affairs”. Each item was scored on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The Cronbach’s α of the boundary flexibility willingness scale was measured as 0.80 in this study.

Control Variables
According to previous studies, the demographic characteristics of subjects may affect their perceptions of WLC. Therefore, this study used these demographic characteristics as control variables. In addition, the daily working hours of individuals may also affect the accuracy of results. Therefore, this study also controlled daily working hours in the model test.

Data Analytic Strategies
Since the variables (job autonomy, psychological detachment, and WLC) sampled by the daily diary study were nested at the individual level, this study tested the hypothesis using a multilevel structural equation model. The model can verify the hypotheses proposed in this study because it uses multiple regression equations, allowing it to examine the relationships between multiple variables at the same time. In the multilevel structural equation model, job autonomy, psychological detachment and WLC were sampled daily and placed at the intraindividual level, while boundary flexibility willingness was sampled one-time and placed at the interindividual level. According to Hofmann and Gavin and Kreft et al group-mean centralization of job autonomy, psychological detachment, and WLC and grand-mean centralization of boundary flexibility willingness. In this study, the Monte Carlo bootstrap confidence interval was used to test the mediating effect of psychological detachment. The relationship between the intraindividual level variables (job
autonomy, psychological detachment, and WLC) was used as the dependent variable, and boundary flexibility willingness predicts the relationship of intraindividual level to test the moderated mediation effect.

**Results**

**Discrimination Test**

This study used a multilevel confirmatory factor analysis to test whether the variables in the model show sufficient discrimination.\(^6\) First, the variables were combined in different forms to form a variety of alternative models. As shown in Table 1, the three-factor model (job autonomy, psychological detachment, and WLC) shows a good fit ($\chi^2(51) = 197.04, \chi^2/df = 3.86, p < 0.001, CFI = 0.94, TLI = 0.93, RMSEA = 0.08, SRMR = 0.04$). The fitting effect of the three-factor model is better than that of the alternative models ($416.48 \leq \Delta \chi^2 \leq 1583.28, p < 0.001$). These results indicate that job autonomy, psychological detachment, and WLC show sufficient discrimination in this study.

**Common Method Variance Test**

In this study, to reduce common method variance between variables, a multitime point sampling method was used, and multilevel confirmatory factor analysis was used to test the control effect. Job autonomy, psychological detachment, and WLC were combined into a single factor and compared to the three-factor independent model. The fitting effect was found to be worse ($\chi^2(54) = 1780.32, \chi^2/df = 32.97, p < 0.001, CFI = 0.32, TLI = 0.16, RMSEA = 0.26, SRMR = 0.23$), and the difference was found to be significant ($\Delta \chi^2(3) = 1583.28, p < 0.001$). The above results indicate that common method variance has little influence on this study.

**Descriptive Analysis**

We used a null model (in the multilevel model, intraindividual level and interindividually level do not include independent variables) to test the intraindividual and interindividual variation of the variables sampled by the daily diary method. Table 2 shows that job autonomy, psychological detachment, WLC, and daily working hours in this study showed significant differences on different days, with intraindividual variance accounting for between 23.47% and 36.65% of the total variance. This result indicates that the variables sampled by the daily diary method show significant dynamic changes at the individual level.

The descriptive analysis and correlation test of each variable are shown in Table 3. We found significant negative correlations between job autonomy and WLC ($r = -0.18, p < 0.01$), and job autonomy was positively correlated with psychological detachment ($r = 0.19, p < 0.01$). Psychological detachment was negatively correlated with WLC ($r = -0.32, p < 0.01$). The above results show that the variables included in the hypothesis are closely related. The research hypotheses can be further tested by establishing a multilevel moderated mediation model.

**Table 1 Results of Discrimination Validity Test**

<table>
<thead>
<tr>
<th>Models</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three-factor model</td>
<td>197.04</td>
<td>51</td>
<td>3.86</td>
<td>0.93</td>
<td>0.94</td>
<td>0.08</td>
<td>0.04</td>
</tr>
<tr>
<td>Job autonomy, psychological detachment, and work-leisure conflict</td>
<td>613.52</td>
<td>53</td>
<td>11.58</td>
<td>0.72</td>
<td>0.78</td>
<td>0.15</td>
<td>0.13</td>
</tr>
<tr>
<td>Two-factor model a</td>
<td>857.03</td>
<td>53</td>
<td>16.17</td>
<td>0.75</td>
<td>0.80</td>
<td>0.18</td>
<td>0.16</td>
</tr>
<tr>
<td>Job autonomy and psychological detachment combined into one factor</td>
<td>839.11</td>
<td>53</td>
<td>15.83</td>
<td>0.52</td>
<td>0.62</td>
<td>0.20</td>
<td>0.19</td>
</tr>
<tr>
<td>Two-factor model b</td>
<td>1,780.32</td>
<td>54</td>
<td>32.97</td>
<td>0.16</td>
<td>0.32</td>
<td>0.26</td>
<td>0.23</td>
</tr>
<tr>
<td>Job autonomy and work-leisure conflict combined into one factor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-factor model c</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Psychological detachment and work-leisure conflict combined into one factor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One-factor model</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Job autonomy, psychological detachment, and work-leisure conflict combined into one factor</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
In this study, Mplus8.3 was used to test the hypotheses with a multilevel moderated mediation model. The results of the data analysis are shown in Table 4. The relationship between daily job autonomy and psychological detachment was

Table 2 Results of Null Model Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intercept</th>
<th>Intraindividual Variance (e²)</th>
<th>Interindividual Variance (r²)</th>
<th>Percent of Intraindividual Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job autonomy</td>
<td>2.97</td>
<td>0.33***</td>
<td>0.58***</td>
<td>36.26%</td>
</tr>
<tr>
<td>Psychological detachment</td>
<td>3.15</td>
<td>0.23***</td>
<td>0.75***</td>
<td>23.47%</td>
</tr>
<tr>
<td>Work-leisure conflict</td>
<td>2.78</td>
<td>0.23***</td>
<td>0.59***</td>
<td>28.05%</td>
</tr>
<tr>
<td>Daily working hours</td>
<td>8.44</td>
<td>1.40***</td>
<td>2.42***</td>
<td>36.65%</td>
</tr>
</tbody>
</table>

Note: The percentage of intraindividual variance was computed as the ratio of e² / (e² + r²). ***p < 0.001.

Table 3 Descriptive Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>M ±SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intraindividual level variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Job autonomy</td>
<td>2.97± 0.95</td>
<td>0.08</td>
<td>–0.07</td>
<td>0.11</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>2. Psychological detachment</td>
<td>3.15± 0.99</td>
<td>0.19***</td>
<td>–0.18**</td>
<td>–0.32***</td>
<td>0.32**</td>
<td></td>
</tr>
<tr>
<td>3. Work-leisure conflict</td>
<td>2.78± 0.90</td>
<td>–0.11*</td>
<td>–0.18**</td>
<td>–0.32**</td>
<td>0.32**</td>
<td></td>
</tr>
<tr>
<td>4. Daily working hours</td>
<td>8.44±1.96</td>
<td>–0.11*</td>
<td>–0.26***</td>
<td>0.32**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interindividual Level variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Boundary flexibility willingness</td>
<td>3.60±0.71</td>
<td>0.08</td>
<td>–0.07</td>
<td>0.11</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>6. Age</td>
<td>28.81±2.27</td>
<td>–0.05</td>
<td>0.14</td>
<td>0.01</td>
<td>–0.05</td>
<td>–0.06</td>
</tr>
<tr>
<td>7. Gender</td>
<td>–</td>
<td>0.03</td>
<td>–0.03</td>
<td>–0.06</td>
<td>0.06</td>
<td>0.01</td>
</tr>
<tr>
<td>8. Married</td>
<td>–</td>
<td>0.05</td>
<td>–0.06</td>
<td>0.13</td>
<td>0.15</td>
<td>–0.07</td>
</tr>
<tr>
<td>9. Company type</td>
<td>–</td>
<td>0.29***</td>
<td>0.18</td>
<td>–0.18</td>
<td>–0.08</td>
<td>–0.07</td>
</tr>
<tr>
<td>10. Tenure</td>
<td>5.55±2.39</td>
<td>0.05</td>
<td>0.15</td>
<td>0.02</td>
<td>0.06</td>
<td>–0.14</td>
</tr>
<tr>
<td>11. Education</td>
<td>–</td>
<td>0.05</td>
<td>0.04</td>
<td>–0.11</td>
<td>–0.15</td>
<td>0.21***</td>
</tr>
</tbody>
</table>

Note: N Intraindividual level = 485, N Interindividual level = 97. *p < 0.05. **p < 0.01.

Multilevel Moderated Mediation Model Test

In this study, Mplus8.3 was used to test the hypotheses with a multilevel moderated mediation model. The results of the data analysis are shown in Table 4. The relationship between daily job autonomy and psychological detachment was

Table 4 Multilevel Moderated Mediation Model Test

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Psychological Detachment</th>
<th>Work-Leisure Conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>γ</td>
<td>SE</td>
</tr>
<tr>
<td>Interindividual level predictor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>–0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Gender</td>
<td>0.02</td>
<td>0.08</td>
</tr>
<tr>
<td>Married</td>
<td>–0.03</td>
<td>0.09</td>
</tr>
<tr>
<td>Company type</td>
<td>0.06*</td>
<td>0.03</td>
</tr>
<tr>
<td>Tenure</td>
<td>0.07*</td>
<td>0.03</td>
</tr>
<tr>
<td>Education</td>
<td>0.09</td>
<td>0.08</td>
</tr>
<tr>
<td>BFW</td>
<td>–0.16*</td>
<td>0.06</td>
</tr>
<tr>
<td>Intraindividual level predictor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JA</td>
<td>0.15***</td>
<td>0.05</td>
</tr>
<tr>
<td>PD</td>
<td>–</td>
<td>–0.17***</td>
</tr>
<tr>
<td>Daily working hours</td>
<td>–0.11***</td>
<td>0.02</td>
</tr>
<tr>
<td>Cross-level predictor</td>
<td>–0.43***</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Notes: N Intraindividual level = 485, N Interindividual level = 97. All intraindividual level variables are group-mean centred; boundary flexibility willingness is grand-mean centred. *p < 0.05. **p < 0.01. ***p < 0.001.
Abbreviations: JA, Job autonomy; PD, Psychological detachment; BFW, Boundary flexibility willingness.
significant ($\gamma = 0.15, p < 0.001$). When job autonomy and psychological detachment predicted WLC, psychological detachment was significantly related to individual WLC ($\gamma = -0.17, p < 0.001$), and job autonomy was significantly related to WLC ($\gamma = -0.10, p < 0.05$). The Monte Carlo bootstrap confidence interval method was used to further test the mediating effect. The results show that the effect of job autonomy on WLC via psychological detachment was $-0.03$, the 95% confidence interval $[-0.052, -0.008]$. Based on the above results, it can be concluded that job autonomy can have a direct and indirect effect on WLC through psychological detachment. Accordingly, Hypotheses 1, 2a and 2b are supported.

In examining the moderating effect of boundary flexibility willingness, we used the relationships between job autonomy and psychological detachment and between job autonomy and WLC as dependent variables and boundary flexibility willingness as the independent variable. As shown in Table 4, the interaction between job autonomy and boundary flexibility willingness was significantly related to psychological detachment ($\gamma = -0.43, p < 0.001$). This result shows that boundary flexibility willingness can reduce the positive relationship between job autonomy and psychological detachment in a cross-level manner. Individuals with lower boundary flexibility willingness have higher levels of psychological detachment when encountering high levels of job autonomy than individuals with more boundary flexibility willingness. Therefore, Hypothesis 3a is supported. To better present the relationship between job autonomy and psychological detachment, in this study, boundary flexibility willingness was grouped (values one standard deviation above the mean were assigned to the high group, and values one standard deviation below the mean was were assigned to the low group) to test the slope change of job autonomy and psychological detachment for the two groups. 61,62 Figure 2 shows the relationship between job autonomy and psychological detachment for the high ($\gamma = -0.15, p < 0.05$) and low boundary flexibility willingness groups ($\gamma = 0.45, p < 0.001$). The interaction term between job autonomy and boundary flexibility willingness was significantly related to WLC ($\gamma = 0.17, p < 0.01$), indicating that boundary flexibility willingness can reduce the negative relationship between job autonomy and WLC in a cross-level manner. The variation of WLC explained by the full model was 0.23. Individuals with higher boundary flexibility willingness have higher levels of WLC when experiencing high levels of job autonomy than individuals with lower boundary flexibility willingness. Figure 3 shows the relationship between job autonomy and WLC for the high ($\gamma = 0.02, p = 0.74$) and low boundary flexibility willingness groups ($\gamma = -0.22, p < 0.001$).
This study also examined whether boundary flexibility willingness moderates the indirect effect of job autonomy on WLC via psychological detachment. The two groups were grouped into those with values greater or less than one standard deviation of boundary flexibility willingness, and the significance and differences of the indirect effect of job autonomy on WLC through psychological detachment for the two groups were tested. Table 5 shows that in the high boundary flexibility willingness group, the effect of job autonomy on WLC through psychological detachment was 0.03 (95% CI [0.003, 0.052]). This confidence interval does not include 0. In the group with high boundary flexibility willingness, job autonomy could increase WLC. In the low boundary flexibility willingness group, the indirect effect was –0.08 (95% CI [–0.131, –0.032]). This confidence interval does not include 0. In the group with low boundary flexibility willingness, job autonomy could decrease WLC. The difference in indirect effects found between the two groups was measured as 0.10 (95% CI [0.059, 0.161]). Boundary flexibility willingness moderated the indirect effect of job autonomy on WLC via psychological detachment. Therefore, Hypothesis 3b is supported.

### Discussion

In view of the change in office modes occurring since the outbreak of the COVID-19 pandemic, based on boundary theory, this study explored the relationship between job autonomy and WLC and the mediating role of psychological detachment in this relationship. Based on the perspectives of person-job fit, this paper discusses the moderating role of boundary flexibility willingness in the relationship between job autonomy and WLC. The results show that job autonomy is negatively related to WLC. Psychological detachment mediates the relationship between job autonomy and WLC. Boundary flexibility willingness can significantly moderate not only the relationship between job autonomy and psychological detachment but also that between job autonomy and WLC.

### Theoretical Implications

Previous research shows that job control can increase WLC while job autonomy can reduce WLC. However, some employees have reported experiencing more WLC with greater job autonomy, which is inconsistent with the results of previous studies. This study aims to address this inconsistency through an in-depth analysis of the direct relationship between job autonomy and WLC and potential mediating and moderating mechanisms involved. In this study, the daily diary method was used to test the relationships between the studied variables, and job autonomy was found to be negatively related to WLC. When individuals have more job autonomy, the work-leisure boundary is more flexible, and work restrains individuals less. Individuals can in turn arrange their own work according to their own needs in terms of working hours and forms. When individuals need to participate in leisure activities, they can detach from their work roles, resulting in less WLC. In addition, this study shows that job autonomy and WLC change daily at the individual level. WLC undergoes different changes due to different levels of job autonomy present each day. Boundary theory holds that the boundary is flexible and permeable, and daily diary research method can reflect the characteristics of this boundary. This study is the first to analyse the flexibility and permeability of the work-leisure boundary by using the daily diary method and to identify characteristics of variation in the work-leisure boundary, which is helpful for understanding boundary theory.

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#### Table 5 Effects of Job Autonomy on Work-Leisure Conflict Through Psychological Detachment with Different Moderator Values

<table>
<thead>
<tr>
<th>Moderator</th>
<th>Job Autonomy (X) → Psychological Detachment (M) → Work-Leisure Conflict (Y)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First-Stage $P_{MX}$</td>
</tr>
<tr>
<td>Low BFW</td>
<td>0.45***</td>
</tr>
<tr>
<td>High BFW</td>
<td>–0.15*</td>
</tr>
<tr>
<td>Difference</td>
<td>0.10</td>
</tr>
</tbody>
</table>

**Note:** N (intraindividual level) = 485, N (interindividual level) = 97, * p < 0.05, *** p < 0.001.

**Abbreviations:** BFW, boundary flexibility willingness; $P_{MX}$, Path from job autonomy to psychological detachment; $P_{YM}$, Path from psychological detachment to work-leisure conflict.
In exploring the mechanism of the job autonomy and WLC, this study shows that psychological detachment can play a transmitting role in the above relationship. The higher the level of psychological detachment is, the lower the level of perceived WLC is. Job autonomy increases the flexibility of the work-leisure boundary and reduces work roles restriction on individuals. Employees can then easily detach from their work and engage in leisure activities, thus resulting in less WLC. This is the first study to reveal the inner psychological processes of WLC, which makes up for the current lack of discussion on this topic in previous research. According to boundary theory, the work-leisure boundary is relatively stable and elastic, and the impact of this boundary on WLC occurs via boundary distance.\(^5,6,26,63\) When individuals with more psychological detachment exhibit a longer distance from the boundary, the sense of role conflict will be less pronounced. In addition, this study shows that psychological detachment can dynamically change. The distance between the individual and the boundary will change as the boundary changes, which increases understanding of the characteristics of role conflict under boundary theory.

This study shows that boundary flexibility willingness can not only significantly moderate the relationship between job autonomy and psychological detachment, but also the relationship between job autonomy and WLC. That is, compared to individuals with less boundary flexibility willingness, individuals with more boundary flexibility willingness exhibit less psychological detachment and more WLC under greater job autonomy. To a large extent, this reduces the effect of job autonomy. This finding is inconsistent with the previous view of person-job fit.\(^24\) According to person-job fit, when an individual’s boundary flexibility willingness fits the corresponding level of boundary flexibility ability, this may reduce his or her WLC.\(^25\) However, this argument ignores an important point. The work-leisure boundary has many attributes, and the single attribute of person-job fit may cause other changes in the boundary. When job autonomy is high, individuals with strong boundary flexibility willingness may frequently cross different domains, which will increase the permeability of their work. Work that should be completed in the workplace penetrates the leisure lives of individuals, reduces their psychological detachment and increases their WLC. Individuals with low boundary flexibility willingness still try their best to complete their work in the workplace in the midst of high job autonomy. They will not let their work permeate their personal lives and thus will show more psychological detachment and less WLC. The above results increase the understanding of the fit perspective. When the needs of individuals are met by the work supply. The results of complementary fit are not all good. Complementary fit may also bring negative effects. However, most of the previous studies only focus on the positive aspects of consistency fit, and few focus on the harm caused by consistency fit.\(^64\) This study focuses on the negative side of complementary fit. Future studies should pay attention to the double-edged sword effect brought by fit when exploring the relationship between factors from the perspective of fit. This study introduces the concept of boundary flexibility willingness to the field of WLC, extending the application of boundary theory. Individual role conflict depends on not only whether the boundary provided by the job meets the individual’s boundary flexibility needs but also on the characteristics of boundary changes.\(^5,6,63\) This study takes into account the relationship between two attributes of the boundary and WLC, addressing the inconsistent views of previous studies and guiding the future analysis of conflict under boundary theory. The results of this study also confirm that the change of boundary attributes is the result of the joint effect of organizations and individuals. To better manage the work-leisure boundary, both organization and individuals need to be considered simultaneously.

**Practical Implications**

This study shows that WLC can be reduced when individuals have more job autonomy. Job autonomy can also increase an individual’s work vitality and enthusiasm.\(^65\) This requires enterprise managers to formulate corresponding policies according to the state of their enterprises and reasonably increase the job autonomy of employees. For example, to ensure normal enterprise development, employees should be given a certain degree of autonomy in terms of working times and locations.

This study shows that individuals’ levels of psychological detachment is negatively correlated with WLC. The higher the degree of psychological detachment of individuals, the less their leisure life is disturbed by work. Therefore, to reduce individual WLC, the individual psychological detachment should be improved from multiple aspects. Organizations should provide more work support to their employees, such as to avoid sending work-related information
to employees when they are at leisure. For individuals, in their leisure time, they should not only take the initiative to stop contacting the content of work but also stop thinking about work.

This study shows that when work is more autonomous, employees with strong boundary flexibility willingness frequently cross between roles such that the work that they should be completing at work permeates into their personal leisure lives. This requires individuals to perform their work roles during working hours as much as possible, even in the face of greater job autonomy, to promote the completion of work tasks during working hours. In this way, the individual can be detached from his or her work role and enter leisure time. Therefore, individuals should reasonably adjust their boundary flexibility willingness according to changes in the environment.

**Limitations and Future Prospects**

In this study, daily diary research was conducted according to time distance. The measurement of time distance may have inherent deficiencies; for example, important information may not be available at the time of data collection. In the future, this method can be improved, and relevant research can be carried out. In this study, the daily diary method was adopted, and the principle of item simplification was followed. Thus, this study used a one-dimensional scale to measure WLC as a whole. Some scholars have pointed out that the multidimensional WLC scale can be used to analyse the characteristics of WLC in more detail. In the future, a multidimensional work-leisure scale can be used to carry out relevant research. The discussion of boundary properties included in this study focuses on flexibility and permeability. The work-leisure boundary may include not only these two properties but also other properties, such as relative stability. The effect of boundaries on individual psychology may last for some time, and future studies may adopt a longitudinal method to analyse associated boundary characteristics. In addition, this study also found that daily working hours was significantly correlated with WLC, while other control variables were not significantly correlated with WLC. This may be due to the sample size is relatively small and the distribution is not wide enough. Therefore, future studies can continue to increase the sample size and the distribution of each demographic information.

**Conclusion**

In light of the inconsistent results of past work, this study explored the relationship between job autonomy and WLC as well as the possible mediating and moderating mechanisms involved. Job autonomy, psychological detachment and WLC are characterized by daily changes occurring at the individual level. Job autonomy is negatively related to WLC, and psychological detachment mediates the relationship between job autonomy and WLC. The fit of boundary flexibility willingness and job autonomy will cause a change in boundary permeability, which will lead to varying degrees of changes in the relationship between job autonomy and WLC. This study provides a better understanding of the relationship between job autonomy and WLC and furthers current understanding of boundary attributes.

**Ethical Statement**

This study was approved by the Ethic Committee on Human Experimentation of Shanghai Normal University and adhered to the Declaration of Helsinki. When publishing recruitment information, we introduced the study purposes and explained that this study welcomed voluntary participation and the data, complying with the principle of confidentiality, is only used for research purposes. Before responses to the questionnaire, all participants filled in a written informed consent form, claimed their understanding of the study purposes and they would like to participate in the study voluntarily.

**Disclosure**

No potential conflict of interest was reported by the authors.

**References**


