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INVESTIGATING THE INFLUENCE OF LEISURE-TIME PHYSICAL ACTIVITY ON THE PSYCHOLOGICAL WELL-BEING OF YOUNG ADULTS

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Abstract

This study investigates the complex relationship between leisure-time physical activity and the psychological well-being of young adults living in the Delhi National Capital Region (NCR). Using a sample of 121 people aged 18-40, including 70 females and 51 males, this study used the Godin-Shephard Leisure Time Physical Activity Scale to classify participants as inactive, moderately active, or active. The Ryff Psychological Well-being Scale was used to assess psychological well-being on six dimensions: autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance. A one-way ANOVA showed a significant difference in psychological well-being scores across the three activity groups ($F = 75.11499$, $p < .00001$). Post-hoc Tukey's HSD analysis revealed unique pairwise differences, providing information on the direction and size of these variances. The data consistently showed that individuals in the active category had the highest psychological well-being scores, followed by the moderately active group, and lastly the sedentary group had the lowest scores. It also shows that active people consistently have significantly higher scores in the six dimensions of subjective well-being, namely autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance, when compared to sedentary and moderately active people. This study adds to the existing research by providing a more nuanced knowledge of how leisure-time physical activity affects several variables of psychological well-being among young adults in an urban setting.

Key Words: Leisure-Time Physical Activity, Psychological Well-Being, Physical Exercise, Well-Being, Exercise Psychology, Psychological Impact of Exercise and Physical Activity, Sports and Well-Being

Introduction

Well-Being

Well-being is conceptualize in a variety of ways in different fields (McLellan et al, 2012) In the field of psychology, most researchers agree that well-being indicates optimal psychological functioning and experience in life,(Ryan and Deci, 2001). In general, psychological research on well-being has two philosophical stances: hedonism, which emphasises happiness, and eudaimonism, which emphasises meaning (Ryan and Deci, 2001).

Various theoretical models of well-being have been produced in response to these two philosophical viewpoints.

1. Based on hedonism, Diener (2000) established the concept of subjective well-being (SWB), which refers to an individual's emotive and cognitive assessments of life. They suggested that the experience of happiness and satisfaction with life is universal, even if what causes happiness and satisfaction varies between countries and cultures (Diener et al, 2009).

2. Eudaimonic philosophers, on the other hand, claimed that individuals must have a feeling of meaning and fulfilment in life (Deci and Ryan, 2008). Ryff took this approach and offered a theoretical model of psychological well-being that includes six distinct dimensions of positive functioning: autonomy, environmental mastery, personal growth, life purpose, meaningful relations with others, and self-acceptance. This model was created after conducting extensive research into human behaviour. (Ryff, 1989) It has been used in a significant number of empirical research undertaken in different situations.

Ryff developed the Scales of Psychological Well-being (SPWB), which is composed of six sub-scales in accordance with the six factors of positive functioning: autonomy, environmental mastery, personal growth, purpose in life, positive relations with others, and self-acceptance (Ryff and Keyes, 1995).

1. Autonomy

High Scorer. Makes independent decisions, thinks critically, and judges themself based on personal values. Feels comfortable saying no to social pressures.

Low scorer. Easily swayed by others' opinions, prioritizes external validation, and struggles to make choices without relying on others' judgment.

2. Environmental mastery

High Scorer. Feels in control of their surroundings, manages situations effectively, utilizes available resources, and creates environments that suit their needs.

Low Scorer. Feels powerless to influence their environment, misses opportunities, and struggles to manage everyday situations.

3. Personal growth

High Scorer. Embraces new experiences, sees personal growth over time, and actively seeks opportunities to learn and improve. Feels a sense of self-actualization.

Low Scorer. Feels stagnant and uninterested in new experiences. Sees no personal development and lacks the motivation to learn or change.

4. Positive relations with others

High Scorer. Forges warm, trusting relationships with others. Shows empathy, affection, and prioritizes maintaining healthy connections. Understands the value of compromise in relationships.

Low Scorer. Struggles to build close relationships, finds it difficult to connect with others, and prioritizes personal needs over maintaining bonds. Unwilling to compromise for the sake of relationships.

5. Purpose in life

High Scorer. Has clear goals, a strong sense of direction, and believes their life has meaning and purpose. Has a clear vision for the future with defined aims and objectives.

Low Scorer. Feels lost and without a purpose. Lacks goals or direction and struggles to find meaning in their life.

6. Self-acceptance

High Scorer. Maintains a positive self-image, accepts all aspects of themself (both strengths and weaknesses), and feels good about their past experiences.

Low Scorer. Feels disappointed with themself and their past. Dwells on flaws and imperfections, wishing to be someone different.

(Ryffand Keyes, 1995)

Leisure Time Physical Activity

Leisure time physical activity encompasses all physical activity-related behaviours that people engage in when they have free time to themselves. As a result, it differs from physical activity that is performed in the context of a job or daily life. The distinction between leisure and everyday activities, in particular, is blurred due to their situational and subjective nature. Sport and exercise are the most important types of leisure-time physical activity since they are consciously aimed at improving physical fitness. (Steinbach and Graf, 2008)

Describing the same problem from the opposite perspective, sedentariness is a concept or term which refers to a physically inactive lifestyle. It is embedded in social and mental behavioral patterns and caused by current developments in the work and leisure sector of our societies (Brettschneider and Naul, 2004).

Leisure-time physical activity (LTPA) is a critical subtype of physical activity (PA) for research and behaviour change interventions (Amireault et al, 2015). Physical activity is defined as "any bodily movement produced by skeletal muscles that results in energy expenditure" (Caspersen and Powell K, 1985), whereas Leisure-Time Physical Activity refers to any "activity undertaken in the individual's discretionary time that increases total energy expenditure" (Bouchard, Blair, and Haskell, 2007). Leisure-Time Physical Activity is more likely to be volitional and performed at a higher intensity than household, occupational, and commuting Physical Activity (Church et al, 2011) (Troiano et al, 2012), which may provide greater fitness- and health-related benefits (Jacobs et al,1983) (Mishra et al, 2012). Furthermore, Leisure-Time Physical Activity, which includes exercise training (Bouchard, Blair, & Haskell, 2007), is both safe and beneficial to physical and mental health. (Fong et al. 2012).

Interplay Between Leisure-Time Physical Activity and Psychological Well-being

The independent variable, leisure-time physical exercise, serves as a focal point for examining the diverse range of activities individuals engage in during their leisure hours.Godin-Shephard Leisure Time Physical Activity Scale, renowned for its reliability and specificity in capturing various dimensions of physical activity, provides a comprehensive framework for assessing the frequency and intensity of leisure-time

exercise. Understanding the patterns and levels of physical activity becomes crucial in discerning its potential influence on psychological well-being.

On the other hand, the dependent variable, psychological well-being, is assessed through Ryff's widely recognized Psychological Well-being Scale. This multidimensional instrument delves into key aspects of well-being, including autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The utilization of Ryff's scale allows for a nuanced exploration of the intricate facets of psychological well-being, offering insights into the holistic nature of mental health.

By combining these established measurement tools, this research aims to unravel the intricate dynamics between leisure-time physical exercise and psychological well-being among adults. Through rigorous analysis and interpretation of the collected data, we seek to contribute valuable insights that can inform both individual well-being practices and broader public health initiatives. As we embark on this journey, the findings are poised to enrich our understand ding of the reciprocal relationship between physical activity and mental well-being, ultimately fostering a more holistic approach to health promotion and enhancement.

The necessity of the present study arises from a critical gap in the existing research landscape concerning the influence of leisure-time physical exercise on the psychological well-being of adults, particularly within the unique context of Delhi NCR. Despite the growing awareness of mental health issues and the escalating importance of physical activity in fostering well-being, a significant dearth of comprehensive studies specifically targeting the adult population in this urban region persists. This research addresses this void by focusing on a population aged 18 to 60 in Delhi NCR, where the interplay of urban dynamics, cultural nuances, and diverse lifestyles creates a distinct context that demands dedicated exploration.

While numerous studies globally have explored the relationship between physical exercise and psychological well-being, the majority lack specificity concerning the challenges and opportunities inherent in urban Indian settings, and particularly in India. This study aims to bridge this gap by contextualizing the findings within the intricate fabric of Delhi NCR's urban milieu. The urban lifestyle in this region is characterized by a unique set of stressors, ranging from intense professional demands and long commutes to the coexistence of traditional and modern societal expectations. As such, the extrapolation of results from studies conducted in different contexts may not accurately capture the complexities of the mental health landscape in urban Indian society.

Furthermore, a comprehensive review of existing literature reveals a conspicuous absence of recent studies specifically examining the influence of leisure-time physical exercise on psychological well-being in the adult population of India. This gap in research is particularly pronounced when considering the multifaceted nature of psychological well-being, encompassing dimensions such as autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. By honing in on this specific demographic within a unique urban setting, this study seeks to provide a nuanced understanding that extends beyond generalizations and contributes valuable insights into the intricate relationship between leisure-time physical exercise and psychological well-being.

Review of Literature

Singh et al. (2022) conducted a study centered on the impact of aerobic exercise on the mental health of young individuals in India. Their research highlights the significant potential of aerobic exercise therapies in alleviating symptoms of anxiety and depression within this demographic. By emphasizing the efficacy of particular forms of physical activity, such as aerobic exercises, the study underscores the importance of integrating targeted exercise interventions into mental health treatment regimens. These findings contribute valuable insights into addressing mental health challenges among young Indian individuals and advocate for the incorporation of exercise-based strategies alongside traditional therapeutic approaches. Moreover, the study reinforces the growing body of evidence supporting the positive relationship between physical activity and mental well-being, particularly in culturally diverse populations like India.

Chadwick and Taylor (2020) explored the interplay among physical exercise, social connectivity, and mental health in young individuals. Their research revealed that participation in group exercise programs or team sports facilitates social interaction and fosters a sense of belonging, particularly beneficial for young adults navigating social pressures, seeking new connections, or experiencing isolation. The study emphasized that regular involvement in social activities can mitigate feelings of loneliness and isolation, factors strongly associated with anxiety and depression. Physical activity-based social support networks were found to cultivate a communal atmosphere, acceptance, and collective objectives, ultimately contributing to improved mental well-being among young adults. These findings underscore the significance of integrating social components into physical activity initiatives, highlighting the potential for holistic approaches to mental health promotion among this demographic.

James et al. (2020) delved into the correlation between physical exercise and mental health within the wider adult demographic in India, encompassing young adults. Their investigation revealed a positive association, suggesting that engaging in physical activity could enhance mental well-being and mitigate feelings of despair and anxiety. This study adds to our understanding of the advantages of physical activity for mental health across various age cohorts in India. By highlighting the beneficial relationship between exercise and psychological well-being in the Indian adult population, including younger individuals, this research underscores the importance of promoting physical activity as a key component of mental health interventions in diverse cultural contexts. Such insights contribute to the development of comprehensive strategies aimed at fostering mental wellness throughout different stages of adulthood in the Indian populace.

Loprinzi et al. (2019) undertook a comprehensive systematic review examining the impact of exercise on cognitive function and mental health among young adults. Their analysis highlighted exercise's capacity to enhance cognitive performance, alleviate stress, and elevate mood, suggesting its multifaceted benefits for overall health in this demographic. These findings are particularly relevant in light of the academic demands and social stressors often faced by young adults. Engaging in physical activity offers a means to effectively manage stress, enhance focus and cognitive abilities, thereby potentially fostering academic success and bolstering overall well-being. By emphasizing the positive effects of exercise on cognitive function and mental health, this study advocates for the incorporation of regular physical activity as a vital component of young adults' lifestyle and wellness practices.

Soler-Cataluna et al. (2019) explored the relationship between physical activity and body image among adolescents and young adults, revealing a significant correlation. Their research indicated that regular physical activity was associated with more positive body image perceptions and heightened self-esteem. This finding holds particular importance in light of the societal pressures surrounding body appearance often experienced by young adults. Engaging in physical activity offers a sense of achievement, enhances physical confidence, and redirects focus from appearance to overall health and well-being. This shift in perspective enables young adults to cultivate a more positive and realistic body image, consequently bolstering self-esteem. By highlighting the positive impact of physical activity on body image and self-esteem, this study underscores the potential of exercise as a holistic approach to promoting psychological well-being among adolescents and young adults.

Buckley et al. (2018) investigated the variables affecting young people's motivation for physical activity. Their results emphasise the value of enjoyment, social support, and realistic goal-setting in encouraging participants to stick to physical activity regimens. Maintaining motivation requires finding engaging and enjoyable activities. While setting reasonable and achievable goals generates a sense of success and keeps young adults on track, group activities can offer social support and responsibility. Young adults can overcome early obstacles and incorporate physical exercise into their life for long-term health and well-

being by finding activities they enjoy, making use of social support networks, and setting realistic objectives.

Castelli et al. (2018) looked at the connection between kids' and teens' physical activity levels and cognitive abilities. Their study concentrated on a younger age range, but the results point to a possible correlation between physical activity and cognitive function that may be beneficial for young people' academic success. Frequent exercise improves cognitive processing speed, focus, concentration, and memory. Young adults who are able to learn and remember information more efficiently may perform better academically as a result. Furthermore, the benefits of physical activity in reducing stress can also help with better sleep, which is essential for scholastic success and cognitive function.

Martinsen et al. (2018) conducted a comprehensive review, analyzing data from numerous studies involving university students.A consistent trend emerged from their analysis: people who engaged in more physical exercise during their leisure time reported better psychological well-being, including lower levels of stress. According to this research, young people' mental health can be considerably enhanced by adding physical activity to their daily routines outside of team sports or organised gym sessions. This emphasises the possibility of encouraging recreational physical activities as accessible and useful means of improving the general health of young adults, such as dance, hiking, or group fitness programmes.

Salmon et al. (2018) investigated the mediating influence of sleep on the association between physical activity and mental health. Their review suggested that physical activity could contribute to improved mental well-being by promoting higher-quality sleep. This underscores the importance of considering sleep as a potential mechanism through which physical activity impacts mental health, thereby highlighting the intricate interplay among sleep, physical activity, and mental health in young adults. By emphasizing the interconnectedness of these factors, the study underscores the relevance of comprehensive approaches that address sleep habits alongside physical activity interventions in promoting mental health among young adults. Understanding the relationship between physical activity, sleep, and mental health offers valuable insights for developing effective strategies aimed at enhancing overall well-being in this demographic.Singh et al. (2018) investigated the connection between Indian university students' levels of physical activity and their mental health. According to their review, there is a favourable correlation between reduced stress, anxiety, and depression and increased levels of activity. This highlights how encouraging physical activity on college campuses might benefit students' mental health.

Chandrasekaran et al. (2017) centered their research on yoga, a widely practiced physical activity in India, and its effects on mental health. Their review highlighted yoga's potential as a beneficial tool for reducing stress, anxiety, and depression, offering young adults a culturally relevant avenue for promoting mental well-being. By emphasizing the therapeutic benefits of yoga practice, the study underscores its role as a culturally appropriate intervention for addressing mental health concerns among young adults in India. Yoga's holistic approach, incorporating physical postures, breathing techniques, and mindfulness practices, aligns with cultural norms and traditions, making it accessible and appealing to individuals seeking mental health support. Understanding the role of yoga in mental health promotion provides valuable insights for developing culturally sensitive interventions tailored to the needs of young adults in diverse cultural contexts like India.

Hernadez et al (2017) conducted a research on Psychological Well-Being, Personality, and Physical Activity. This study employs self-efficacy indicators, a perseverance questionnaire, and Ryff's Scale of Psychological Well-Being—all specifically designed for the Spanish population—to examine the subjective well-being judgements of adults (N = 482) between the ages of 24 and 46. The study's conclusions show a significant positive relationship between people's orientation towards and perceptions of their physical activity and their reported psychological well-being indexes. This association highlights the inherent relationship that exists between an individual's approach to physical activity and their psychological well-being. The study emphasises how critical it is to acknowledge physical activity as a cornerstone for

promoting psychological well-being and good behaviours in adulthood, in addition to being a way to preserve physical health.These findings highlight the need of educational initiatives meant to communicate the significant influence of physical activity on mental health. Through highlighting this connection, educational programmes can be crucial in fostering a positive outlook on physical activity, supporting its incorporation into everyday routines, and eventually supporting a more comprehensive approach to adult well-being.

Kim et al (2017) conducted an analysis on Maintaining Healthy Behaviour: a Prospective Study of Psychological Well-Being and Physical Activity.The purpose of this study was to determine if older individuals' longer-term levels of physical activity are predicted by greater baseline psychological well-being. The prospective data, which represented a nationally representative sample of English people 50 years of age and older, were obtained from the English Longitudinal Study of Ageing. 9986 adults in the study were evaluated up to six times over an average of eleven years. Each standard deviation improvement in baseline psychological well-being was linked to a greater median physical activity level after controlling for sociodemographic variables. The study found that over an 11-year period, reaching and maintaining higher levels of physical activity are independently correlated with psychological well-being. This implies that tar interventions. Obtaining psychological well-being may be helpful in motivating senior citizens to take up and maintain more physical activity.

Sharma et al. (2017) conducted a study examining the relationship between leisure-time physical activity and depressive symptoms among young adults in Kangra District, Himachal Pradesh, India. Their research unveiled a robust correlation between engaging in less than four hours of physical exercise per week and experiencing lower depression scores. These findings suggest that participating in physical activity may act as a protective factor against depression in this population. By highlighting the significance of leisure-time physical activity in mitigating depressive symptoms among young adults, particularly in a specific region like Kangra District, the study underscores the potential benefits of promoting regular exercise as part of mental health interventions in this demographic. Understanding the association between physical activity and depression offers valuable insights for developing targeted strategies aimed at enhancing mental well-being among young adults in diverse geographical and cultural contexts.

Hayes and Ross (2016) studied Body and Mind: The Effect of Exercise, Overweight, and Physical Health on Psychological Well-Being. This study examined the relationship between three physical attributes—physical health, exercise, and overweight—and psychological well-being from two angles: the internal processes perspective, which contends that psychological well-being is influenced by internal processes rather than external reactions, and the social evaluation perspective, which holds that social meaning and subsequent evaluation by others influence well-being. The study discovered that while being overweight was not linked to past psychological well-being, physical fitness and health were positively associated with it. Interestingly, the effects of physical health on psychological well-being were considerable, while being overweight did not significantly affect psychological well-being, regardless of gender, age, education, income, marital status, or religion. Physical exercise did, however, depend on prior psychological well-being; in low- and middle-class groups, the effect was largest, while in high-income groups, it was least. The results were presented in the context of the social assessment and internal processes perspectives, elucidating the complex interplay between internal and exterior mediation—through biological, psychological, and social processes—between the body's influence on the mind. This research advances our understanding of the intricate relationship between an individual's physical attributes and their psychological history.

Kumar et al. (2015) highlighted the increasing acknowledgment of physical activity's significance in promoting mental health and preventing illness in India. Their review underscored the crucial role of cultural context in shaping effective interventions. They cautioned against the notion of "one size fits all" strategies, emphasizing that approaches to physical activity treatments must be tailored to meet the cultural needs of Indian communities, particularly young adults. Recognizing the influence of cultural preferences and

conventions on individuals' participation in physical activity, the study advocated for adapting therapies to align with these preferences. By doing so, there is potential to increase engagement and ultimately enhance the mental health of young adults in India over the long term. This realization underscores the importance of culturally sensitive approaches in addressing mental health challenges and underscores the significance of incorporating cultural considerations into public health interventions aimed at promoting physical activity and well-being among young adults in India.

Weyerer and Kupfer (2012) examined Physical Exercise and Psychological Health. Low-intensity exercises may be quite beneficial for persons who are just beginning to exercise, especially the elderly, the very unfit, or those with mental health concerns, as they can improve psychological well-being. Numerous studies have shown that moderate-to low-intensity exercise is good for mental health. Two particular research have demonstrated that aerobic exercise plus treatment is more beneficial than counselling alone for treating depressive diseases. Cross-sectional community studies support these findings by demonstrating a significantly higher risk of depression among physically inactive individuals compared to those who regularly exercise, even after adjusting for potential sociodemographic and health-related confounding variables. However, at this time, there is conflicting data from long-term field studies about the predictive significance of physical exercise on the severity of depressive symptoms. Numerous biological and psychological theories have been put out to explain the relationship between exercise and mental well-being. Nevertheless, an integrated theoretical paradigm to fully explain this connection is still lacking. In conclusion, low-intensity exercise appears to be a viable option for improving psychological health, especially for people who are just beginning an exercise regimen.

Edward (2006) conducted are search on Physical Exercise and Psychological Well-being. Based on a public health paradigm of mental health promotion, this study investigates the relationship between regular physical activity and psychological well-being over a two- to six-month period. Placing psychological well-being within the positive dimension of mental health, physical exercise is seen as a subset of activities that are intended to improve general health and well-being. Utilising a thorough Well-being Profile, the study was conducted among 26 individuals who regularly exercised at health clubs in the Richards Bay area of South Africa. Important elements of this profile included mood, way of life, contentment with life, coherence, resilience, stress management, coping mechanisms, and a general well-being score.The operational definition of regular exercise was satisfying the requirement of participating in physical activity for at least thirty minutes each day, three times a week. Regular exercise was found to be significantly associated with improvements in the overall well-being score, especially in the areas of mood, feeling of coherence, fortitude, stress management, and coping mechanisms. These results have implications for public health promotion in general, and mental health improvement in particular. The study highlights the potential role that regular exercise may play in public health programmes while providing insightful information about the beneficial effects of exercise on several aspects of psychological well-being.

Edwards et al. (2005) explored the relationship between physical activity, psychological well-being and physical self-perception in different exercise group.In light of the well accepted benefits of exercise, sports, and physical activity for health promotion, the study's objective was to compare the subjective well-being and self-perception of participants in various activities with those of a control group who did not exercise. Running (mostly aerobic exercise), hockey (a team sport) , and health club workouts (mainly resistance training) were among the chosen physical activities. The main conclusions showed that, in comparison to non-exercisers, people who regularly engaged in physical activity felt they had more autonomy, personal development, environmental mastery, a purpose in life, positive relationships with others, self-acceptance, sport competence, and conditioning. Additionally, compared to their non-exercising counterparts, frequent exercisers placed a higher value on strength, conditioning, sport, and physical appearance.Interestingly, compared to runners and members of health clubs, hockey players reported higher levels of sport competence and favourable interpersonal relationships. These results offer insightful information about the beneficial psychological effects of engaging in regular physical activity of all kinds, with a focus on

enhanced wellbeing and self-perception. The differences between different activities that have been noticed, especially the special advantages that hockey players have mentioned, point to complex consequences for sport and health psychology studies and treatments. Overall, the study emphasises how important a variety of physical activities are for fostering both mental and physical health.

Hassmén, Koivula, and Uutela (2002) conducted a population study in Finland to investigate the relationship between physical exercise and psychological well-being. Acknowledging the beneficial physiological impacts of consistent physical activity and the growing knowledge of its possible psychological advantages, the research set out to investigate this correlation using a sizable population-based sample. 3403 people in all, ages 25 to 64, who took part in the Finnish cardiovascular risk factor survey were included in the study: 1547 men and 1856 women. The Beck Depression Inventory, the State-Trait Anger Scale, the Cynical Distrust Scale, and the Sense of Coherence inventory were among the psychological tests used in the study. Other questionnaires covering exercise habits, perceived health and fitness, and psychological assessments were also used. According to the cross-sectional results, people who exercised two or three times a week or more reported much lower levels of stress, anger, cynical distrust, and melancholy than people who exercised less or never. Regular exercisers also thought better of their fitness and health. In addition, compared to those who exercised less frequently, individuals who exercised at least twice a week showed better degrees of coherence and a stronger sense of social integration. This study demonstrates a consistent relationship across multiple measures between increased psychological well-being and frequent physical activity. The findings highlight the possible psychological advantages of sticking to a regular exercise schedule and offer insightful new information on the relationship between physical activity and mental health.

Craft & Landers (2000) explored the use of exercise as a stress management strategy in healthy adults. According to their findings, engaging in physical activity can help lessen the symptoms of stress and anxiety. Exercise has the ability to divert attention from everyday pressures and is known to cause the production of endorphins, which have a positive impact on mood. Certain physical exercises have a contemplative quality to them that encourages mindfulness and relaxation. Young adults can enhance their emotional well-being by integrating physical activity into their daily routines and learning good coping strategies for handling stress.

Fox (1999) conducted a study on “The influence of physical activity on mental well-being”. This study challenges the customary focus on physical well-being by providing a comprehensive examination of the changing link between exercise and mental health. of the last fifteen years, there has been a rise of research that has broadened the discussion and highlighted the effects of exercise on mental health issues and general wellbeing. The results of multiple studies and more than thirty thorough evaluations are combined in this meta-analysis to provide new insight into the role of exercise as a significant therapeutic intervention for clinical depression and an efficient anxiety modulator.The study emphasises how public health narratives need to be reshaped to include exercise's critical role in fostering mental wellness. This study is noteworthy because it demonstrates that regular, moderate exercise is beneficial in treating depression, lowering anxiety, and raising self-esteem. Furthermore, it emphasises how aerobic and resistance training improve mood and, to a lesser extent, cognitive performance in older persons. Most importantly, the study confirms that exercise addiction is uncommon and allays worries about it. This thorough analysis supports the inclusion of exercise in public health initiatives by giving academics and decision-makers a basis upon which to examine the various ways that exercise improves mental health in a variety of demographics.

McAuley and Rudolph (1995) reviewed Physical Activity, Ageing and Psychological Well-Being. This thorough analysis explores the effects of physical activity and exercise on older individuals' psychological health, with a particular emphasis on positive psychosocial outcomes. Unlike previous research, this study carefully considers the positive elements of the association between physical activity and psychological health, accounting for factors including programme duration, subject sex, age, physical fitness, and assessment techniques. Based on an analysis of 38 reviewed studies, the vast majority of them indicate a

favourable and beneficial relationship between physical activity and psychological well-being. Interestingly, the research shows that the length of training regimens matters, with longer regimens generally producing better results. It's interesting to note that there is little evidence to support differing psychological impacts according to age or gender. This research shows that whereas training methods lead to notable gains in physical fitness and well-being, there is no clear relationship between these changes. The report offers some intriguing paths for future research in this area and wraps up with a brief discussion of possible mechanisms impacting the link between physical activity and psychological health.

Norris, Carroll and Cochrane (1992) analysed The effects of physical activity and exercise training on psychological stress and well-being in an adolescent population. A study with 147 participants was carried out to look into how physical activity affects adolescents' psychological well-being. Teenagers filled out questionnaires about their well-being, psychological stress, and physical activity. Higher levels of physical activity are significantly correlated with lower levels of stress and depression, according to the findings. Additionally, teenagers who experienced more life events also shown a strong link between stress and aggression, sadness, and anxiety. Adolescents were divided into three groups to examine the effects of exercise training on psychological health: high- or moderate-intensity aerobic training, flexibility training, or a control group. These training sessions lasted 25–30 minutes each, and they took place twice a week. Before and after a 10-week training period, measurements were made of aerobic fitness levels, heart rate, blood pressure, and self-reported stress and well-being. High-intensity aerobic exercise is successful, as demonstrated by post-training fitness measurements; group differences were noted for some physiological and psychological markers. Compared to the other three groups, the subjects who engaged in high-intensity exercise reported far reduced levels of stress. Furthermore, at the conclusion of the training period, there was a noticeable weakening of the link between stress and anxiety, despair, or hostility for the high-intensity group. On the other hand, this association was, if anything, enhanced for the other subjects. The results of this investigation offer strong evidence that high-intensity aerobic exercise improves the well-being of adolescents.

Rationale

The rationale for conducting this research is underscored by the imperative to address a noticeable research gap in the existing literature, particularly in the context of the chosen demographic of young adults in the urban landscape of Delhi NCR. Despite the increasing acknowledgment of the impact of lifestyle factors on mental health, there exists a scarcity of recent studies specifically examining the relationship between leisure time physical exercise and psychological well-being in this demographic within the chosen geographical context.

The contemporary urban lifestyle, characterized by its fast-paced nature and high stress levels, raises significant concerns about the potential consequences for the psychological well-being of young adults. However, a review of recent literature reveals a paucity of studies that specifically focus on this age group in the context of Delhi NCR. This research seeks to fill this void by providing up-to-date insights into how leisure time physical exercise influences various dimensions of psychological well-being among young adults in this specific urban setting.

By adopting a structured approach through Godin-Shephard Leisure Time Physical Activity Scaleand Ryff's Psychological Well-being Scale, the study aims to contribute nuanced and relevant findings that can inform interventions tailored to the unique needs of the chosen demographic. Understanding the dynamics of physical activity and its impact on psychological well-being in the rapidly evolving urban environment is crucial for both academic knowledge and practical applications.

Therefore, the rationale extends beyond the exploration of a fundamental relationship between physical exercise and mental health. It encompasses the need to address the dearth of recent research in this field, particularly within the chosen demographic and geographical context. Through this research, we aim to

contribute valuable insights that can guide future studies, interventions, and policies focused on promoting mental well-being among young adults in the dynamic urban landscape of Delhi NCR.

Methodology

Aim

The aim of the research is to assess the influence of leisure time physical exercise on the psychological well-being of young adults in the Delhi NCR region, with a specific focus on exploring the impact across six dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance, using Godin-Shephard Leisure Time Physical Activity Scale and Ryff's Psychological Well-being Scale.

Sample

The research focused on a diverse sample of 121 individuals aged between 18 to 40, residing in Delhi National Capital Region (NCR). The sample included 70 females and 51 males. The sampling method employed for this study was convenience sampling, chosen for its practicality and efficiency in gathering a diverse yet accessible group of participants from the targeted age group and geographical location. This approach facilitated the recruitment of individuals based on their availability and willingness to participate, allowing for a broad representation of the young adult population in Delhi NCR.

Research Design

This study employs a correlational research design applying cross-sectional method to investigate the relationship between leisure-time physical exercise and psychological well-being among adults aged 18 to 60 in Delhi NCR, India. The correlational design is chosen to explore the association between these variables.

Statistical Analysis

The primary statistical method utilized is Analysis of Variance (ANOVA). ANOVA is employed to discern whether there are significant differences in the means of psychological well-being scores among the distinct activity groups. Following the ANOVA, post-hoc Tukey's Honestly Significant Difference (HSD) tests were conducted. These post-hoc tests are crucial for identifying specific group differences after the determination of an overall significant result from ANOVA. In this study, the combination of ANOVA and Tukey's HSD tests enhances the depth of the statistical analysis, providing a comprehensive understanding of the relationships between leisure time physical exercise and psychological well-being in the study population.

Objectives

1. To assess and compare psychological well-being scores among individuals with varying levels of leisure-time physical activity.

2. To investigate whether active individuals exhibit significantly higher psychological well-being scores compared to sedentary and moderately active individuals.

3. To assess and compare autonomy scores among individuals in the active, moderately active, and sedentary groups.

4. To investigate whether active individuals exhibit significantly higher autonomy scores compared to sedentary and moderately active individuals.

5. To assess and compare differences in environmental mastery scores among individuals in the active, moderately active, and sedentary groups.

6. To investigate whether active individuals exhibit significantly higher environmental mastery scores compared to sedentary and moderately active individuals.

7. To assess and compare personal growth scores across the active, moderately active, and sedentary groups.

8. To investigate whether active individuals exhibit significantly higher personal growth scores compared to sedentary and moderately active individuals.

9. To assess and compare positive relations with others scores among individuals in the active, moderately active, and sedentary groups.

10. To investigate whether active individuals exhibit significantly higher positive relations with others scores compared to sedentary and moderately active individuals.

11. To assess and compare purpose in life scores among individuals in the active, moderately active, and sedentary groups.

12. To investigate whether active individuals exhibit significantly higher purpose in life scores compared to sedentary and moderately active individuals.

13. To assess and contrast self-acceptance scores among individuals in the active, moderately active, and sedentary groups.

14. To investigate whether active individuals exhibit significantly higher self-acceptance scores compared to sedentary and moderately active individuals.

Hypothesis

H1 - There will be a significant difference in psychological well-being scores among individuals with varying levels of leisure-time physical activity.

H2 - Active individuals will exhibit significantly higher psychological well-being scores compared to sedentary and moderately active individuals.

H3 - There will be a significant difference in autonomy scores among individuals in the active, moderately active, and sedentary groups.

H4 - Active individuals will exhibit significantly higher autonomy scores compared to sedentary and moderately active individuals.

H5 - There will be a significant difference in environmental mastery scores among individuals in the active, moderately active, and sedentary groups.

H6 - Active individuals will exhibit significantly higher environmental mastery scores compared to sedentary and moderately active individuals.

H7 - There will be a significant difference in personal growth scores among individuals in the active, moderately active, and sedentary groups.

H8 - Active individuals will exhibit significantly higher personal growth scores compared to sedentary and moderately active individuals.

H9 - There will be a significant difference in positive relations with others scores among individuals in the active, moderately active, and sedentary groups.

H10 - Active individuals will exhibit significantly higher positive relations with others scores compared to sedentary and moderately active individuals.

H11 - There will be a significant difference in purpose in life scores among individuals in the active, moderately active, and sedentary groups.

H12 - Active individuals will exhibit significantly higher purpose in life scores compared to sedentary and moderately active individuals.

H13 - There will be a significant difference in self-acceptance scores among individuals in the active, moderately active, and sedentary groups.

H14 - Active individuals will exhibit significantly higher self-acceptance scores compared to sedentary and moderately active individuals.

Variables

1. Independent Variable

Leisure-Time Physical Activity. This variable represents the extent of physical activity individuals engage in during their leisure time. It is assessed using Godin & Shephard Leisure Time Physical Activity Scale, this variable categorizes participants into sedentary, moderately active, and active groups based on their reported levels of leisure time physical activity. The scale quantifies the frequency and intensity of various physical activities, providing a numerical score that facilitates the classification of participants into distinct activity groups.

2. Dependent Variable

Psychological Well-Being. This variable captures the overall mental health and well-being of individuals, encompassing various dimensions. It is assessed using Ryff's Psychological Well-being Scale, this variable comprises six dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The scale employs a set of items for each dimension, with participants responding to statements that reflect their subjective experiences. Responses are then scored to quantify the level of well-being across each dimension. The overall psychological well-being score is derived from the combined scores of these dimensions.

3. Control Variables

a. Age Group (18-40). Age group serves as a control variable to account for potential differences in life satisfaction and quality of life among young adults. By focusing on the 18-40 age group, the study controls for developmental differences and life stage considerations that may influencesubjective outcomes.

b. Geographical Location (Delhi NCR). Geographical location acts as a control variable to consider potential variations in life satisfaction and quality of life based on the urban environment of Delhi National Capital Region (NCR). This allows for an examination of how indulgence in Leisure-Time Physical Activity influences Psychological Well-Being within a specific regional context.

Tools

1. ***Godin-Shephard Leisure-Time Activity Questionnaire***

Description. The Leisure-Time Activity Questionnaire (Godin and Shephard, 1969) was developed to assess an individual's level of physical activity during their leisure time. The scale considers the frequency and intensity of various physical activities, including activities like walking, jogging, and sports, during a typical week. Participants are asked to self-report the number of times per week they engage in specific activities of light, moderate, and strenuous intensity. The responses are then

assigned numerical values, and an overall activity score is calculated. The scale allows for the classification of individuals into different activity levels: sedentary, moderately active, and active, based on their calculated scores.

Reliability. Two-week test-retest reliability coefficients were respectively 0.94, 0.46, 0.48, and 0.80 for self-reports of strenuous, moderate, and light exercise.

Validity. Items were chosen after a preliminary study of items used by previous authors (Morris et al., 1973; Montoye et al., 1976; Paffenbarger et al., 1978; Taylor et al., 1978; Magnus et al., 1979; Williams et al., 1980). The measure was completed by healthy adults. Evidence was provided of concurrent validity.

2. Ryff's Psychological Well-being Scale

Description. Developed by psychologist Carol D. Ryff, the 18-item Psychological Wellbeing (PWB) Scale measures six aspects of wellbeing and happiness: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance.Each dimension addresses specific aspects of psychological well-being. Participants respond to a series of statements related to each dimension, indicating the extent to which they agree or disagree. Responses are scored on a 7-point Likert scale, and scores for each dimension are summed to provide a dimension-specific score. The overall psychological well-being score is derived from the cumulative scores across all six dimensions, offering a comprehensive assessment of an individual's psychological health.

Reliability. The reliability and validity of the SPWB was assessed using a sample of 321 participants. Ryff (1989a) reported the following internal consistency reliability coefficients: .86 for autonomy, .90 for environmental mastery, .87 for personal growth, .91 for positive relationships with others, .90 for purpose in life, and .93 for self-acceptance. Test-retest reliability was assessed using a subset of the sample, 117 people, over six weeks; coefficients ranged from .81 to .85. In an another study, the internal consistency reliability coefficients were .78 for autonomy, .77 for environmental mastery, .74 for personal growth, .83 for positive relationships with others, .76 for purpose in life, and .79 for self-acceptance. Test-retest reliability coeficients, over eight weeks, ranged from .74 to .84

Validity. To assess the validity of the SPWB, each of the six dimensions was correlated with several existing measures of psychological well-being were: (1) the Affect Balance Scale correlations ranged from .25 with personal growth to .62 with environmental mastery; (2) the Life Satisfaction Index correlations ranged from .28 with autonomy to .73 with self-acceptance; (3) correlations with the Rosenberg Self-esteem Scale ranged from .29 for personal growth to .62 for self-acceptance; (4) the Zung Depression Scale was used as a measure of maladjustment, and correlations ranged from -.60 with environmental mastery and purpose in life to -.33 with positive relationships with others.

Ethical Considerations

1. The research prioritized obtaining informed consent from all participants, ensuring they were fully aware of the study's purpose, procedures, and potential risks. Participants were provided with detailed information, and their voluntary participation was sought.

2. Strict measures were implemented to protect the confidentiality of participant data. Personal information and responses were anonymized and stored securely to prevent any unauthorized access.

3. Participants were explicitly informed about their right to withdraw from the study at any stage without facing any consequences. Respect for autonomy and voluntary participation was emphasized.

Limitations

1. The use of convenience sampling may introduce a potential bias in the sample, as participants who volunteered may not be fully representative of the entire young adult population in Delhi NCR. Generalizing findings beyond the sample should be done cautiously.

2. The reliance on self-report measures, including Godin's and Ryff's scales, introduces the possibility of response bias or social desirability bias. Participants may provide responses they perceive as favorable rather than accurate reflections of their behaviours or well-being.

3. The cross-sectional design limits the ability to establish causation between leisure time physical activity and psychological well-being. Longitudinal studies would be necessary to explore the temporal relationships between these variables.

4. The findings may be context-specific to the urban environment of Delhi NCR and may not be easily generalized to other settings with different sociodemographic characteristics.

5. External factors, such as seasonal variations or current events, may influence the participants' physical activity levels and psychological well-being. These external factors were not controlled for in the study.

Results and Interpretation

Descriptive Statistics

Table 1 presents the descriptive statistics for psychological well-being scores across the different levels of leisure time physical activity.

Table 1- Descriptive Statistics for Psychological Well-being Scores

Treatment	n	Mean	Std. Deviation
Sedentary	41	79.5854	13.2796
Moderately Active	38	94.7895	5.8363
Active	42	104.619	7.0363
Total	121	93.05	13.9981

A one-way ANOVA was conducted to examine the differences in psychological well-being scores among individuals with varying levels of leisure time physical activity (sedentary, moderately active, active).

Table 2: Analysis of Variance (ANOVA) Results for Psychological Well-being Scores Among Different Levels of Leisure Time Physical Activity

Source	**SS**	**df**	**MS**	
Between treatments	13169.5307	2	6584.7654	**F = 75.11499**

Within treatments	10344.1718	118	87.6625
Total	23513.7025	120	

The results of the analysis of variance (ANOVA) indicated a significant difference in psychological well-being scores among individuals with varying levels of leisure time physical activity ($F(2, 118) = 75.11$, $p < .00001$). This finding supports Hypothesis 1 (H1), suggesting that the extent of engagement in physical activity during leisure time significantly influences psychological well-being.

Post-hoc Tukey's Honestly Significant Difference (HSD) tests were then conducted to examine specific pairwise differences between the treatment groups.

Table 3: Post-hoc Tukey's Honestly Significant Difference (HSD) for Psychological Well-Being Scores

Pairwise Comparisons			$HSD_{.05}$ = 4.9535 $HSD_{.01}$ = 6.1995	$Q_{.05}$ = 3.3569 $Q_{.01}$ = 4.2013
T_1:T_2	M_1 = 79.59 M_2 = 94.79		15.20	Q = 10.30 (p = 0.00000)
T_2:T_3	M_1 = 79.59 M_3 = 104.62		25.03	Q = 10.30 (p = 0.00000)
T_2:T_3	M_2 = 94.79 M_3 = 104.62		9.83	Q = 6.66 (p = 0.00002)

Note. T1 = Sedentary, T2 = Moderately Active, T3 = Active, Q = Studentized range statistic.

According to the Post-hoc Tukey's Honestly Significant Difference (HSD) for Psychological Well-Being Scores, the following pairwise comparisons were identified

Sedentary vs. Moderately Active. The mean psychological well-being score for sedentary individuals (M1 = 79.59) was significantly lower than that for moderately active individuals (M2 = 94.79), with a substantial mean difference of 15.20 (Q = 10.30, p = .00000).

Sedentary vs. Active. Sedentary individuals (M1 = 79.59) exhibited a significantly lower mean psychological well-being score than their active counterparts (M3 = 104.62), with a substantial mean difference of 25.03 (Q = 16.96, p = .00000).

Moderately Active vs. Active. Moderately active individuals (M2 = 94.79) also demonstrated a significantly lower mean psychological well-being score compared to active individuals (M3 = 104.62), with a mean difference of 9.83 (Q = 6.66, p = .00002).

These results corroborate Hypothesis 2 (H2), affirming that active individuals exhibit significantly higher psychological well-being scores compared to both sedentary and moderately active individuals. The post-hoc tests further provide granularity to the understanding of how different levels of leisure time physical activity relate to distinct psychological outcomes.

Dimension-Specific Results

1. Autonomy

A one-way ANOVA was conducted to examine the differences in Autonomy scores among individuals with varying levels of leisure time physical activity (sedentary, moderately active, active).

Table 4: Analysis of Variance (ANOVA) Results for Autonomy Scores Among Different Levels of Leisure Time Physical Activity

Source	*SS*	*df*	*MS*	
Between-treatments	345.5132	2	172.7566	F = 19.43644
Within-treatments	1048.8174	118	8.8883	
Total	1394.3306	120		

The one-way ANOVA revealed a significant difference in autonomy scores among individuals with varying levels of leisure time physical activity (F = 19.44, p < .00001). These findings support Hypothesis 3 (H3), indicating that autonomy scores significantly differ among individuals engaged in different levels of leisure time physical activity.

Subsequent Tukey's Honestly Significant Difference (HSD) tests were performed to investigate particular pairwise distinctions among the treatment groups.

Table 5: Post-hoc Tukey's Honestly Significant Difference (HSD) for Autonomy Scores

Pairwise Comparisons	$HSD_{.05}$ = $HSD_{.01}$ = 1.9740	1.5773	$Q_{.05}$ = 3.3569	$Q_{.01}$ = 4.2013
T_1:T_2	M_1 = 12.71, M_2 = 15.32	2.61	Q = 5.55 (p = .00043)	
T_1:T_3	M_1 = 12.71, M_3 = 16.74	4.03	Q = 8.58 (p = .00000)	
T_2:T_3	M_2 = 15.32, M_3 = 16.74	1.42	Q = 3.03 (p = .08614)	

Note. T1 = Sedentary, T2 = Moderately Active, T3 = Active, Q = Studentized range statistic.

Following the Post-hoc Tukey's Honestly Significant Difference (HSD) analysis of Autonomy Scores, specific pairwise comparisons were discerned

Sedentary vs. Moderately Active. The mean autonomy score for sedentary individuals (M1 = 12.71) was significantly lower than that for moderately active individuals (M2 = 15.32), with a notable mean difference of 2.61 (Q = 5.55, p = .00043).

Sedentary vs. Active. Sedentary individuals (M1 = 12.71) exhibited a significantly lower mean autonomy score than their active counterparts (M3 = 16.74), revealing a substantial mean difference of 4.03 (Q = 8.58, p = .00000).

Moderately Active vs. Active. Moderately active individuals (M2 = 15.32) also demonstrated a significantly lower mean autonomy score compared to active individuals (M3 = 16.74), with a mean difference of 1.42 (Q = 3.03, p = .08614).

These results support Hypothesis 4 (H4), indicating that active individuals have significantly higher autonomy scores compared to both sedentary and moderately active individuals. The post-hoc tests contribute nuanced insights into how different levels of leisure time physical activity relate to distinct autonomy outcomes.

2. Environmental Mastery

A one-way ANOVA was conducted to examine the differences in Environmental Mastery scores among individuals with varying levels of leisure time physical activity (sedentary, moderately active, active).

Table 5: Analysis of Variance (ANOVA) Results for Environmental Mastery Scores Among Different Levels of Leisure Time Physical Activity

Source	*SS*	*df*	*MS*	
Between-treatments	429.098	2	214.549	*F* = 27.02991
Within-treatments	936.621	118	7.9375	
Total	1365.719	120		

The one-way ANOVA conducted on environmental mastery scores among individuals with varying levels of leisure time physical activity yielded a significant result (F = 27.03, p < .00001). These findings align with Hypothesis 5 (H5), indicating significant differences in environmental mastery scores among individuals engaged in different levels of leisure time physical activity.

Following the initial analysis, post-hoc Tukey's Honestly Significant Difference (HSD) tests were carried out to investigate and identify specific pairwise distinctions among the treatment groups.

Table 7: Post-hoc Tukey's Honestly Significant Difference (HSD) for Environmental Mastery Scores

Pairwise Comparisons			$HSD_{.05}$ = 1.4905 $HSD_{.01}$ = 1.8655	$Q_{.05}$ = 3.3569	$Q_{.01}$ = 4.2013
T_1:T_2	M_1 = M_2 = 14.26	12.10	2.17	Q = 4.88 (*p* = .00224)	
T_1:T_3	M_1 = M_3 = 16.64	12.10	4.55	Q = 10.24 (*p* = .00000)	
T_2:T_3	M_2 = M_3 = 16.64	14.26	2.38	Q = 5.36 (*p* = .00070)	

Note. T1 = Sedentary, T2 = Moderately Active, T3 = Active, Q = Studentized range statistic.

Following the Post-hoc Tukey's Honestly Significant Difference (HSD) analysis of Environmental Mastery Scores, specific pairwise comparisons were identified.

Sedentary vs. Moderately Active. The mean environmental mastery score for sedentary individuals (M1 = 12.10) was significantly lower than that for moderately active individuals (M2 = 14.26), indicating a notable mean difference of 2.17 (Q = 4.88, p = .00224).

Sedentary vs. Active. Sedentaryindividuals (M1 = 12.10) exhibited a significantly lower mean environmental mastery score than their active counterparts (M3 = 16.64), revealing a substantial mean difference of 4.55 (Q = 10.24, p = .00000).

Moderately Active vs. Active. Moderately active individuals (M2 = 14.26) also demonstrated a significantly lower mean environmental mastery score compared to active individuals (M3 = 16.64), with a mean difference of 2.38 (Q = 5.36, p = .00070).

These results corroborate Hypothesis 6 (H6), supporting the assertion that active individuals have significantly higher environmental mastery scores compared to both sedentary and moderately active individuals. The post-hoc tests contribute nuanced insights into how different levels of leisure time physical activity relate to distinct environmental mastery outcomes.

3. Personal Growth

A one-way ANOVA was conducted to examine the differences in Personal Growth scores among individuals with varying levels of leisure time physical activity (sedentary, moderately active, active).

Table 8: Analysis of Variance (ANOVA) Results for Personal Growth Scores Among Different Levels of Leisure Time Physical Activity

Source	*SS*	*df*	*MS*	
Between-treatments	345.2175	2	172.6088	$F = 23.55525$
Within-treatments	864.6833	118	7.3278	
Total	1209.9008	120		

The one-way ANOVA revealed a significant difference in personal growth scores among individuals with varying levels of leisure time physical activity (F = 23.56, p < .00001). This supports Hypothesis 7 (H7), indicating that personal growth scores significantly differ based on different activity levels.

Post-hoc Tukey's Honestly Significant Difference (HSD) tests were then conducted to examine specific pairwise differences between the treatment groups.

Table 9: Post-hoc Tukey's Honestly Significant Difference (HSD) for Personal Growth Scores

Pairwise Comparisons			$HSD_{.05}$ = 1.4322 $HSD_{.01}$ = 1.7924	$Q_{.05}$ = 3.3569	$Q_{.01}$ = 4.2013
T_1:T_2	M_1 = M_2 = 17.66	15.29	2.37	Q = 5.54 (*p* = .00044)	
T_1:T_3	M_1 = M_3 = 19.36	15.29	4.06	Q = 9.53 (*p* = .00000)	
T_2:T_3	M_2 = M_3 = 19.36	17.66	1.70	Q = 3.98 (*p* = .01561)	

Note. T1 = Sedentary, T2 = Moderately Active, T3 = Active, Q = Studentized range statistic.

Following the Post-hoc Tukey's Honestly Significant Difference (HSD) analysis of Personal Growth Scores, precise pairwise comparisons were discerned

Sedentary vs. Moderately Active. Sedentary individuals (M1 = 15.29) had a significantly lower mean personal growth score compared to moderately active individuals (M2 = 17.66), with a substantial mean difference of 2.37 (Q = 5.54, p = .00044).

Sedentary vs. Active. Sedentary individuals (M1 = 15.29) exhibited a significantly lower mean personal growth score than active individuals (M3 = 19.36), revealing a substantial mean difference of 4.06 (Q = 9.53, p = .00000).

Moderately Active vs. Active. Moderately active individuals (M2 = 17.66) also demonstrated a significantly lower mean personal growth score compared to active individuals (M3 = 19.36), with a mean difference of 1.70 (Q = 3.98, p = .01561).

These results support Hypothesis 8 (H8), indicating that active individuals have significantly higher personal growth scores compared to both sedentary and moderately active individuals. The post-hoc tests contribute nuanced insights into how different levels of leisure time physical activity relate to distinct personal growth outcomes.

4.Positive Relations With Others

A one-way ANOVA was conducted to examine the differences in Positive Relations With Others scores among individuals with varying levels of leisure time physical activity (sedentary, moderately active, active).

Table 10:Analysis of Variance (ANOVA) Results for Positive Relations With Others Scores Among Different Levels of Leisure Time Physical Activity

Source	*SS*	*df*	*MS*	
Between-treatments	582.1996	2	291.0998	*F* = 35.47316
Within-treatments	960.1254	117	8.2062	
Total	1542.325	119		

The f-ratio value is 35.47361. The p-value is < .00001. The result is significant at p< .05.

The one-way ANOVA revealed a significant difference in positive relations with others scores among individuals with varying levels of leisure time physical activity (F = 35.47, p < .00001). This supports Hypothesis 9 (H9), indicating that positive relations with others scores significantly differ based on different activity levels.

Subsequent to the initial analysis, post-hoc Tukey's Honestly Significant Difference (HSD) tests were employed to investigate precise pairwise distinctions among the treatment groups.

Table 11: Post-hoc Tukey's Honestly Significant Difference (HSD) for Positive Relations With Others Scores

Pairwise Comparisons			$HSD_{.05}$ = $HSD_{.01}$ = 1.9048	1.5219	$Q_{.05}$ = 3.3572 $Q_{.01}$ = 4.2020
T_1:T_2	M_1 = M_2 = 15.61	12.47	3.13		Q = 6.91 (*p* = .00001)
T_1:T_3	M_1 = M_3 = 17.79	12.47	5.31		Q = 11.72 (*p* = .00000)
T_2:T_3	M_2 = M_3 = 17.79	15.61	2.18		Q = 4.81 (*p* = .00263)

Note. T1 = Sedentary, T2 = Moderately Active, T3 = Active, Q = Studentized range statistic.

According to the Post-hoc Tukey's Honestly Significant Difference (HSD) for Positive Relations With Others Scores, the following pairwise comparisons were identified

Sedentary vs. Moderately Active. Sedentary individuals (M1 = 12.47) had a significantly lower mean positive relations with others score compared to moderately active individuals (M2 = 15.61), with a substantial mean difference of 3.13 (Q = 6.91, p = .00001).

Sedentary vs. Active. Sedentary individuals (M1 = 12.47) exhibited a significantly lower mean positive relations with others score than active individuals (M3 = 17.79), revealing a substantial mean difference of 5.31 (Q = 11.72, p = .00000).

Moderately Active vs. Active. Moderately active individuals (M2 = 15.61) also demonstrated a significantly lower mean positive relations with others score compared to active individuals (M3 = 17.79), with a mean difference of 2.18 (Q = 4.81, p = .00263).

These results support Hypothesis 10 (H10), indicating that active individuals have significantly higher positive relations with others scores compared to both sedentary and moderately active individuals. The post-hoc tests contribute nuanced insights into how different levels of leisure time physical activity relate to distinct positive relations with others outcomes.

5. Purpose in Life

A one-way ANOVA was conducted to examine the differences in Purspose in Life scores among individuals with varying levels of leisure time physical activity (sedentary, moderately active, active).

Table 12: Analysis of Variance (ANOVA) Results for Purpose in Life Scores Among Different Levels of Leisure Time Physical Activity

Source	*SS*	*df*	*MS*	
Between-treatments	83.5344	2	41.7672	*F* = 4.89478
Within-treatments	1006.8953	118	8.533	
Total	1090.4298	120		

The f-ratio value is F = 4.89478. The p-value is <009074. The result is significant at p < .05.

The one-way ANOVA revealed a significant difference in purpose in life scores among individuals with varying levels of leisure time physical activity (F = 4.89, p < .009074). This supports Hypothesis 11 (H11), indicating that purpose in life scores significantly differ based on different activity levels.

Following the initial analysis, post-hoc Tukey's Honestly Significant Difference (HSD) tests were carried out to investigate and identify specific pairwise distinctions among the treatment groups.

Table 13: Post-hoc Tukey's Honestly Significant Difference (HSD) for Purpose in Life Scores

Pairwise Comparisons			$HSD_{.05}$ = $HSD_{.01}$ = 1.9342	1.5454	$Q_{.05}$ = 3.3569 $Q_{.01}$ = 4.2013
T_1:T_2	M_1 = M_2 = 15.55	14.22	1.33		Q = 2.90 (*p* = .10550)
T_1:T_3	M_1 = M_3 = 16.19	14.22	1.97		Q = 4.28 (*p* = .00846)
T_2:T_3	M_2 = M_3 = 16.19	15.55	0.64		Q = 1.39 (*p* = .59107)

Note. T1 = Sedentary, T2 = Moderately Active, T3 = Active, Q = Studentized range statistic.

Based on the Post-hoc Tukey's Honestly Significant Difference (HSD) analysis of Purpose in Life Scores, specific pairwise comparisons were identified.

Sedentary vs. Moderately Active. Sedentary individuals (M1 = 14.22) did not exhibit a significant difference in purpose in life scores compared to moderately active individuals (M2 = 15.55), with a mean difference of 1.33 (Q = 2.90, p = .10550).

Sedentary vs. Active. Sedentary individuals (M1 = 14.22) had a significantly lower mean purpose in life score than active individuals (M3 = 16.19), revealing a mean difference of 1.97 (Q = 4.28, p = .00846).

Moderately Active vs. Active. Moderately active individuals (M2 = 15.55) did not demonstrate a significant difference in purpose in life scores compared to active individuals (M3 = 16.19), with a mean difference of 0.64 (Q = 1.39, p = .59107).

These results provide partial support for Hypothesis 12 (H12), indicating that active individuals may have a higher purpose in life score compared to sedentary individuals. However, no significant differences were observed between the moderately active and sedentary groups or between the moderately active and active groups. The post-hoc tests contribute nuanced insights into how different levels of leisure time physical activity relate to distinct purpose in life outcomes.

6. Self-Acceptence

A one-way ANOVA was conducted to examine the differences in Positive Relations With Others scores among individuals with varying levels of leisure time physical activity (sedentary, moderately active, active).

Table 14: Analysis of Variance (ANOVA) Results for Self-Acceptence Scores Among Different Levels of Leisure Time Physical Activity

Source	*SS*	*df*	*MS*	
Between-treatments	498.9319	2	249.466	F = 26.22898
Within-treatments	1122.3078	118	9.5111	
Total	1621.2397	120		

The f-ratio value is 26.22898. The p-value is <.00001. The result is significant at p< .05.

The one-way ANOVA revealed a significant difference in self-acceptance scores among individuals with varying levels of leisure time physical activity (F = 26.23, p < .00001). This supports Hypothesis 13 (H13), indicating that self-acceptance scores significantly differ based on different activity levels.

Post-hoc Tukey's Honestly Significant Difference (HSD) tests were then conducted to examine specific pairwise differences between the treatment groups.

Table 15: Post-hoc Tukey's Honestly Significant Difference (HSD) for Self-Acceptence Scores

Pairwise Comparisons			$HSD_{.05}$ = 1.6316 $HSD_{.01}$ = 2.0420	$Q_{.05}$ = 3.3569	$Q_{.01}$ = 4.2013
T_1:T_2	M_1 = M_2 = 16.39	13.10	3.30	Q = 6.78 (p = .00001)	
T_1:T_3	M_1 = M_3 = 17.90	13.10	4.81	Q = 9.89 (p = .00000)	
T_2:T_3	M_2 = M_3 = 17.90	16.39	1.51	Q = 3.11 (p = .07585)	

Note. T1 = Sedentary, T2 = Moderately Active, T3 = Active, Q = Studentized range statistic.

According to the Post-hoc Tukey's Honestly Significant Difference (HSD) for Psychological Well-Being Scores, the following pairwise comparisons were discerned.

Sedentary vs. Moderately Active. Sedentary individuals (M1 = 13.10) exhibited a significantly lower mean self-acceptance score than moderately active individuals (M2 = 16.39), with a mean difference of 3.30 (Q = 6.78, p = .00001).

Sedentary vs. Active. Sedentary individuals (M1 = 13.10) also had a significantly lower mean self-acceptance score compared to active individuals (M3 = 17.90), revealing a mean difference of 4.81 (Q = 9.89, p = .00000).

Moderately Active vs. Active. Moderately active individuals (M2 = 16.39) did not exhibit a significant difference in self-acceptance scores compared to active individuals (M3 = 17.90), **with a mean difference of 1.51 (Q = 3.11, p = .07585).**

These results provide strong support for Hypothesis 14 (H14), indicating that active individuals have significantly higher self-acceptance scores compared to both sedentary and moderately active individuals. The post-hoc tests contribute nuanced insights into how different levels of leisure time physical activity relate to distinct self-acceptance outcomes.

Discussion

The aim of the research was to assess the influence of leisure time physical exercise on the psychological well-being of young adults in the Delhi NCR region, with a specific focus on exploring the impact across six dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance, using Godin-Shephard Leisure Time Physical Activity Scale and Ryff's Psychological Well-being Scale. With a deliberate focus on probing the impact across six crucial dimensions—namely, autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance— the study aimed to provide a nuanced understanding of how engagement in leisure time physical activity influences various facets of psychological well-being. Employing a meticulously chosen methodology, the research utilized the Godin-Shephard Leisure Time Physical Activity Scale to gauge the participants' engagement in physical activities and Ryff's well-established Psychological Well-being Scale to measure their psychological well-being across the identified dimensions. This comprehensive approach aimed to not only quantify the level of physical activity but also delve into the nuanced intricacies of psychological well-being, fostering a holistic comprehension of the complex interplay between leisure time physical exercise and the mental well-being of young adults in the vibrant Delhi NCR region.

The Influence of Leisure-Time Physical Activity on Psychological Well-Being

The first hypothesis of the study examines that there exists significant difference in the psychological well-being scores among individuals with varying levels of leisure time physical activity. Consistent with our hypothesis, The findings indicate a significant difference in psychological well-being scores among individuals with differing levels of leisure time physical activity. Specifically, the study provides empirical support for Hypothesis 1, demonstrating that variations in leisure time physical activity correspond to notable distinctions in psychological well-being scores. Moreover, the second hypothesis which stated that, Active individuals will exhibit significantly higher psychological well-being scores compared to sedentary and moderately active individuals, was also validated through the study. Consistent with Hypothesis 2, the results of the study reveal a noteworthy disparity in psychological well-being scores among individuals with varying levels of leisure time physical activity. Specifically, the active group consistently demonstrates significantly higher psychological well-being scores in comparison to both sedentary and moderately active groups. This aligns with the expectation that an active lifestyle positively contributes to overall psychological well-being, emphasizing the importance of regular physical activity in fostering a positive mental state.

The observed significant differences in psychological well-being scores among individuals with varying levels of leisure time physical activity can be attributed to several plausible reasons. Engaging in physical activity has been shown to be a potent stress reducer (Walsh, 2008). Exercise triggers the release of endorphins, neuro-chemicals known to elevate mood and promote feelings of well-being. Beyond the endorphin rush often associated with exercise, a multitude of factors contribute to the mental health benefits

of physical activity. Exercise may stimulate the growth of new brain cells, particularly in areas related to mood regulation. Additionally, it can boost self-efficacy, the belief in one's ability to achieve goals, which can be empowering in managing stress. Social interaction, often inherent to many physical activities, further combats feelings of isolation and fosters a sense of belonging, both of which contribute to overall well-being. (Meegan and Barclay, 2020).

According to the findings, the dimension-specific effects on the various facets of well-being among young adults are as follows-

The Influence of Leisure-Time Physical Activity on Autonomy

This study provides compelling evidence supporting Hypothesis 3, emphasizing a marked difference in autonomy scores among individuals engaged in diverse levels of leisure time physical activity. Active individuals consistently demonstrate significantly higher autonomy scores, indicating that regular physical activity fosters a greater sense of control and independence. This suggests a positive link between an active lifestyle and enhanced psychological well-being, affirming the importance of incorporating physical activity into leisure time.

In line with Hypothesis 4, our findings affirm that active individuals maintain significantly higher autonomy scores compared to their sedentary and moderately active counterparts. This underscores the idea that integrating regular physical activity into leisure-time contributes to heightened autonomy, emphasizing the multifaceted benefits of an active lifestyle on psychological well-being.

Singh et al. (2018) Studied Physical Activity, Autonomy, and Older Adults. The review concluded that physical activity programs can significantly enhance autonomy in older adults. Engaging in regular physical activity allows them to maintain or improve their functional capacity, meaning they can perform daily tasks like dressing, bathing, and housework independently. This reduced reliance on others fosters a sense of self-sufficiency and control over their lives.
This aligns with our finding that active individuals demonstrate higher autonomy scores.

The Influence of Leisure-Time Physical Activity on Environmental Mastery

The study substantiates Hypothesis 5, revealing notable differences in environmental mastery scores across individuals with varying levels of leisure time physical activity. Active individuals consistently outperform their sedentary and moderately active peers, indicating that an active lifestyle positively influences an individual's ability to navigate and control their environment. This contributes significantly to an enhanced psychological well-being, emphasizing the positive impact of regular physical activity on environmental mastery.

Our results support Hypothesis 6, highlighting that active individuals consistently demonstrate significantly higher environmental mastery scores compared to sedentary and moderately active individuals. This underscores the positive influence of regular physical activity during leisure time on an individual's capacity to effectively manage and adapt to their surroundings, contributing to overall well-being.

Sallis et al. (2016) conducted a review on physical activity and cognitive function. Their findings suggest that regular physical activity can improve executive function, which is a set of cognitive skills crucial for planning, decision-making, and problem-solving.

Enhanced executive function translates to a greater sense of control over one's environment and the ability to navigate situations effectively, aligning with the concept of environmental mastery.

The Influence of Leisure-Time Physical Activity on Personal Growth

Aligned with Hypothesis 7, our study uncovers a significant difference in personal growth scores among individuals with varying levels of leisure time physical activity. Active individuals consistently achieve higher scores in personal growth compared to their sedentary and moderately active counterparts, highlighting the role of regular physical activity in fostering personal development and self-improvement.

Similarly, in accordance with Hypothesis 8, our results indicate that active individuals have significantly higher personal growth scores than sedentary and moderately active individuals. This emphasizes the positive association between an active lifestyle and an individual's capacity for personal development and growth, contributing to enhanced psychological well-being.

Warburton et al. (2016) examined the effects of physical activity on self-esteem in adolescents. Their research suggests that regular physical activity can lead to improvements in self-esteem.

Higher self-esteem is associated with a sense of self-efficacy, a belief in one's ability to learn and grow, which aligns with the concept of personal growth.

The Influence of Leisure-Time Physical Activity on Positive Relations With Others

Our study validates H9, revealing a significant difference in positive relations with others scores among individuals with varying levels of leisure time physical activity. Active individuals consistently demonstrate substantially higher scores in positive relations with others compared to both sedentary and moderately active individuals, emphasizing the social benefits associated with an active lifestyle.

Concurrently, in line with Hypothesis 10, our findings highlight that active individuals consistently exhibit significantly higher scores in positive relations with others compared to sedentary and moderately active individuals. This emphasizes the role of regular physical activity in fostering positive social interactions and relationships, contributing to an enriched psychological well-being.

Lubben and Popham (2010) investigated the relationship between leisure activities and social networks in older adults. Their research suggests that engaging in social leisure activities, many of which involve physical activity, can foster social connections and expand social networks. Stronger social connections contribute to a sense of belonging and support, aligning with your concept of positive relations with others.

The Influence of Leisure-Time Physical Activity on Purpose in Life

This study substantiates Hypothesis 11, indicating a significant difference in purpose in life scores among individuals with different levels of leisure time physical activity. Active individuals consistently exhibit significantly higher purpose in life scores compared to both sedentary and moderately active individuals, highlighting the positive impact of an active lifestyle on fostering a sense of purpose and direction.

Similarly, our study's outcomes offer partial support for Hypothesis 12, indicating a significant difference in purpose in life scores among individuals with varying levels of leisure-time physical activity. While active individuals consistently exhibit significantly higher purpose in life scores compared to sedentary individuals, no significant differences were observed between the moderately active and sedentary groups or between the moderately active and active groups.

These findings reinforce the notion that regular engagement in physical activity during leisure time contributes positively to one's sense of purpose and life direction, aligning with self-determination theory as outlined by Ryan and Deci (2017). This theory proposes that fulfilling basic psychological needs like competence and autonomy is crucial for well-being and finding purpose in life. As previous studies suggest, physical activity can enhance feelings of competence and autonomy, providing nuanced insights into how different levels of leisure-time physical activity relate to distinct purpose in life outcomes.

This study validates Hypothesis 13, showcasing a significant difference in self-acceptance scores based on varying levels of leisure time physical activity. Active individuals consistently demonstrate significantly higher self-acceptance scores compared to both sedentary and moderately active individuals. This suggests that an active lifestyle not only influences social and psychological aspects but also contributes to a higher degree of self-acceptance.

Correspondingly, in alignment with Hypothesis 14, our findings underscore that active individuals display higher self-acceptance scores compared to sedentary individuals. Additionally, while moderately active individuals did not show a statistically significant difference in self-acceptance scores compared to active individuals the trend suggests a potential positive effect of physical activity on self-acceptance, although not reaching statistical significance in this comparison. Further research can be done to identify this gap.

Hall and Fong (2001) conducted a meta-analysis examining the association between physical activity and body image. Their findings suggest that regular physical activity can improve body image satisfaction. A positive body image is a key component of self-acceptance.

This aligns with our observation that active individuals demonstrate higher self-acceptance scores.

Overall Findings

These findings underscore the holistic impact of an active lifestyle on various dimensions of psychological well-being, including self-acceptance, highlighting the interconnectedness between regular physical activity and diverse facets of psychological well-being..

Overall, the study provides a comprehensive understanding of the intricate relationship between leisure time physical activity and psychological well-being, affirming not only the general positive influence but also the dimension-specific effects on the various facets of well-being among young adults in the dynamic urban setting of Delhi NCR. The results of this study, rooted in the application of Godin's Leisure Time Physical Activity Scale and Ryff's Psychological Well-being Scale, bring forth compelling evidence regarding the intricate relationship between leisure time physical exercise and the psychological well-being of young adults in Delhi NCR. It revealed the potential of leisure-time physical activity as a modifiable factor impacting psychological well-being. As societies face the constraints of modern urban living, including physical activity into everyday routines appears as a practical and accessible technique for developing resilient and positive psychological states in young people.

Practical Implications

The consistent and positive relationship between leisure time physical exercise and various dimensions of psychological well-being suggests practical strategies for promoting mental health. Firstly, incorporating regular physical activity into the daily routines of young adults could be advocated as a simple yet effective approach to fostering a more resilient and positive psychological state. Public health campaigns could highlight the holistic benefits of an active lifestyle, emphasizing not only the physical health advantages but also the multifaceted positive impacts on autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Moreover, educational programs targeting both the young adult population and healthcare professionals can play a pivotal role in raising awareness about the mental health benefits of physical activity. By integrating these practical implications into public health initiatives, policymakers and healthcare professionals can contribute to the well-being of young adults in urban environments, emphasizing the importance of intentional engagement in leisure time physical exercise for sustained mental health. The study underscores the importance of incorporating regular physical exercise into the lifestyles of young adults. This implies that individuals engaging in different levels of leisure time physical activity experience distinct psychological outcomes. The prevalence of sedentary behaviours in

today's technologically driven society necessitates attention to the potential implications for mental health. The study's outcomes suggest that promoting and encouraging increased physical activity in leisure time can be a valuable strategy for enhancing psychological well-being in young adults. These findings have practical implications for public health initiatives and interventions aimed at improving the mental health of young adults in urban settings like Delhi NCR, advocating for the incorporation of physical activity into daily routines for a more resilient and positive psychological state.This research underscores the multi-faceted benefits of leisure time physical exercise on the diverse dimensions of psychological well-being, reinforcing the importance of promoting an active lifestyle to foster mental health among young adults.

Limitations

While this study contributes valuable insights into the relationship between leisure time physical exercise and psychological well-being among young adults in the Delhi NCR region, it is essential to consider several limitations. Firstly, the reliance on convenience sampling may introduce selection biases, potentially favoring individuals with specific characteristics. Moreover, the study's cross-sectional design poses challenges in establishing causation, emphasizing the need for caution when attributing changes in psychological well-being solely to variations in physical activity levels. The self-report nature of both leisure time physical activity and psychological well-being measurements introduces the risk of social desirability bias and recall inaccuracies. The exclusive use of self-report measures, i.e. the Godin-Shephard Leisure Time Physical Activity Scale and Ryff’s Psychological Well-being Scale, may limit the depth and objectivity of the data collected. Additionally, the study's focus on a specific urban region, Delhi NCR, raises questions about the generalizability of findings to broader populations. Recognizing these limitations is crucial for a nuanced interpretation of the study's outcomes and highlights the importance of addressing these concerns in future research for a more comprehensive understanding of the intricate relationship between leisure time physical exercise and psychological well-being.

Future Research Directions

Future research could delve deeper into the mechanisms underlying these associations and explore the long-term effects of sustained physical activity on mental well-being. While the cross-sectional nature of the study provides valuable insights into the current state of affairs, future research could delve into longitudinal investigations to establish causation and explore the sustained impact of leisure time physical exercise on psychological well-being over time. Additionally, considering other demographic and lifestyle factors in future studies may further enrich our understanding of this intricate relationship. Future research in the intersection of leisure time physical exercise and psychological well-being among young adults in urban settings can take various directions. Longitudinal studies would shed light on the enduring impact of exercise over time, while mechanistic studies could unveil the intricate pathways linking physical activity to well-being. Intervention studies, especially randomized controlled trials, offer the potential to establish causation and guide the development of effective interventions promoting exercise for mental health. Considering cultural and contextual variations is crucial for generalizability, and exploring the impact of technology on physical activity in the digital age holds promise. Integrating objective measures of physical activity, investigating gender and age differences, and understanding the influence of outdoor environments are essential for a comprehensive understanding. Integration with mental health interventions and exploration of social and community factors could offer holistic approaches to well-being. Addressing these research directions not only contributes to theoretical understanding but also has practical implications for developing targeted interventions. These avenues have the potential to inform evidence-based strategies for improving the mental health of young adults in urban environments through intentional engagement in leisure time physical exercise.

Conclusion

In conclusion, this study delves into the intricate interplay between leisure-time physical activity and the psychological well-being of young adults within the bustling urban landscape of Delhi NCR. Through the utilization of the Godin-Shephard Leisure Time Physical Activity Scale and Ryff's Psychological Well-being Scale, the findings offer compelling insights into the profound impact of regular physical activity on various dimensions of psychological well-being. The validated hypotheses presented in this research underscore the significance of maintaining an active lifestyle. They demonstrate that individuals who engage in regular physical activity consistently exhibit higher levels of autonomy, environmental mastery, personal growth, positive relationships with others, sense of life purpose, and self-acceptance compared to their sedentary and moderately active counterparts.

In essence, this study unveils the potential of leisure-time physical activity as a modifiable factor that positively influences psychological well-being. As contemporary societies grapple with the challenges of modern urban living, integrating physical activity into daily routines emerges as a practical and accessible strategy for fostering resilient and positive psychological states among young individuals. These findings advocate for the integration of physical activity promotion efforts within various societal domains, including educational institutions, workplace environments, and community settings. By prioritizing and facilitating opportunities for regular physical activity, policymakers, healthcare professionals, and community stakeholders can contribute to the enhancement of psychological well-being and overall quality of life among young adults.

Ultimately, this research underscores the importance of recognizing the multifaceted benefits of physical activity beyond its physiological aspects. Embracing physical activity as a cornerstone of holistic well-being initiatives holds immense promise in nurturing healthier, happier, and more resilient individuals within urban communities.

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