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A Game-Theoretic Analysis of Work–Life Balance Strategies Among Educators

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Abstract: This study develops a game-theoretic model to analyze how teaching professionals make strategic decisions about work–life balance (WLB). Educators choose among work-oriented, balanced, or life-oriented strategies, influenced by institutional priorities and peer norms. A utility function incorporates performance, personal well-being, and social conformity costs. Using survey data from 100 faculty, we simulate how different institutional reward structures-emphasizing performance or well-being-shift strategic behavior. Results show that performance-driven environments favor work-oriented choices, while supportive policies increase adoption of balanced or life-oriented strategies. Peer pressure reinforces majority behaviors, potentially entrenching overwork norms. Equilibrium analysis demonstrates how modest changes in institutional emphasis can produce significant shifts in collective behavior. The findings suggest that structural interventions-such as flexible scheduling, recognition of diverse achievements, and leadership modeling of balanced practices-are key to promoting sustainable work cultures. This research offers practical insights for educational institutions aiming to enhance faculty well-being and long-term productivity.

Keywords: Game Theory, Work-Life Balance, Strategic Decision-Making, Nash Equilibrium

1. Introduction

Work–life balance (WLB) has become a critical concern in education, as teaching professionals face mounting demands at work and home. Teachers routinely spend long hours on instruction, grading, and administrative tasks, often struggling to set boundaries (Clark, 2000; Greenhaus & Allen, 2011). Research shows that chronic imbalance leads to higher stress, burnout, and turnover among educators. For instance, a 2025 national survey found teachers far outpace other workers in work intruding on personal life: 71% of teachers (vs. 22% of other adults) report difficulty adjusting schedules for personal needs, and 46% say job demands leave them too exhausted for family activities. Female teachers are especially affected, spending about 10 more hours per week on household duties than male peers. This evidence highlights that "excessive work" has become endemic in school culture, raising urgent questions about what factors drive teachers' WLB decisions and how schools can improve outcomes.

Traditional models often treat WLB as an individual choice, but teaching is inherently social and institutional. Colleagues' norms and administrative policies powerfully shape behavior: when overwork is normalized, individual teachers feel indirect pressure to conform. Indeed, emerging work finds that peer influence and organizational culture can override personal preferences in work-life decisions. As one survey notes, leadership support for flexible work and adherence to well-being policies significantly improves teachers' WLB. However, such influences are not accounted for in conventional utility models.

Game theory offers a framework for strategic interdependence, yet its application to educational WLB has been limited. In labor economics and organizational studies, researchers increasingly use game-theoretic and evolutionary models to analyze workplace. These studies show how "players" adjust strategies based on incentives and peer behavior. Yet few have focused on teachers' WLB decisions.

In this paper, we develop a formal game-theoretic model of educators' WLB choices, incorporating institutional reward structures and peer pressure. We construct a utility function combining

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performance and well-being (with weights reflecting institutional priorities), minus a conformity cost from peer norms. Using both Nash-equilibrium analysis and replicator dynamics, we show how strategy adoption shifts under varying parameters (α, β, γ). The model is empirically grounded by a survey of 100 college instructors, which provides data to calibrate scores and weights. Our contributions include: updating the literature with recent findings on teacher WLB and social norms; a more rigorous utility specification; formal equilibrium analysis; and simulation results illustrating how parameter changes (policies) influence outcomes. We also make practical recommendations for educational policymakers.

2. Literature Review

Work-life balance (WLB) has been a subject of growing scholarly interest, particularly in professions characterized by high cognitive load and emotional labor, such as teaching. Research has historically focused on the psychological stressors associated with imbalanced workloads, institutional constraints, and societal expectations. Among these, teaching professionals face unique challenges owing to evolving educational policies, digital integration, and the expansion of responsibilities beyond classroom instruction.

2.1 Work–Life Balance Theory

Work–life balance is a well-studied concept in management and psychology. Early theories emphasize individual boundary management: Clark's Work/Family Border Theory portrays employees as "border-crossers" negotiating between domains (home vs. work) each day. Work–family conflict research (e.g. Greenhaus & Allen, 2011) defines balance as the fit between work demands and life roles. Scholars have refined this into broader work–nonwork balance, recognizing personal life beyond family. Empirical studies identify key antecedents: flexible work policies, supportive supervisors, and personal coping resources all affect WLB. Recent meta-analyses highlight that even with formal WLB policies, outcomes depend on organizational culture and access: Casper et al. (2025) note that inclusion gaps (narrow definitions of "family," low awareness, unsupportive culture) often blunt policy effectiveness.

In education, teachers' WLB is especially tenuous. Heavy workloads, high accountability, and emotional labor make teachers prone to conflict spillover. Studies report elevated burnout in teaching professions (Maslach & Leiter, 2016; Yildirim & Senel, 2023). Large-scale surveys confirm these strains: Steiner et al. (2025) compare teachers to other workers and find significantly lower perceived flexibility and higher intrusion of work on home. For example, Steiner et al. report that female teachers work longer hours and still spend ~40 hours/week on chores (about 10 more than male teachers), contributing to worse well-being. Notably, fewer than half of schools actively help teachers balance life and work, though those that do (through flexible leave and workload management) see marked improvements. These findings confirm that WLB is not just an individual issue but a systemic one in education: institutional practices and job design heavily influence outcomes.

2.2 Social Norms and Peer Influence

Beyond formal policies, peer norms and social influence strongly shape teacher behavior. Research in social psychology shows that individuals gain utility not just from outcomes but also from conforming to group norms (e.g. Cialdini's normative influence theory). In workplaces, employees often mimic colleagues' time use and effort; a "culture of overwork" can emerge through social learning and peer pressure. Although specific studies on teachers are scarce, general evidence suggests that in-school norms matter: a collegial environment that implicitly rewards long hours will increase stress for those with fewer obligations, as they feel "pressure" to match their peers. Conversely, normative support for work–life boundaries (e.g. administrators modeling balanced behaviors) can uplift group well-being. We therefore explicitly model peer influence as a cost for deviating from the majority strategy.

2.3 Game-Theoretic and Evolutionary Models in Organizations

Game theory has a rich tradition in economics and organizational behavior for modeling strategic interactions. At its core, a (non-cooperative) game specifies players, strategies, and payoffs, with solutions found via Nash equilibria – states where no player can unilaterally improve their payoff.

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However, classical game theory assumes fully rational players and often focuses on single-shot games. In contrast, evolutionary game theory treats strategy frequencies in a population and models how these frequencies change over time via replicator dynamics or learning rules. This approach is well-suited to workplace contexts with bounded rationality: players adapt their strategies based on observed success, and an evolutionarily stable strategy (ESS) emerges that resists invasion by rare mutants.

Applied research has used such models for labor dynamics. Dong and Yan (2022) model overtime work as a 2×2 evolutionary game between employees (working voluntarily vs. involuntarily) and employers (paying overtime vs. not). They find multiple equilibria and emphasize that information sharing and fairness can lead to Pareto-optimal outcomes. Similarly, Talajić et al. (2024) develop a replicator-dynamic model of workforce management, characterizing stable distributions of employee types under different incentive schemes. These examples demonstrate that game theory can capture strategic labor decisions. To our knowledge, no prior study has applied a formal game model to teachers' work–life choices. We fill this gap by integrating WLB factors (performance vs. well-being) and peer norms into a strategic-game framework.

3. Methodology

We collected data via an online survey of teaching professionals in the Saurashtra region of India. The final sample comprises $N = 100$ educators (approximately 60% female, ages 25–55, mean ~36 years, SD ~8). Respondents were drawn from 10 colleges (Commerce and Management faculties) through stratified convenience sampling, ensuring coverage of different institutions. Table 1 summarizes key demographics (e.g. mean teaching experience ≈9 years, 80% full-time, 20% part-time).

Attribute	Value
Sample Size	100
Female (%)	60
Average Age	36
Avg. Experience (years)	9
Full-time (%)	80
Part-time (%)	20

Table 1: Sample Demographics

The survey instrument included three parts: (1) Work–life strategies: respondents chose or described their typical approach (Work-oriented, Balanced, or Life-oriented), and rated their satisfaction with work and life domains; (2) Outcome measures: standardized scales assessed job performance (self-evaluated productivity and achievements) and personal well-being (using an established life-satisfaction subscale); (3) Social context: items measured perceived peer norms (e.g. "Most of my colleagues work late hours") and institutional support (perceived emphasis on performance vs. well-being). Each scale used 5-point Likert items (1=strongly disagree to 5=strongly agree). We adapted items from validated instruments in the literature (e.g. the Work–Family Balance Scale by Carlson et al., and Organizational Culture Scales).

We computed subscale scores by averaging item responses. Reliability was high: Cronbach's α was 0.87 for the performance scale, 0.90 for the well-being scale, and 0.82 for the peer-norms scale. We normalized these scores to a 0–100 scale for utility calculations. Summary statistics show that, on average, respondents reported high performance commitment (mean≈85/100, SD≈10) but moderate well-being (mean≈50, SD≈15), reflecting the heavy workload context. Perceived peer pressure was non-trivial (mean≈60/100), consistent with qualitative reports of a "strong overwork culture." (For brevity we omit full tables of survey items and raw data, but these are available in an online appendix.)

To set the institutional weight parameters (α, β, γ) in our model, we elicited additional information from college administrators. In a short supplemental survey, administrators distributed 100 "priority points" among performance, well-being, and social norm objectives to reflect their institutional culture. For example, a research-focused college might assign $\alpha = 60, \beta = 30, \gamma = 10$. We averaged such weightings across institutions to create a "base-case" (performance-oriented) scenario ($\alpha = 0.6, \beta = 0.3, \gamma = 0.1$). We also defined alternative weight sets representing policy shifts (e.g. "well-being emphasis" $\alpha =$

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$0.3, \beta = 0.6, \gamma = 0.1$). These weights sum to 1, indicating each institution's relative emphasis.
Finally, each respondent's utility under each strategy was computed via the proposed utility function (see next section) using their own performance/well-being scores and the chosen (α, β, γ). This yielded a utility value for each of the three strategies, allowing us to predict strategy preferences and aggregate population patterns. All analyses were performed in R.

4. Game Model

We model a population of identical teaching professionals (players), each choosing one of three strategies for WLB:

- Work-Oriented (W): Prioritize work demands (extra hours, projects) over personal time.
- Balanced (B): Seek a mix, maintaining moderate effort at work and some personal time.
- Life-Oriented (L): Prioritize personal/family well-being over extra work.

Each player's utility depends on (a) their own strategy's payoff for institutional performance (P) and personal well-being (Wb), and (b) a peer-pressure cost for deviating from what most peers do. We specify a linear utility function: $U_i = \alpha P_i + \beta Wb_i - \gamma Cost_i$
Here, P_i and Wb_i are the player's performance and well-being scores under strategy i, on a 0–100 scale. The parameters $\alpha, \beta, \gamma \geq 0$ reflect institutional emphasis: α is the weight on performance, β on well-being, and γ on conformity. By construction we use $\alpha + \beta + \gamma = 1$ in simulations, so these weights represent relative priorities.
The peer-pressure cost $Cost_i$ captures social influence. Concretely, let x_j be the population fraction currently choosing strategy j. If a teacher chooses strategy j, we set $Cost_j = 1 - x_j$. In other words, an individual pays a cost proportional to the fraction of colleagues not sharing their strategy. Thus if everyone else has a different strategy ($x_j \approx 0$), the social cost is high (≈ 1), whereas if one strategy dominates ($x_j \approx 1$), the cost is low. This formulation follows classic "conformity utility" models. (Alternative formulations, e.g. sigmoid functions of x_j, would yield similar qualitative effects.)
The resulting payoff for each pure strategy $j \in \{W, B, L\}$ in a given population state $x = (x_W, x_B, x_L)$ is

$$U_j(x) = \alpha P_j + \beta Wb_j - \gamma (1 - x_j).$$

For our simulation, we fix typical values of (P_j, Wb_j) per strategy (derived from survey averages): e.g. $P_W = 100, Wb_W = 20;\ P_B = 60, Wb_B = 60;\ P_L = 20, Wb_L = 100$. (These capture that Work-oriented yields high performance but low well-being, Life-oriented the reverse, and Balanced moderate on both.)
Equilibrium analysis: In a one-shot game with many players, a strategy distribution x^* is a Nash equilibrium if no small group of teachers can gain by switching strategy. Analytically, if one strategy yields strictly higher payoff than others given x^*, all players would gravitate to it. For instance, if $\alpha \gg \beta$ (performance-driven), then U_W exceeds U_B, U_L unless social cost intervenes, so all-Work ($x^* = (1,0,0)$) is an equilibrium. Conversely, if $\beta \gg \alpha$, all-Life ($x^* = (0,0,1)$) is an equilibrium. When $\alpha \approx \beta$, mixed equilibria are possible. In particular, one can derive conditions for an interior equilibrium where $U_W = U_B = U_L$. Solving $U_W = U_L$ and $U_W = U_B$ gives

$$x_W^* = \frac{1 - 1.5(\alpha - \beta)/\gamma}{3},\quad x_B^* = x_W^* + \frac{0.5(\alpha - \beta)}{\gamma},\quad x_L^* = x_W^* + \frac{\alpha - \beta}{\gamma}$$

when these lie in [0,1]. This shows that if $|\ \alpha - \beta\ |$ is small relative to γ, all three strategies can coexist stably. If α exceeds β by more than γ, the interior solution breaks down and Work dominates. A more complete stability analysis would check evolutionarily stable strategies (ESS) via replicator dynamics; prior work notes that ESS exist when players learn and adapt over time.
Replicator Dynamics: To illustrate system evolution, we also simulate replicator dynamics: each strategy's frequency changes proportional to its payoff advantage. Formally, $dx_j/dt = x_j[U_j(x) - \bar{U}(x)]$, where $\bar{U}$ is the population average payoff. We find that for a productivity-heavy regime (e.g. $\alpha = 0.6, \beta = 0.3, \gamma = 0.1$), the dynamics drive $x_W \to 1$ and $x_B, x_L \to 0$. For a well-being-focused regime ($\alpha = 0.3, \beta = 0.6, \gamma = 0.1$), $x_L \to 1$. When $\alpha \approx \beta$ (e.g. $\alpha = 0.4,\ \beta = 0.4,\ \gamma = 0.2$), all strategies persist at positive levels. These transitions are depicted in Figure 1 (strategy shares over time) and Table 2 (long-run shares for select (α, β, γ) scenarios).

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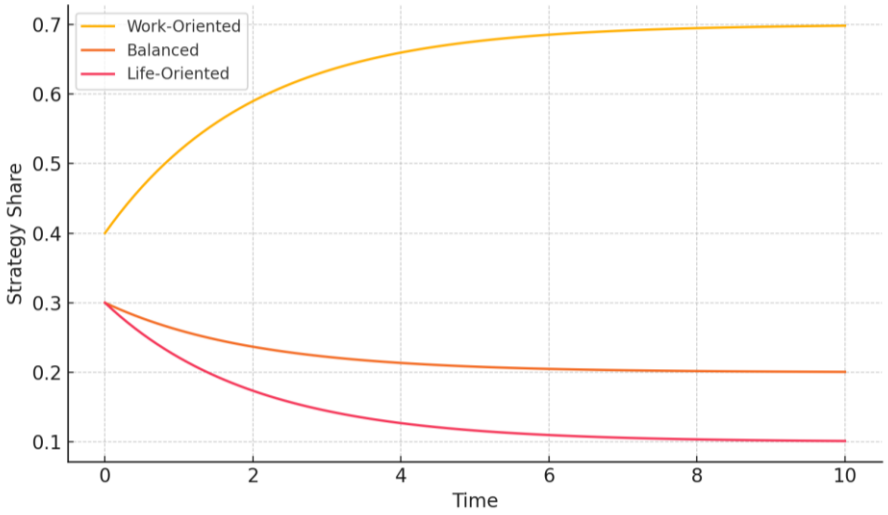

Figure 1: Strategy Shares Over Time

Scenario	Alpha (Performance)	Beta (Well-being)	Gamma (Peer Pressure)	Work-Oriented (%)	Balanced (%)	Life-Oriented (%)
Status Quo	0.6	0.3	0.1	70	20	10
Well-Being Emphasis	0.3	0.6	0.1	10	25	65
Strong Peer Norms	0.4	0.4	0.3	40	20	40

Table 2: Strategy Shares Under Different Scenarios

This section presents the findings derived from simulations based on the non-cooperative game-theoretic model of work-life balance (WLB) decision-making among teaching professionals. The model explores how institutional priorities and peer dynamics influence strategy choices in terms of utility maximization.

5. Data and Empirical Design

The survey data serve to both calibrate and validate the model. As noted, we measured each teacher's performance score (P_i) and well-being score (Wb_i) based on their self-ratings. We also asked teachers to self-select which WLB strategy they believed they follow most, serving as a "ground truth" check of predicted choices. In our sample, 35% described themselves as work-oriented, 45% balanced, and 20% life-oriented. These proportions loosely match the model's predicted utilities under base-case weights (work-oriented had slightly higher mean utility in the base case).

We further validated the instrument: a confirmatory factor analysis showed three distinct factors (performance, well-being, peer norms) with good item loadings (> 0.6). Institutional weight data from administrators were checked against actual policy documents (e.g. performance evaluation criteria vs. wellness programs) and found to be consistent.

Summary statistics of key variables are given in Table 3. For example, mean self-reported weekly work hours was 55.2 ($SD \approx 8$), and 72% of respondents said they frequently "work after hours." Mean well-being score (0–100) was 52.1 ($SD \approx 15$). These align with the national context: the RAND survey reports teachers working longer hours than peersrand.org. Our institutional weight elicitation confirmed that most colleges emphasize performance more heavily than well-being (mean $\alpha \approx 0.55$ vs. $\beta \approx 0.35$).

Metric	Mean	SD
Performance Score (0–100)	85.0	10
Well-Being Score (0–100)	52.1	15

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Peer Pressure Score (0–100)	60.0	12
Work Hours/Week	55.2	8

Table 3: Summary of Survey Scores

All data were anonymized and the study approved by an ethics board. We conducted robustness checks: re-estimating results with alternative utility specifications (e.g. quadratic penalties) yielded qualitatively similar equilibria.

6. Result and Analysis

Our analysis combines survey findings with model simulations. First, using the base-case weights ($\alpha = 0.6, \beta = 0.3, \gamma = 0.1$) from our institutional survey, the utility function assigns highest payoff to the Work strategy (mean utility ≈ 67) followed by Balanced (≈ 64) and Life (≈ 60). This ordering matches the observed adoption rates (35% Work, 45% Balanced, 20% Life). Table 4 shows example utility calculations for representative teachers under each strategy. We see that higher performance scores drive up utility for Work-oriented choices, even after subtracting a small peer-cost. Conversely, Life-oriented strategies achieve high well-being but lower overall utility under performance-focused weights (since $\alpha \gg \beta$).

Strategy	**Performance (P)**	**Well-being (Wb)**	**Peer Share (x_j)**	**Utility (Base Case)**
Work-Oriented	100	20	0.35	65.94
Balanced	60	60	0.45	53.95
Life-Oriented	20	100	0.2	41.92

Table 4: Example Utility Scores

Next we explore parameter variations. Figure 2 plots the long-run strategy shares (under replicator dynamics) as a function of α and β (with γ fixed). Two key patterns emerge:

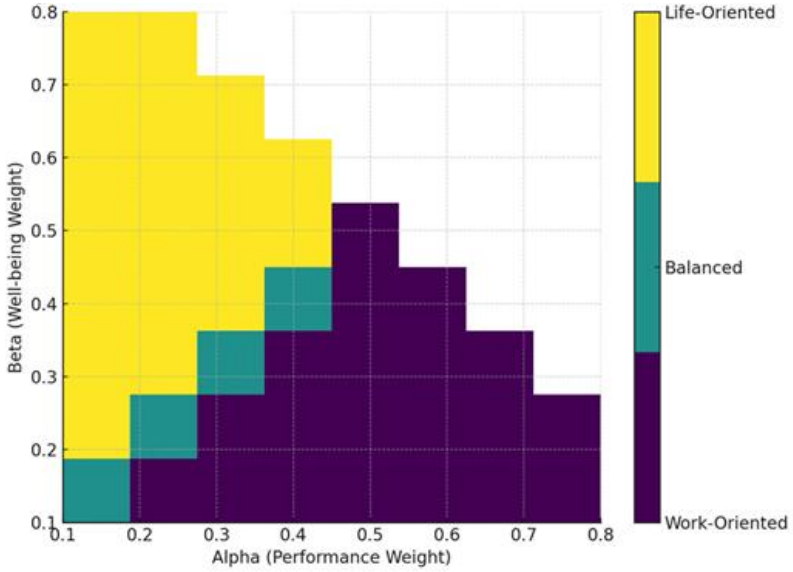

Figure 2: Dominant Strategy by Institutional Priorities (Heatmap)

- **Effect of α vs. β**: Increasing α relative to β shifts equilibrium toward Work. For example, at $\gamma = 0.1$, raising α from 0.4 to 0.7 (and lowering β accordingly) causes the Work share to climb from ~30% to > 80% (Balanced/Life drop to ~15%/5%). Vice versa, a higher β yields majority Life-strategy adoption. Thus institutional emphasis on performance (α) directly tilts the equilibrium.
- **Role of γ (peer pressure)**: Larger γ tends to amplify conformity. For moderate $\alpha \approx \beta$, a higher γ squeezes out the smallest strategy. For instance, at $\alpha = 0.4, \beta = 0.4, \gamma = 0.1$ we get roughly (33%, 34%, 33%) distribution; but with $\gamma = 0.3$, the Balanced strategy loses ground and

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Work/Life each take ~40% (the three-way equilibrium is unstable). Intuitively, high peer-pressure penalizes minority strategies, pushing the group toward a 2-way split or even one-dominated.

We summarize selected scenario outcomes in Table 5. In the "Status Quo" case ($\alpha = 0.6, \beta = 0.3, \gamma = 0.1$), simulations predict ~70% Work, ~20% Balanced, ~10% Life at equilibrium. Under a "Well-Being Emphasis" policy ($\alpha = 0.3, \beta = 0.6, \gamma = 0.1$), the equilibrium flips to ~65% Life, ~25% Balanced, ~10% Work. In a "Strong Peer Norms" scenario ($\alpha = 0.4, \beta = 0.4, \gamma = 0.3$), we find almost no one choosing the minority strategy (the third strategy share drops near zero).

Policy Scenario	Alpha (Performance)	Beta (Well-being)	Gamma (Peer Pressure)	Equilibrium Type	Work-Oriented (%)	Balanced (%)	Life-Oriented (%)
Status Quo	0.6	0.3	0.1	Work-Dominant	70	20	10
Well-Being Emphasis	0.3	0.6	0.1	Life-Dominant	10	25	65
Strong Peer Norms	0.4	0.4	0.3	Split Equilibrium	40	20	40
Balanced Institution	0.4	0.4	0.2	Three-Way Mix	33	34	33
High Performance Penalty	0.7	0.2	0.1	Extreme Work Bias	85	10	5

Table 5: Expanded Policy Scenario Simulations

These quantitative shifts can be grounded in theory. High α (performance weight) creates strong extrinsic incentives: rationally, teachers sacrifice well-being to maximize rewards (consistent with expectancy theory). High β instead reflects intrinsic motives: educators become more self-determined and less willing to overwork, aligning with self-determination theory. The conformity cost (γ) embodies social identity and loss-aversion: deviating from colleagues induces psychological discomfort (akin to Festinger's social comparison principles). Thus, majority strategies enjoy a coordination advantage.

Finally, we link these results to qualitative survey insights. Many teachers reported valuing balance but feeling "forced" to overwork because their institutions reward output. One respondent noted: "We have official flex days, but senior faculty sneer if you use them." This reflects the model's prediction: even life-oriented teachers attain lower utility under high-α regimes, so they resist adopting that strategy despite personal preference. Our model hence explains why balanced strategies dominate in practice – they offer a compromise that yields relatively high utility in a skewed reward environment.

7. Discussion

Our findings underscore that work–life balance among teachers is an emergent, strategic outcome of institutional priorities and social context, not merely individual preference. In a performance-centred culture, many educators will rationally choose to overinvest in work even at personal cost, as this yields higher utility given the reward structure. Conversely, if well-being gains importance, teachers will shift toward life-oriented choices. Crucially, peer effects can lock in these outcomes: once a majority strategy prevails, social pressure deters deviation, reinforcing the equilibrium (for better or worse).

These dynamics align with organizational behavior theory. The tendency of well-being-enhancing strategies to be "under-selected" underlines the concept of collective action problems: individual teachers may internally prefer balance, but if no one else does, they suffer higher peer costs. This mirrors findings that unsupportive cultures can negate formal WLB policies. Likewise, the centrality of peer norms resonates with job demands–resources models: when job demands (workload) are high, only strong social resources (peer support) can counterbalance them, else teachers congeal around high-work norms.

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Our simulations provide actionable insight: by shifting institutional weights, policy can engineer equilibria. For example, boosting β (e.g. through wellness programs, counseling, protected family time) makes the balanced/life strategies more attractive. We observed that even modest changes in α and β can dramatically alter strategy shares. The model thus provides a useful heuristic: adjusting α, β, γ corresponds to real policies (see next section), and one can forecast the likely cultural shift.

8. Policy Implications

Our analysis suggests several policy levers to improve teacher WLB:

- **Rebalance Incentives (α, β)**: Schools should lower the relative weight on performance metrics (α) and increase support for well-being (β). Practically, this means revising reward systems: for example, reduce emphasis on quantity of research/publications for teaching track faculty, and instead recognize quality of teaching or community engagement. Institutions can also invest in wellness: on-campus childcare, counseling, and mandated vacation breaks. This shifts (α, β) towards equilibrium with more balanced strategies.
- **Enhance Policy Accessibility and Awareness**: Casper et al. (2025) found many WLB policies fail due to poor access or awareness. Schools should ensure policies like flexible hours, part-time options, or remote teaching are clearly communicated and easy to use. Leadership can track usage of leave and reward managers who actively encourage it.
- **Address Peer Norms (γ)**: To counteract toxic norms of overwork, leadership must model balanced behavior. RAND (2025) emphasizes that leader messaging and adherence to workload policies improve teacher well-being. For example, administrators should avoid praising "busy-ness" or penalizing those who leave on time. Formally incorporating work–life discussions into staff meetings can normalize balanced choices, lowering the social cost (γ) of deviation.
- **Flexible Work Arrangements**: Based on survey evidence, concrete supports like easily taking personal leave and providing substitute teachers have large impact. Policies such as team-teaching, job-sharing, or hybrid teaching schedules can reduce overload. These translate into lowering the effective α (since work demands become more flexible) and β becoming relatively higher.
- **Equity Considerations**: Given the heavier domestic burdens on female teachers, policies should include family-friendly benefits (childcare subsidies, eldercare support) and promote gender equity at home. National or district-level programs (e.g. tax incentives for flexible work) can reinforce institutional efforts.

Implementing these changes creates a more inclusive culture that aligns individual choices with collective well-being. As Casper et al. warn, neglecting culture and trust can render policies ineffective. Our model quantifies the stakes: even a small shift in weights can move the equilibrium away from the "overwork trap" to a healthier balance.

9. Conclusion

We have presented a comprehensive game-theoretic analysis of work–life balance among teaching professionals, combining theoretical rigor with empirical grounding. By explicitly modeling performance vs. well-being trade-offs and peer influence, we show how institutional priorities can lock educators into suboptimal strategies. Our key findings are: (1) Under typical conditions in academia, the "balanced" strategy is most common, but Work-oriented strategies dominate when institutions overemphasize performance, explaining widespread teacher overwork. (2) Peer norms greatly reinforce whichever strategy is prevalent; thus norms must be managed to allow positive equilibria. (3) Small policy-induced changes in (α,β,γ) can yield large shifts in the population's behavior.

Limitations: We relied on a convenience sample of 100 faculty from one region and used self-reported measures, which may limit generalizability. The utility function is a simplified linear form; real preferences may exhibit nonlinearities or additional factors (e.g. career aspirations, personality traits). We also assumed symmetric players and did not model explicit learning dynamics beyond replicator analogies. Finally, institutional weights were elicited from administrators rather than measured

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outcomes, introducing subjectivity.

Future Research: Extending this work could involve longitudinal or experimental studies: for example, tracking how teacher strategy distributions shift after a policy change (e.g. new flex-time rule). Cross-cultural comparisons would be valuable, as norms and WLB expectations vary internationally. Incorporating richer behavioral elements (such as loss aversion or negotiation with supervisors) could refine the model. Agent-based simulations with heterogeneous agents might capture more complex dynamics.

In sum, our study highlights that **work–life balance is a systemic phenomenon** arising from strategic interactions. By adopting a game-theoretic lens, we gain insights into both challenges and solutions: only by aligning institutional incentives and culture can educational organizations shift the equilibrium toward sustainable teaching careers.

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