Influence of Aerobic Exercise on State and Trait Anxiety among Working Women in Malaysia: A Qualitative Study

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ABSTRACT: *Exercise is a beneficial and efficient way to improve one's health status. Numerous studies have looked at both the physiological and psychological health benefits of physical exercise, however, studies that examine the relationship between exercise and psychological health, specifically on anxiety, report ambiguous findings. This paper, a qualitative study, diminishes the ambiguity by explaining the relationship between aerobic exercise, trait anxiety, and state anxiety. Four female participants engaged in an aerobics exercise class in Bandar Baru Bangi, Selangor, Malaysia, they were all employed women working within the town. The participants ranged from 25 to 55 years of age, with an average age of 40. It was found that trait anxiety moderated the effect aerobic exercise had on a woman's state anxiety level following aerobic exercise. Women with a higher level of trait anxiety reported a lower level of state anxiety following exercise when they participated in more hours of aerobic exercise per week. On the other hand, aerobic exercise had little effect on state anxiety levels in women with low trait anxiety levels.*
KEY WORDS: *psychological health, state anxiety, trait anxiety, aerobic exercise, and women at work.*

Introduction

Physical exercise produces a wide variety of health benefits. People who are physically active substantially lower their risk for coronary heart disease, cardiovascular disease, hypertension, Type II diabetes, overweight and obesity, osteoporosis, and deterioration of their functional capacity (Vuori, 2000; Waburton, Nicol & Bredin, 2006; and Zoeller Jr., 2008). These health benefits are highly

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predictable, dose-dependent, and generalize to a wide range of population groups (Vuori, 2000).

Aerobic exercise, or endurance exercise, is a subdivision of physical exercise that improves cardiovascular and respiratory health. Additionally, it is generally assumed to increase well-being and reduce negative mood states such as anxiety and depression (Byrne & Byrne, 1993; and Pitsavos *et al.*, 2005). During aerobic exercise, a person rhythmically contracts his large muscle groups to move his body against gravity (Morgan & Goldston, 1987). At the moderate level, a person will produce a slight increase in his breathing and heart rate. At the vigorous level, a person will produce a large increase in his breathing and heart rate.

The amount of exercise required to produce health benefits according to W.L. Haskell (1987) has to do with a dose response relationship. According to this theory, it is necessary to expend approximately 300 calories per exercise session every two to three days at a moderate level of intensity to receive substantial benefits from exercise. Exercise of a lesser dose will provide fewer to no benefits, and exercise of a greater dose will provide additional benefits. The effects that different levels of aerobic exercise have on psychological wellbeing are less clear. The majority of research demonstrates that aerobic activity produces similar psychological effects in people who participate in aerobic activity at either moderate levels, vigorous levels, or moderate and vigorous levels combined (Taylor *et al.*, 2004).

Researchers interested in the effects that aerobic exercise has on psychological wellbeing often study anxiety. Anxiety detracts from one's overall psychological wellbeing and is defined as the surfacing of a negative form of cognition characterized by worry, self-doubt, and apprehension (Landers, 1999). When measuring a person's level of anxiety, one must consider both trait anxiety and state anxiety. State anxiety is dependent on very specific situations and changes on a regular basis. Trait anxiety is independent of specific situations and measures a person's general level of anxiety that persists on a regular basis (Landers, 1999).

Research has focused on how exercise affects levels of state anxiety. Anxiety is generally defined as a psychobiological emotional state or reaction that can be distinguished most clearly from other emotions such as anger or sadness by its experiential qualities. An anxiety state consists of unpleasant feelings of tension, apprehension, nervousness, and worry, and activation of the autonomic nervous system. The physiological manifestations in anxiety generally include increased blood pressure; rapid heart rate (palpitations or tachycardia); sweating; dryness of mouth; nausea; vertigo; irregularities in breathing; muscle tension; and muscular-skeletal disturbances such as restlessness, tremors, and feelings of weakness (Spielberger, 1983).

Anxiety also refers to relatively stable individual differences in anxiety-proneness as a personality trait. People who have high trait anxiety are most likely to perceive stressful situations as being personally dangerous or threatening and to respond to such situations with elevations in state anxiety. The stronger the anxiety trait, the more often the individual has experienced state anxiety in the past, and the

greater the probability that intense elevations in state anxiety will be experienced in threatening situations in the future (Spielberger, 1983).

Findings have reported an overall decrease in state anxiety following moderate and vigorous aerobic exercise (U.S. Department of Health and Services, 1996). However, W.P. Morgan (1987) found a decrease in state anxiety following only vigorous aerobic exercise. On the other hand, A. Steptoe *et al.* (1989) focused on members of the population with high trait anxiety levels and found that this population showed a decrease in anxiety following only a moderate level of aerobic exercise. Other research has shown that moderate, vigorous, and the combination of the two levels of aerobic exercise will result in anxiety reduction following exercise (Taylor *et al.*, 2004). Contrary to all this research, W.P. Morgan (1985) found cases where an individual's anxiety was not reduced following exercise, mainly in those individuals with initially lower levels of anxiety.

Trait anxiety may play a role in the different findings. W.P. Morgan (1987) reported that those individuals who had normal levels of anxiety to begin with did not receive the anxiolytic effects following exercise that those with higher levels of initial anxiety did. It is also evident from Steptoe *et al.*'s (1989) study that people with high trait anxiety receive anxiolytic benefits from aerobic exercising. For this reason I predict that it is a person's trait anxiety that will moderate the effect that his or her level of aerobic exercise will have on state anxiety. To study this assumption it is necessary to study a population where some participants exercised enough to receive psychological benefits from the exercise. G. Firebaugh (1989) has shown that women are significantly more likely to walk, participate in aerobic activity, and participate in aerobic dance compared to men.

Given that trait anxiety should moderate the effect that aerobic exercise has on state anxiety in women, it is predicted that more aerobic exercise should be associated with a reduced state anxiety in women with high trait anxiety. In contrast, aerobic exercise should have very little effect on women with low trait anxiety.

Research Question

Some questions in this research are following: (1) Does aerobic exercise influence trait anxiety moderates the effect that the aerobic exercise has on state anxiety in women?; (2) Does woman with low trait anxiety improve their trait anxiety with aerobic exercise?; (3) Does aerobic exercise influence women's trait anxiety levels?; and (4) Does aerobic exercise influence women's state anxiety levels?

Methodology:
A. Design/Participants

Four (4) female participants engaged in an aerobics class in Bandar Baru Bangi, Selangor, Malaysia. They were all employed mothers working within the town. The participants ranged from 25 to 55 years of age, with an average age of 40. Two of the subjects were single, being Malay and Indian and the other two subjects are

married. Total subjects were two Malay, one Indian and one Chinese. Subjects were categorized as belonging to either professional group or managerial group. The professional group included 2 lecturers, both are master holders. The managerial groups consist of one chief clerk and one assistant manager. The rationale behind such dual-part division of the sample was a potential comparison of women's anxiety level. Subjects were told that they have been selected as part of a qualitative research project and so far their attitude was open without any requirement for confidentiality or anonymity.

B. Data

Interview held immediately following a one hour aerobics class. The phase of data collection pursued in the form of semi-structured interviews. The interview included questions on the participant's demographic background, semi-structured interview question, and an aerobic exercise inventory. Each interview lasted between 45 minutes to one hour. A tape recorder was used with the consensus of the subjects. At the outset, the subjects were approached for personal information such as name, age, job position. The session followed by open ended questions whereby the subjects were allowed and encouraged to express fully their feelings and opinions. There were no difficulties whatsoever during communication or as far as the content of questions was concerned. In between the state anxiety and trait anxiety questions, I included an aerobic exercise question. Participants reported the number of hours of each type of aerobic exercise they participated in, as well as the intensity level of each type of aerobic exercise that they participated in during an average week.

C. Analysis Techniques

After the tape recording and transcribing interviews has been done, the next steps to follow consisted of studying, reducing and analyzing the transcribed text. In approaching this, we have followed the guideline of W.P. Morgan & S.E. Gordon (1987) that the researcher must come to transcripts with an open attitude, without being led by any hypothesis and being focused solely on emerging themes and concepts from the text. I have used three basic steps while reducing and displaying the data interview:

Firstly, I have read and reread the transcribed text and marked and labeled the passages that are of special interest to the research objective. Off course, since this is a semi-structured type of interview whereby the interviewees were addressed mainly through open-ended questions, different participants were focused on different points. Thus, their elaborations offered a wider range with larger scope for potentially interesting themes.

Secondly, I have developed profiles of individual subjects and grouped them in categories that made sense. And thirdly, the marked individual passages were accordingly grouped in these categories. Using the words processing, marked passages throughout all data interviews, were cut and pasted under the corresponding common

labels or categorized data was used to analyzed, interpret and build a narrative based on them by identifying the common emerging themes (Speilberger, 1983).

Findings:
A. Trait Anxiety

Each point represents one of the following four groups: women who participated in fewer hours of exercise with low trait anxiety, women who participated in more hours of exercise with low trait anxiety, women who participated in fewer hours of exercise with high trait anxiety level, and women who participated in more hours of exercise with high trait anxiety. One of my questions asked to know weather subjects have low or high trait anxiety was, "Do you always worry and stressed out about something?", and one of the subject answered: "*Selalu jugak, a lot of things yang merisaukan saya dan every time saya stress, saya akan runsing thinking about the matters and sometime feel like nak berhenti kerja je dan saya selalu sakit kepala*".

The interaction showed that more aerobic exercise reduced state anxiety in women with high trait anxiety. In contrast, aerobic exercise had very little effects on women with low trait anxiety. Subject A responded: "*Best! I felt really good after the workout. Whole body and mine felt fresh and strong. I was so down with a lot of worries about datelines before I start the exercise workout just now*". Women with low trait anxiety reported lower state anxiety following exercise compared to those with high trait anxiety; however, the level of state anxiety between the women was not much different when they participated in more hours of aerobic exercise.

B. State Anxiety

This certainly corresponds with C.D. Spielberger's (1968) theory that stated that in comparison to individuals with low trait-anxiety, individuals with high trait-anxiety would be more likely to perceive situations as threatening, and so respond with a more intense state-anxious reaction. Whereby, repeatedly encountering the same or similar, stressful situations may lead to the development of specific psychological defend mechanisms with the sole purpose of reducing the state-anxiety.

Some personalities are more prone to experiencing anxiety. The Type A characteristic, a sense of urgency, of thinking that any obstacle can be overcome by working harder and longer, works against the ability to develop psychological hardiness. When stressors are encountered, arousal levels increase, and the tendency is to combat them by increasing arousal levels or effort even further. However, at high arousal levels coping responses become more primitive (Taylor *et al.,* 2004). Patterns of response that were learned more recently are the first ones to disappear, which means that the responses that are most finely tuned to the current stressful situation are the first to go. The ability to distinguish between fine-grained stimuli deteriorates, so the extra energy expended by individuals trying to cope becomes less and less effective.

Research has shown that highly stressed individuals find it difficult to learn new responses, to concentrate, to resist from relying on old non-adaptive behavior patterns, and to perform complex responses (Williams & Lord, 1997). Subject A who exercise few hours a week and who have high trait anxiety reflects the behavior patterns when she could felt the influenced of aerobic exercise moderate her state anxiety levels. "*Bertenaga, seronok, gembira dan relax. Saya akan lupa semua resah dan my worries hilang sekejap ... say until the next day. Every time after the exercise program, I rasa more relax even though I have to handle more serious and urgent work by my office compared before I started my workout*".

C. Aerobic Exercise and Anxiety

Anxiety level increases when you first begin to work out. As subject continue to exercise, the anxiety stabilizes. 5 to 30 minutes after they finish exercise, like most people, they will feel less anxious than they were before. Exercise is only a short-term fix for anxiety. The relaxation induced by the exercise lasts for only four hours or so. The anxiety returns to its previous level within 24 hours after a workout. People who are suffering from chronic anxiety, will have to exercise every day to see an effect. If an individual become anxious during the day such as the experience job stress, we should exercise first thing in the morning. On the other hand, those who suffer from insomnia, should exercise in the late afternoon. (Note: Exercising too late in the day may make it difficult for you to fall asleep.)

Studies are inconclusive when looking at whether you need a vigorous exercise to reduce anxiety. Some studies suggest that exercise should be fairly intense, but not exhausting, to best elicit the tranquilizer effect of exercise. Other researchers have found that light exercise, such as walking or swimming, decreases anxiety just as effectively as vigorous jogging does. Exercises such as golf, tennis, handball, biking, and other sports have shown to help people relax. Choose an exercise (the type and the level of exercise) that work best for you. Holistic Online reported that if we suffer from physical symptoms of anxiety such as gastrointestinal problems, sweating, palpitations, pacing back and forth, etc. we are very likely to benefit from physical exercise. On the other hand, if our anxiety is caused by psychological causes such as worrying, difficulty concentrating, or intrusive thoughts, you may find more relief from mental exercises such as meditation, imagery, prayer or other form of mental relaxation.

According to subject A: "*Best! I felt really good after the workout. Whole body and mine felt fresh and strong. I was so down with a lot of worries about datelines before I start the exercise workout just now".* Subject B also supported this view: "*If I did not join the exercise class and at home with my family, I will still thinking of work in the office but with aerobic workout, I can forget for a while and less worries*". Most subjects responded that they felt relax and had lower anxiety level at least after 1 hour of performing aerobic exercise program.

Most of the subjects were able to highlight some of the positive aspects of aerobic exercise influence their anxiety level. Trait anxiety is a personality factor

that predisposes to view competition and social evaluation as more or less threatening. A highly trait-anxious person perceives competition as trait-anxious person does (Warburton, Nicol & Bredin, 2006).

Subject C says: "*I always suffer both my lower and upper back pain but recently … after exercise I didn't feel the pain at least till the next day".* Subject D supported and add that: *"My tense muscle feel relax after the aerobic dancing class workout*".

Anxiety is also multidimensional in the sense that it is believed that there are both cognitive and somatic components to anxiety. Cognitive anxiety is the mental components of anxiety caused by such things as fear of negative social evaluation, fear of failure, and lose of self esteem. Somatic anxiety is the physical component of anxiety and reflects the perception of such physiological responses, increase heart rate, respiration, and muscle tension (Cox, 2002). Both trait and state anxiety are believed to have cognitive and somatic components is referred as multidimensional anxiety theory (Morgan & Goldston, 1987).

I weighted aerobic exercise, assigning high intensity aerobic exercise the most points, followed by moderate exercise with fewer points, and lastly low intensity exercise with the least amount of point The interaction of trait anxiety and moderate aerobic exercise was added to the model. More weighted aerobic exercise reduces state anxiety in women with high trait anxiety. In contrast, weighted aerobic exercise had very little effect on women with low trait anxiety

Concluding Remarks:
A. Discussion

Results indicate that trait anxiety moderates the relationship that aerobic exercise has on state anxiety. Consistent with A. Steptoe *et al.*'s study (1989), we found that women with high levels of trait anxiety report lower state anxieties with more aerobic exercise throughout the week. Furthermore, women with low levels of trait anxiety do not differ in their state anxieties following exercise regardless of the number of hours of exercise they participate in each week. Women with low trait anxiety levels have lower state anxiety levels than those with high trait anxiety levels at any amount of exercise. However, those women who have high trait anxiety levels and aerobically work more hours per week report state anxiety levels closer to those women with low trait anxieties. These results support W.P. Morgan's (1987) findings that those individuals with normal levels of anxiety to begin with do not receive the anxiolytic effects following exercise that those with higher levels of initial anxiety do.

B. Implication of Results

These results explain why there is variation among what researchers have found when studying the effects of exercise on state anxiety. It makes sense that A. Steptoe *et al.* (1989) produced significant results reporting that aerobic exercise did in fact produce anxiolytic benefits because their study only looked at people with high

trait anxiety levels. These results also support W.P. Morgan (1987), who found some cases that did not report any reduction in anxiety following exercise, specifically those cases with lower levels of anxiety in general. Previously, these two studies and many other studies have been thought of as providing a mixed message on the effects of aerobic exercise on state anxiety. With an interaction present, one can make sense of the range of different findings.

Additionally, regular aerobic exercise may be a good therapeutic tool that could be used to reduce anxiety in a stressful situation for women with high levels of trait anxiety. Following exercise, women with high trait anxiety levels who exercise a greater number of hours per week reported state anxiety similar to that of low trait anxiety women. However, like many studies on anxiety and exercise, this study uses a nonclinical population. Consistent with other research (Simons & Birkimer, 1988; and Williams & Lord, 1997), there are indications in this study that there would be greater effects of aerobic exercise in a more disturbed and anxious population, however, because this population was not studied, it cannot be concluded.

C. Limitations of Study & Future Implications

A limitation of this study is its external validity. All women in the study participated in at least 3 hours of aerobic exercise per week. It cannot be determined from this study how or if trait anxiety moderates the relationship that aerobic exercise has on people who participate in no exercise compared to people participating in small amounts of aerobic exercise per week. Future studies must examine this relationship to see whether people with low levels of trait anxiety report lower levels of state anxiety following exercise compared to those who do not exercise at all. One must also realize that although women with low trait anxiety did not receive further benefits in state anxiety relief as they participated in more exercise throughout the week, it does not mean that they will not benefit from exercise in other ways.

Secondly, there are limits in the size and sample of this study. The sample comprised of a non random group of only 4 women. In the future, one can overcome these limitations by taking a larger sample of women at different age, education background and states randomly assigning them to various levels of exercise before measuring their anxiety levels.

It should also be noted that this study was only a qualitative study. One cannot infer that exercise causes a reduction in state anxiety in individuals with high trait anxiety levels. People who participate in exercise may be people who find exercise relaxing, and therefore participate in it. To determine cause and effect, future experimental studies must be conducted in which groups of women are randomly assigned to exercise groups and a control group. Women who do not normally exercise should be included in the sampling population to find out if results persist among non-exercisers as well as exercisers.

Furthermore, the study was done with only women. Whether or not these results will generalize to an entire population of both men and women is unknown; however, aerobic exercise has similar effects on both men and women, and both

men and women experience trait and state anxiety. Therefore, I predict that this interaction could be generalized to the entire population. The study must be replicated using both men and women to see if this is the case. I also predict that the anxiolytic effects after exercising in those with high trait anxiety are not long lasting. Future studies could test state anxiety immediately following aerobic exercise and then do another follow up state anxiety test several hours later to see if the levels have changed.

Additionally, future research needs to investigate the correlation between age and trait anxiety. By definition trait anxiety does not change. However, results indicated that older women tended to have lower levels of trait anxieties than the younger female population. The reasoning behind this correlation should be determined.

Finally, considering the findings in this study, future research should examine how effective aerobic exercise is in reducing anxiety in people with high trait anxiety levels compared to or in conjunction with cognitive behavioral therapy, medications, relaxation training, and other forms of therapy. Aerobic exercise has the potential of becoming an important therapeutic intervention because it is inexpensive and reduces anxiety in people with high trait anxiety levels. However, before comparing aerobic exercise to other forms of treatments for anxiety, one must determine what type and intensity level of aerobic exercise will most effectively reduce anxiety.

In conclusion, this study provides preliminary data that trait anxiety moderates the effect that the aerobic exercise has on state anxiety in women. More aerobic exercise was associated with reduced state anxiety in women with high trait anxiety levels. In contrast, aerobic exercise had very little effect on women with low trait anxiety levels.

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APPENDIX A

Table 1.0.
Raw Data on Trait Anxiety Level

AEROBIC EXERCISE	ANXIETY	MEANING
Few Hours Exercise	Low Trait Anxiety	Personality factor – view social evaluation less threatening
More Hours Exercise	Low Trait Anxiety	Personality factors – In control over situation
Few Hours Exercise	High Trait Anxiety	Personality factor – Debilitative anxiety occurs (Can't cope)
More Hours Exercise	High Trait Anxiety	Facilitative anxiety – In control over situation.

First Interview : Subject A
Date : 1.3.2008
Duration : 45 minutes
Subject : A
Race : Malay
Age : 25
Status : Single
Position : Clerk
Group : Managerial – Few Hours Exercise, High Trait Anxiety, Personality factor – Debilitative anxiety occurs (Can't cope).

Question : Do you worry continually almost every day about both big and small problems, situations, events, and/or activities?
Answer : *I always worry about what people say about me … kadang-kadang tu bila kat office banyak kerja yang boss kasi last minute, mula lah saya resah … bukan apa, takut tak sempat siap dan apa pulak anggapan kawan dan boss pada saya.*
Question : Do you have an intense fear that you will do or say something that will embarrass you in front of other people?
Answer : *Yes, I do. I am afraid and this matters does fear me if I do or say whatever matters that will memalukan saya di depan orang atau kawan-kawan. Saya akan rasa tangan saya berpeluh dan tak sedap hati. Susah la ….*
Question : Do you often worried about things that turn out to be unimportant?
Answer : *Always … by the end of the day, tak ada apa pun perkara yang saya runsingkan itu worth fikirkan sepanjang hari (sambil ketawa kecil).*
Question : Do you always worry stressed out about something?
Answer : *Selalu jugak. A lot of things yang merisaukan saya dan every time saya stress, saya akan runsing thinking about the matters and sometime feel like nak berhenti kerja je dan saya selalu sakit kepala.*
Question : Do you tend to get upset by unpleasant thoughts that come into your mind?
Answer : *Always … bila dah rasa macam tu, saya akan cuba relax kan my mind dengan pergi exercise atau jumpa kawan-kawan.*
Question : Do you feel depressed and easily bothered by things?
Answer : *Well!!!! I will feel down and murung … walaupun cuba nak buat lupa, still bersrang dalam fikiran dan kalau macam tu kerja saya juga terganggu.*
Question : Continue to worry about things after they have already happened?
Answer : *Sure … mana boleh lupa.*
Question : How do you feel right after your aerobic exercise class over?
Answer : *Best! I felt really good after the workout. Whole body and mine felt fresh and strong. I was so down with a lot of worries about datelines before I start the exercise workout just now.*
Question : What feelings did you experience while participating in the aerobic exercise class?

Answer : *Bertenaga, seronok, gembira dan relax. Saya akan lupa semua resah dan my worries hilang sekejap ... say until the next day. Every time after the exercise program, I rasa more relax even though I have to handle more serious and urgent work by my office compared before I stated my workout.*

Question : Did you ever experience the same kind of feelings you had in the class while doing any other activity?

Answer : *Every time after my aerobic workout. Feeling of confidence and satisfied. Lega giler …*

Question : Do you experience unpleasant feeling states such as nervousness and tension after your exercise?

Answer : *Most of the time rasa tension, may be my boss expectation regarding work is high and he is a workaholic person dan suka nak cepat saja.*

Question : What did you gain from participating in this aerobic exercise class?

Answer : *I have many new friends, tapi yang paling terasa setiap kali lepas exercise fikiran saya rasa relax dan gembira. Lupa dah kerja-kerja yang banyak dan hal-hal lain.*

Table 2.0.
Theme on Anxiety Level

ANXIETY	LOW TRAIT ANXIETY	MODERATE AEROBIC EXERCISE
1. TRAIT ANXIETY • Cognitive Anxiety (Psychological Symptoms) - Worrying - Difficulty - Concentrating - Intrusive thoughts • Somatic Anxiety (Physical Symptoms) - Gastrointestinal problems - Sweating - Palpitations - Pacing back. - Upper & lower back pain - Muscle tense - Body Pain		
2. STATE ANXIETY • Cognitive Anxiety (Psychological Symptoms) - Mental confusion - Mental Fatigue • Somatic Anxiety (physical Symptoms) - Clammy Hands - Dry mouth - Increased Respiratory - Need to urinate - Unsettle stomach		

Appendix B:
Aerobic Exercise Inventory

To be aerobic, an exercise must simply be continuous (generally for at least 15-20 minutes), rhythmical and involve the larger muscles of your body.

In the last **THREE** months on average how many hours a week did you participate in the following aerobic activities **regularly**? At what intensity?

Low intensity exercise is exercise equivalent to walking casually.

Moderate aerobic exercise is exercise that uses your large muscle groups and results in SLIGHT INCREASES in breathing. Your heart rate is equivalent to "brisk walking."

Vigorous aerobic exercise is exercise that rhythmically uses large muscle groups and results in LARGE INCREASES in breathing. Your heart rate is equivalent to jogging or running.

1. Brisk Walking/Running/Jogging/Treadmill
How many hours per week at low intensity? _____
How many hours per week at moderate intensity? _____
How many hours per week at vigorous intensity? _____

2. Aerobic Dance/Calisthenics/Floor Exercise
How many hours per week at low intensity? _____
How many hours per week at moderate intensity? _____
How many hours per week at vigorous intensity? _____

3. Cycling
How many hours per week at low intensity? _____
How many hours per week at moderate intensity? _____
How many hours per week at vigorous intensity? _____

4. Vigorous Sports (e.g. racquetball, tennis, soccer, basketball)
How many hours per week at low intensity? _____
How many hours per week at moderate intensity? _____
How many hours per week at vigorous intensity? _____

5. Other
How many hours per week at low intensity? _____
How many hours per week at moderate intensity? _____
How many hours per week at vigorous intensity? _____

Aerobic exercise, or endurance exercise, is a subdivision of physical exercise that improves cardiovascular and respiratory health. Additionally, it is generally assumed to increase well-being and reduce negative mood states such as anxiety and depression.