

The Acute Effects of Physical Activity on Work-Family Conflict¹

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Abstract

This study explored the acute effects of exercise on the work and family roles of working individuals, and how one can improve relations between them. WFC (Work-Family Conflict) not only affects well-being by increasing body mass index (BMI) and cholesterol levels, but it has also been shown to affect such outcomes as employee intent to turnover, employee withdrawal behaviors, and absenteeism, costing organizations roughly \$300 billion dollars a year.² This research examined how exercise may lead to decreases in individuals' perceptions of WFC, specifically acute effects. The study utilized an exercise intervention consisting of a sample of working adults from the Asheville area. Females from the Asheville, NC area underwent a 45-minute exercise session. The relationship between WFC and exercise was measured by administering surveys before the exercise session and then again immediately afterward. Based on data analysis, results suggest that one session of exercise moderately reduces individual perceptions of WFC. The research contributes to the field of business and management greatly by increasing our health and discovering ways to reduce absenteeism, workplace stress, and turnover, thus improving relations between the work and family roles and improving productivity.

Keywords: Exercise, Acute, Work-Family Conflict

1. Introduction to Work-Family Conflict

With the increase in dual-career couples, single parent households, the number of working mothers with young children, and the decrease in single-earner families, employees are increasingly finding themselves struggling to juggle the conflicting demands of work and family. The likelihood that employees of both genders have considerable household responsibilities in addition to their work responsibilities has drastically increased throughout the years, thus opening a new window for researchers to explore. One of the most studied concepts in the work-family literature is Work-Family Conflict, also called Work-Family Interference. Greenhaus and Beutell define Work-Family Conflict as "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect".³ WFC not only affects well-being by increasing body mass index (BMI) and cholesterol levels, but it has also been shown to affect such outcomes as employee intent to turnover, employee withdrawal behaviors, workplace stress, health care costs, and absenteeism, costing organizations roughly \$300 billion dollars a year.⁴ The importance of the subject has changed over time, narrowing it down to two distinct, though related, concepts, work interference with family (WIF) and family interference with work (FIW).⁵ WIF occurs when work interferes with family life, and FIW occurs when family life interferes with work. Galinsky, Johnson, and Friedman cited a study conducted by the *New York Times* indicating that 83% of working mothers and 72% of working fathers reported experiencing conflict between their job demands and their desire to spend more time with their families.⁶ With the conflict to the employee and the sunk cost for the organization, it is essential to consider the role that exercise may play in the work and family balance.

Research suggests that there are three major forms of work-family conflict: time-based conflict, strain-based

conflict, and behavior-based conflict. Any role characteristic that distresses a person's time involvement, strain, or behavior within a role can produce conflict between distinguished responsibilities. Time devoted to one role makes it difficult to fulfill requirements of another role.⁷ Time pressures associated with dedication to one role may make it physically difficult to comply with the demands and expectations of another role. Pressures may also produce a concern of an individual role while one is attempting to meet the demands of another role. As work demands steadily increase, working individuals are working more hours and spending more time at work and not enough time at home. The inflexibility of the work schedule also creates a work-family conflict in that working individuals do not have control over their schedule.⁸ This battle between splitting one's time creates a conflict between involvements in another activity, thus serving as a main contributor to work-family conflict.

Similarly to how time restraints lead to work-family conflict, strain produced by one role makes it difficult to fulfill requirements of another role. Work stressors can produce strain symptoms such as anxiety, tension, fatigue, depression, apathy, and irritability.⁹ Burke et al. found that the rate of work environment changes, participation in boundary-spanning activities, the level of mental concentration at work, and stress in communications were all related to work-family conflict.¹⁰ Correspondingly, specific patterns of in-role behavior may be incompatible with expectations regarding behavior in another role. For example, the male, managerial stereotype accentuates emotional stability, self-reliance, aggressiveness, and autonomy. However, family members may expect warm and personal interactions. If one is not able to adjust to these expectations of different roles, he or she is likely to experience conflict between the roles.

2. Benefits of Exercise

It is no secret that physical activity is necessary for our physical well-being and health, and the many positive benefits are numerous. Sedentary living doubles the risk of morbidity and mortality from coronary heart disease and stroke.¹¹ Low activity levels also increase obesity, and contribute to diabetes and some cancers. Physical inactivity is a modifiable risk factor for cardiovascular disease and a widening variety of other chronic diseases, including diabetes mellitus, cancer (colon and breast), obesity, hypertension, bone and joint diseases (osteoporosis and osteoarthritis), and depression.¹² Exercise also reduces the risk of premature death, reduces high cholesterol or the risk of developing high cholesterol, lowers the risk of developing and/or dying from heart disease, reduces high blood pressure or the risk of developing high blood pressure, lowers and maintains body weight or body fat, and builds and maintains healthy muscles, bones, and joints.¹³ However, with the increasing knowledge of the health benefits of exercise, people are still falling short of their expected participation in physical activity. A recent study conducted in the United Kingdom established that approximately 70% of men and 80% of women did not engage in the level of exercise recommended for their age group, and roughly 50% of those individuals that begin or renew a program of exercise quit within the first 6 months, regardless of the exercise content.¹⁴

While exercise and physical activity upholds our physical well-being, the psychological benefits are often under looked. The Department of Health (DoH) estimated that in 1994, 80 million working days were lost due to anxiety and depression, costing roughly 5.3 billion dollars.¹⁵ The interactional perspective on stress suggests that stress arises from an imbalance between our perceived capabilities and perceived situational demands.¹⁶ Research indicates that exercise has been shown to provide reductions in state and trait anxiety and stress reactivity on a daily basis, and contribute to the *feeling good effect*.¹⁷ This effect is substantiated by research, suggesting that physical activity affects the way we view ourselves, thus carrying the potential of higher self-esteem and identity change. Similarly, research confirms an association between physical activity and indices of subjective well-being. These studies also support a positive effect on mood for moderate intensity exercise. Furthermore, it has been shown that, physiologically, exercise increases levels of endorphins and elevates body temperature, both of which lead to positive mood changes.¹⁸

3. Effects of Acute Exercise

Research also illustrates that a single bout of exercise is sufficient to reduce transiently depressive symptoms and improve moods acutely.¹⁹ In addition, there is sufficient evidence to suggest that single sessions of exercise can improve mood and sleep quality and that people who are more active are able to rate themselves and their sense of mental well-being more positively.²⁰ Research also suggests ample evidence to support the use of physical activity in reducing trait anxiety over a period of time, and for the anxiety-reducing effects of a single bout of exercise.²¹

Another proposed mechanism for anxiety-reducing effects has been the ‘time-out’ or ‘distraction’ hypothesis. Exercise sessions and programs should provide a distraction from worry and anxiety-inducing thoughts and provide the exerciser with a sense of mastery and achievement.²² This phenomenon is extremely important not only in the manner in which we view ourselves, but in the way we conduct our behavior and progress our work. The acute effects of exercise are prominent in reductions in state anxiety, which therefore reduces perceptions of work-family conflict. By simply increasing physical activity, we can reduce stress and anxiety, enhance work performance, and improve psychological well-being.

Clayton, Thomas, Singh, and Winkel examined the relationship of exercise and work-family conflict and found that exercise is positively related to an individual’s confidence in their ability to manage work-family and family-work conflict, and that exercise has a negative effect on an individual’s perception of his/her strain.²³ They also established that strain is positively related to both time-based and strain-based conflict and found that an individual’s confidence in his/her ability to manage both types of work-family conflict is negatively related to his/her experience with work-family conflict.²⁴ While they found a relationship between exercise and work-family conflict, the results did not, however, confirm whether the effect is “acute” or long term. Exercise scientists have theorized for some time now that an understanding of the acute psychological effects of single bouts of exercise may be useful in producing exercise protocols that enhance long-term exercise adherence.²⁵

Again, due to methodological limitations, Clayton, Thomas, Singh, and Winkel were not able to tell whether the effect of exercise on work-family conflict was acute or long term. Based on prior research, this study proposes that a single (acute) session of exercise can reduce perceptions of WFC. Furthermore, in support of prior research, it is proposed that acute exercise reduces perceptions of stress.

4. The Study

Data for this study are a subset of a larger study funded by the North Carolina Center for Health & Wellness. The study utilized an exercise intervention consisting of a sample of working adults from the Asheville area. Females from the Asheville, NC area who A) work at least 20 hours per week and B) have not regularly exercised during the past four months were recruited via announcements in a local newspaper. Participants underwent a 45-minute Zumba exercise session, which consisted of a dance fitness program that involved dance and aerobic elements. The relationship between stress, WFC, and exercise was measured by administering surveys before the exercise session and then again immediately afterward. These pre- and post-tests of the exercise intervention allowed for the testing of the acute effects of physical activity on WFC. A sample survey question each from WFC and stress are displayed below. Participants responded on a scale from ‘Strongly Agree’ to ‘Strongly Disagree’.

- My work keeps me from my family activities more than I would like
- In the last month, how often have you been upset because of something that happened unexpectedly?

The fifteen females had an average age of 38. Eight of the females were married and eleven did not have children at home. Using a reliable scale to measure the data,²⁶ work-family conflict for time 1 was 0.74 and work-family conflict for time 2 was 0.77. The question before the methodology was whether or not acute exercise has an effect on work-family conflict. To test this, I ran a paired sample t-test to see if there were significant reductions in perceptions of WFC. The difference between means at time 1 and time 2 were marginally significant at $p < .10$ ($p = .097$), thus supporting the hypothesis that exercise does reduce employees’ perceptions of work-family conflict.

A recent meta-analysis found that job stress was the strongest predictor of work-family conflict, and more specifically of WIF,²⁷ so it was appropriate to test for stress as well as work-family conflict. Using the 14-item stress scale,²⁸ stress in the participants for time 1 was 0.76 and stress for time 2 was 0.83. I ran a paired sample t-test to see if there were significant reductions in perceptions of stress and found that the difference between means at time 1 and time 2 were also marginally significant at $p < .10$ ($p = .076$). The following graphs depict the decrease in both work-family conflict and stress after one session of exercise.

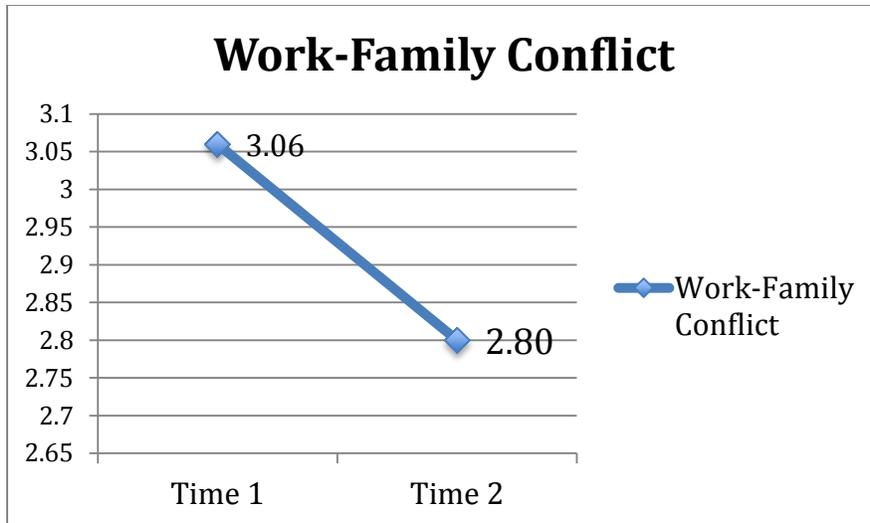


Figure 1. Work-Family Conflict

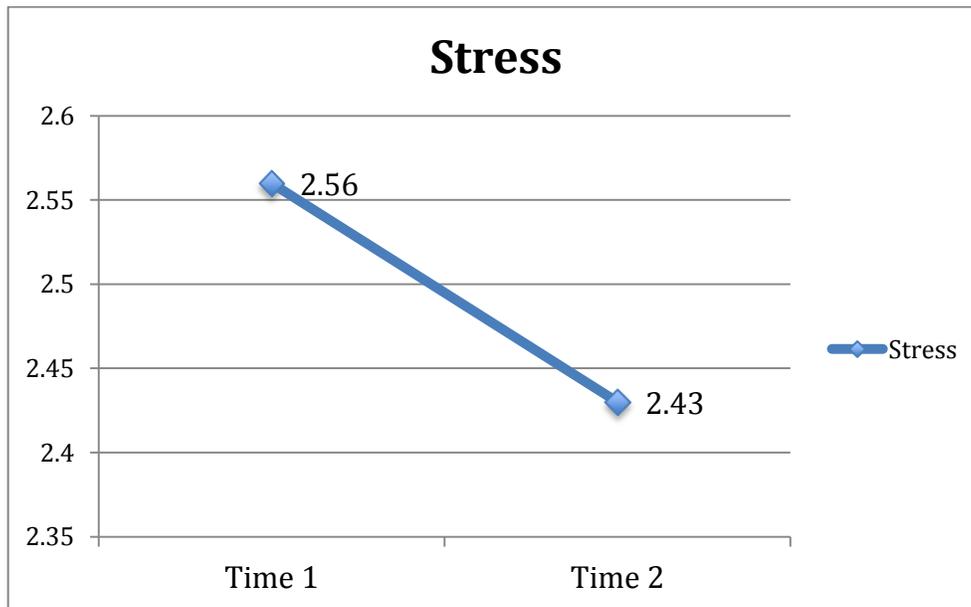


Figure 2. Stress

5. Conclusion

Prior research suggests that exercise is beneficial in many different ways. My study looked at the effects that a single (acute) session of exercise has on an individual's perception of work-family conflict and stress. Using a sample of fifteen women I found evidence that a single session of physical activity reduces perceptions of both work-family conflict and stress immediately after physical activity. This study supports the notion that exercise could be one mechanism used to reduce stress and work-family conflict in working individuals. While there are other ways to reduce stress, anxiety, work-family conflict, and increase the health of employees, this statistical evidence shows that a single (acute) session of exercise plays a role in reducing both work-family conflict and stress.

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