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Running for health: Self-rated physical health, mental health, and well-being among fun runners in South Sulawesi

Ians Aprilo^{1abcde,*}, Poppy Elisano Arfanda^{1abc}, Juhanis^{1bce},
Ruslan Abdul Gani^{2abd}, & Edi Setiawan^{3abe}

Universitas Negeri Makassar, Indonesia¹
Universitas Singaperbangsa Karawang, Indonesia¹
Universitas Negeri Surabaya, Indonesia³

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ABSTRACT

Background: This research explores how fun run participants in South Sulawesi perceive their physical health, mental health, and overall well-being, highlighting the holistic benefits of active lifestyles in promoting quality of life. **Research Objectives:** This study is the effect of fun runs on physical and mental health and well-being. **Physical** health is divided into 4 parts. Mental health consists of 4 parts. Mental well-being with 5 questions. **Methods:** This study used quantitative descriptive research. The subjects involved 76 from 11 communities in South Sulawesi. The instrument used the Quality-of-Life SRH (SF-36), which contains that must be assessed by the subjects. The data collection was done through Google Forms and shared through each or between communities. The answers were assessed independently based on what is thought and are subjective; these answers are early predictors of everyone's health. This questionnaire was distributed from January 25 to April 20, 2024. **Findings and Results:** The results of the significance calculation are fun. A run against physical health obtained a t-value of 3.494 and p of 0.001, mental health obtained a t-value of 3.671 and p of 0.000, and mental well-being obtained a t-value of 3.613 and p of 0.000. **Conclusion:** Fun runs have an impact on physical and mental health and mental well-being. This study cannot be generalised to other research subjects due to the limitations of the researchers. However, the results of the study were developed and socialised so that the people of South Sulawesi are more active in living and achieving long-term life goals.

Keywords: Fun run; physical health; mental health; mental well-being; physical activity



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Corresponding Author: Poppy Elisano Arfanda, Department of Physical Education, Health and Recreation, Faculty of Sport and Health Science, Universitas Negeri Makassar, Makassar, Indonesia
poppy.elisano@unm.ac.id

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INTRODUCTION

What is a fun run (FR)? Running leisurely and fun, either in the absence of competition, is known as FR (Scheerder et al., 2015). It is interesting as the FR players may generate the enjoyment themselves. Photo sessions, costumes according to themes, routes, or self-determined speed are some of the attractions of FR.

FR participants can come from various age groups, male and female (Bond & Batey, 2016). No official distance runners must cover, but generally, the minimum distance covered is 5 kilometers. And one of the most popular types of physical activity (PA) aerobic exercise is jogging and it's cheap and easy to do (Arfanda et al., 2024). The most popular motivations for doing FR for fun are encouraging people to join, establishing running as a non-exercise activity, and combining it with other activities, like charity events (Haryanto et al., 2021; Isnaini et al., 2021; Rahma & Wempi, 2023; Gute et al., 2022). The secondary goal of a fun run is to eliminate boredom at work so that a fun run can be used as a recreational event (Fathoni & Qoriah, 2023).

The term FR was first coined in the 1970s and was used to describe an activity where people would run a predetermined distance with rules that were not too strict (Isnaini et al., 2021; Fathoni & Qoriah, 2023). The organisation of fun runs is usually associated with charity events and celebrating certain things. FR is one of the world's most popular mass-running activities (Haryanto et al., 2021). The number of participants does not limit this activity. In addition, this activity is usually carried out in the city center and does not require a special field or media for running. In the 21st century, Fun Run organisers are usually held on the highway (Chaeroni et al., 2021). One of the most popular fun run races is Bay to Bakers in San Francisco, California. In 1986, Bay to Breakers was held and attended by 110 thousand people (Harris et al., 2018). Even the FR Bay to Breakers activity in 2025, has been designed and launched (Harris et al., 2018).

While previous studies have explored the benefits of physical activity, including FR, on physical and mental health (Topp et al., 2015; Nakamura et al., 2014; Marques et al., 2019), there is a lack of research that specifically investigates self-rated PH, Mental Health (MH), and Mental Well Being (MWB) among fun run participants in South Sulawesi. Many previous studies have not been specific about the physical activity undertaken, so the researchers took physical activity, especially fun runs, which are currently popular. Most studies have focused on objective health measures, leaving a gap in understanding participants' perceptions of their health and well-being in the context of fun runs. Additionally, using subjective assessment instruments, like the SF-36, to gauge participants' self-assessments in a local South Sulawesi context is relatively novel. This research addresses this gap by focusing on subjective health outcomes in a regional setting (Tinartayu & Riyanto, 2015; Haris et al., 2019; Zhang et al., 2020; Sirois, 2020).

What makes this study different is that it used a self-rated health questionnaire (SF-36), which is less common in similar studies, focusing mainly on subjective health assessments in the context of leisure running (Silva & Sobreiro, 2022). The SF-36 Quality of Life Questionnaire and the WHO-5 Well-Being Index were used to assess self-perceived health and well-being, offering a different perspective compared to studies that rely solely on objective measures such as heart rate or VO₂ max (Açma et al., 2022). The scope of this study was leisure running participants, exploring how this specific activity affects different aspects of health, resulting in a more focused analysis (Nakamura et al., 2014).

The World Health Organization (WHO) defines PA as any bodily movement that requires energy and is performed by skeletal muscles (Bull et al., 2020). PA can include a variety of movements, from everyday activities such as walking or climbing stairs, to structured sports activities such as swimming, running, or aerobics (Wong et al., 2023). Frequent PA has been demonstrated to aid in the prevention and treatment of non-communicable illnesses, including diabetes, heart disease, stroke, hypertension, and many cancers (Saqib et al., 2020). One of the popular PAs today is FR. It can also enhance the quality of life, mental well-being (MWB), mental health (MH), and aiding with weight maintenance. All movement and moderate intensity are referred to be PA. PA enhances well-being (World Health Organization, 2020).

FR is a popular form of PA that many people engage in as part of an active lifestyle (Wintle, 2022; Arfanda et al., 2024). FR fits this definition of PA, as it involves sustained, moderate to vigorous body movement (Durdin-Myers et al., 2018; Gebel et al., 2015; Atkin & Gill, 2023). Regular engagement in PA, in this case, FR, has been shown to offer many health benefits. It helps prevent and treat non-communicable diseases such as diabetes, heart disease, stroke, hypertension, and certain cancers (Wong et al., 2023; Bremer & Lloyd, 2014). Beyond these physical benefits, PA also contributes significantly to MH and overall MWB. PA including FR, helps maintain a healthy weight, improves mental clarity, reduces stress, and improves mood.

In this context, FR serves as a form of social and recreational PA that encourages community participation while providing the broader health benefits associated with regular physical movement. Therefore, this study

examines the self-rated PH, MH, and MWB of FR participants in South Sulawesi, linking their engagement in the event to positive outcomes traditionally associated with PA. By focusing specifically on self-ratings, this study adds a unique layer of understanding to the relationship between PA and health outcomes, highlighting how fun running, as a form of PA, influences individuals' perceptions of their health (Quirk et al., 2021).

PA is a lifestyle habit that is a determining factor in health status. It shows daily habits that can directly impact a person's health (Stoewen, 2017). An active lifestyle can be achieved through activities that require physical movement that expend energy. Some habits, such as walking, cycling, running, other sports, active recreation, and play, can be done at any skill level and are done happily as part of an active lifestyle (Posadzki et al., 2020). Maintaining health includes taking time to exercise the muscles and joints of the human body in everyday life. A physically active lifestyle is one way to prevent unwanted physiological and psychological health impacts (Kansra et al., 2021; Lavie et al., 2018; Ryu et al., 2023; Powell-Wiley et al., 2021). It has been proven that lack of PA is one of the main risk factors that can cause obesity (Fletcher et al., 2018).

FR is one type of PA that is gaining popularity once again. As a result, any FR performed will produce findings comparable to other PA performed on a constant and regular basis. Running is a possible kind of high-intensity physical activity that does not require specific equipment, can be done anywhere and at any time, and requires simply comfortable apparel and a pair of running shoes (Lu et al., 2021; Cao et al., 2024; Venegas-Carro et al., 2023). As a result, running is a popular form of physical activity, and there are several training plans available to runners based on their specific demands. FR is one of the effective methods to minimise the risk of cardiovascular disease (Pedisic et al., 2020; Chalfoun et al., 2016).

Regular PA has an impact on MH in both adolescents and adults (Wu & Jiang, 2024). PA for at least 60 minutes every day has an impact on MH. MH and PA are two factors that interact. Poor MH is the leading cause of disease in general, with depression playing a prominent role. Consistent and ongoing PA can help to avoid the emergence of MH issues like depression, anxiety, and stress. The primary objective of PA is to achieve and improve overall health (Teychenne et al., 2020). MH issues are a major source of loss among teenagers (Erskine et al., 2015), and because the majority of adult mental illnesses begin in adolescence (Jones, 2013), it is critical to research effective preventative techniques. One way to guard against adult mental health issues is with PA (Choi et al., 2019; Wu & Jiang, 2024).

PA affects MH (Lubans et al., 2016), various behavioural, psychological, or neurological processes may be the cause of these effects. Neurobiological processes, for instance, can describe how aerobic PA affects the formation and function of several brain areas (Portugal et al., 2013). Moreover, strength training's beneficial effects on emotions of "self" (such as self-worth, self-efficacy, and self-perception) may be referred to as psychosocial processes (Collins et al., 2019). Last but not least, behavioural processes might allude to how different aerobic PA could affect self-regulatory abilities like focus and attention (Laberge et al., 2012; Arfanda et al., 2023). These processes then have an impact on different mental health outcomes, such as depression (Steiger et al., 2014). Understanding these pathways is essential to creating focused, successful treatments (Doré et al., 2020; Åvitsland et al., 2021). Apart from affecting PH and MH, body mechanisms will also affect MWB (Denworth, 2023; Lubans et al., 2016; Rodriguez-Ayllon et al., 2019). Significant increases in physical activity can increase well-being (Herbert et al., 2020; Stubbs et al., 2017). Based on several previous studies above, FR is one of the PA. This study links FR with PH, MH, and MWB. FR was chosen because it is currently one of the most popular sports in South Sulawesi or Indonesia, even in the world. The purpose of this study was to explore the assessment of PH, MH, and MWB of FR participants in South Sulawesi. By examining how engagement in FR, a form of PA, affects individuals' perceptions of their health.

METHOD

This study is a correlational study aims at examining the relationship between participation in FR activities with PH, MH, and MWB in active FR community participants in South Sulawesi. This study used a quantitative descriptive approach, involving 76 participants consisting of men and women from 11 different FR communities who completed an online survey distributed via Google Forms between January 25 and April 2024. Data collection used the SRH Quality of Life Questionnaire (SF-36) to assess PH and MH and the

WHO-5 Well-Being Index to evaluate MWB. SF-36 measures aspects such as physical function (PF), role physical (RP), body pain (BP), general health (GH), vitality (VT), social function (SF), role emotional (RE), and mental health (MH), while WHO-5 captures MWB over the previous two weeks through questions about mood, relaxation, enthusiasm, and interest in life. Analysis was conducted using SmartPLS to assess the validity and reliability of the variables, producing validity results > 0.5 and Cronbach's alpha > 0.5, confirming high reliability. Correlation and significance tests (p-value < 0.05) revealed a significant positive relationship between FR participation and dependent variables (PH, MH, and MWB), highlighting the beneficial impact of FR on PH, MH, and MWB.

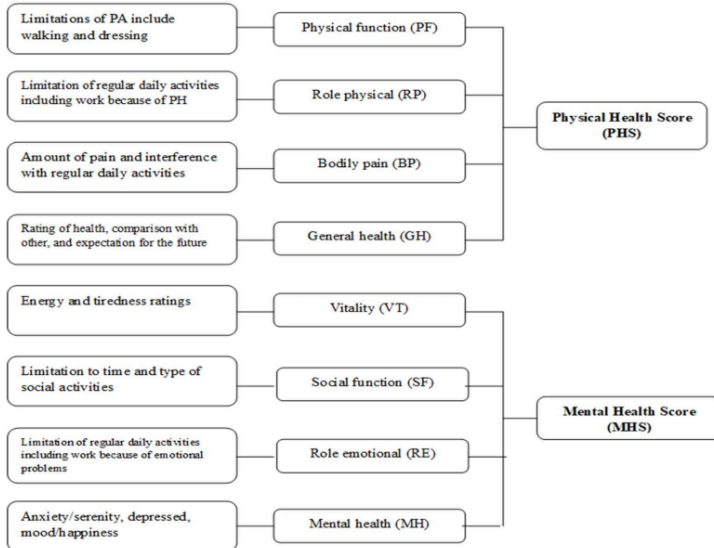


Figure 1. Quality of Life SRH (SF-36)
 (Rodbard et al., 2014)

Questionnaires related to MWB relate to how respondents felt during the last 2 weeks. The WHO-5 questionnaire asks you to indicate each of the 5 statements which are closest to how you have felt during the past 2 weeks. The MWB assessment refers to the WHO mental well-being scale in Table 1.

Table 1. Mental Well-Being (The WHO-5 Questionnaire)

Over The Past 2 weeks	All of the time	Most of the time	More than half the time	Less than half the time	Some of the time	At no time
1. I have felt cheerful and in good spirits	5	4	3	2	1	0
2. I have felt calm and relaxed	5	4	3	2	1	0
3. I have felt active and vigorous	5	4	3	2	1	0
4. I woke up feeling fresh and rested	5	4	3	2	1	0
5. My daily life has been filled with things that interest me	5	4	3	2	1	0

*Scoring principle: The raw score ranging from 0-25 is multiplied by 4 to give the final score from 0 representing the worst imaginable well-being to 100 representing the best imaginable well-being (Topp et al., 2015).

The questionnaire does not feature as many detailed questions as possible so that respondents define their health. Self-assessed answers are based on what one thinks and are subjective, this answer is an initial predictor of everyone's health. This questionnaire was distributed from January 25 to April 2024. FR may have a positive impact on all dimensions of health measured. However, it is important to note that the self-assessment nature of the survey results, while valid and reliable, reflects subjective perceptions of health.

RESULTS AND DISCUSSION

The data collection results through Google Forms are calculated using the SmartPLS application. SmartPLS is used to test the model of the structure of the relationship between complex variables, which are measured through observed variables, and allows researchers to see how several variables affect each other.

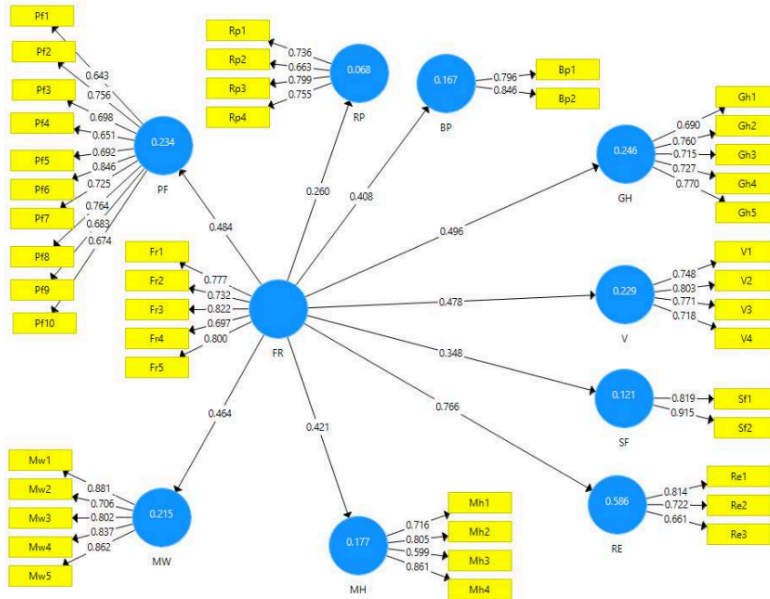


Figure 2. SmartPLS

The figure above illustrates the SmartPLS calculation map, which shows the correlation between FR and the variables PF, RP, SF, GH, BP, RE, VT, MH, and MWB, along with the validity and reliability of each variable. In this study, each indicator is predicted to be able to explain each variable based on the results of the validity and reliability tests in SmartPLS. The researcher did not conduct a validity and reliability test first but instead analysed the data directly from the sample using SmartPLS.

Validity

Validity is a measurement that refers to the extent to which an instrument or measuring tool actually measures what it is supposed to measure. The validity test for this study was performed using SmartPLS factor analysis. The validity test findings for the variables FR, PF, RP, BP, GH, MH, VT, SF, RE, and MWB were

all over 0.5, consistent with the norm for all other loading statistical values. Thus, because all validity results are greater than 0.5 (Yamin, 2021), it is possible to conclude that all research indicators are valid for measuring each variable, implying that the indicators in the study are highly accurate for measuring each variable in this study.

Table 1. Validity Test Result

	PF	RP	BP	GH	VT	SF	RE	MH	MWB	FR
PF1	0.643									
PF2	0.756									
PF3	0.698									
PF4	0.651									
PF5	0.692									
PF6	0.846									
PF7	0.725									
PF8	0.764									
PF9	0.683									
PF10	0.674									
RP1		0.736								
RP2		0.663								
RP3		0.799								
RP4		0.755								
BP1			0.796							
BP2			0.846							
GH1				0.690						
GH2				0.760						
GH3				0.715						
GH4				0.727						
GH5				0.770						
VT1					0.748					
VT2					0.803					
VT3					0.771					
VT4					0.718					
SF1						0.819				
SF2						0.915				
RE1							0.814			
RE2							0.722			
RE3							0.661			
MH1								0.716		
MH2								0.805		
MH3								0.599		
MH4								0.861		
MWB1									0.881	
MWB2									0.706	
MWB3									0.802	
MWB4									0.837	
MWB5									0.862	
FR1										0.777
FR2										0.732
FR3										0.822
FR4										0.697
VR5										0.800

Table 1 shows that the results of the validity test state that all statistical values obtained by each indicator are > 0.5; thus, each indicator can be said to be valid.

Reliability

Reliability refers to the consistency of the use of a measuring instrument in producing stable and consistent results over time. A reliable measuring instrument provides the same results when used repeatedly under the same conditions. One of the most common methods for measuring internal reliability. Cronbach's alpha values range from 0 to 1, with values > 0.5 generally considered reliable.

Table 2. Reliability Test Results

Variable	Cronbach's alpha value
PF	0.912
RP	0.828
BP	0.806
GH	0.853
VT	0.846
SF	0.859
RE	0.778
MH	0.836
MWB	0.911
FR	0.877

Table 2 shows the statistical value of 10 research variables is > 0.5 (Yamin, 2021), which indicates that all indicators in each variable are reliable. The reliability value achieved suggests that the indicators of this study are very reliable, meaning that the indicators have perfect consistency when measuring the variables of this study. Researchers have little control over the variance of respondents, so Cronbach's alpha value is > 0.5. The reliability testing technique is carried out by entering data into the SmartPLS programme and directly viewing Cronbach's alpha value.

Correlation Statistical Test Between Independent and Dependent Variables

The results of statistical computations of the computed t-value and alpha probability value of 0.05 may be used to estimate the extent of the effect of the independent and dependent variables. The following table displays the results of the computation.

Table 3. Correlation Statistical Test

	Original Sample (O)	Mean (M)	SD	T Statistic	P Values
FR-PF	0.484	0.502	0.104	4.671	0.000
FR-RP	0.260	0.290	0.077	3.384	0.001
FR-BP	0.408	0.423	0.104	3.924	0.000
FR-GH	0.496	0.514	0.086	5.791	0.000
FR-VT	0.478	0.485	0.086	5.534	0.000
FR-SF	0.348	0.360	0.104	3.333	0.001
FR-RE	0.766	0.767	0.044	17.524	0.000
FR-MH	0.421	0.440	0.092	4.581	0.000
FR-MWB	0.464	0.475	0.094	4.952	0.000

Based on Table 3 above, it can also be explained the influence of independent variables on dependent variables, namely FR on PF, RP, BP, GH, VT, SF, RE, MH, and MWB. The results of the statistical analysis obtained the P value of FR on all variables < 0.05, so it can be concluded that the independent variables have a significant effect on the dependent variable. Thus, it can be said that FR affects PF, RP, BP, GH, VT, SF, RE, MH, and MWB. Running is one of the most popular types of PA. Running as a sport and recreation activity has great benefits and has the potential to increase PH. In a systematic review of surveys and interventions published in 2015, Oja et al concluded that there is evidence regarding the benefits of PH from participating in all sports (Pedisic et al., 2020). This study shows that the FR conducted is correlated and significant to PH. FR regularly is one of the popular PA that is done and made into a healthier lifestyle. Several previous studies have shown the same thing, that with high popularity running's great appeal and accessibility

play an important part in encouraging and promoting PA lifestyles in society. To ensure the implementation of programmes that encourage PA effectively, and reduce the risk of lifestyle-related diseases (Hespanhol Junior et al., 2015; Pedisic et al., 2020; Fletcher et al., 2018; Hespanhol Junior et al., 2015). Some evidence suggests that high-intensity aerobic PA is better than moderate-intensity aerobic PA in reducing the risk of death (Shiroma et al., 2014). This is by WHO recommendations, namely 75 minutes a week of high-intensity aerobic PA or 150 minutes a week of moderate-intensity aerobic PA (Teychenne et al., 2020; Weatherson et al., 2020).

In comparison to non-runners, runners experienced 30-45% lower all-cause mortality and health consequences after age and gender adjustments, according to many large population-based studies (Lee et al., 2014; Oja et al., 2017). Because they are more likely to smoke, drink alcohol, have poor nutrition, or be overweight, PA is particularly essential for those with mental health issues (Velten et al., 2014). PA has been shown to reduce symptoms of a variety of mental health disorders (Zschucke et al., 2013; Teychenne et al., 2020).

This study confirms the findings of previous studies on the benefits of PA such as FR. Similar to the results of studies by Pedisic et al (2020) and Oja et al. (2017), which showed that PA, especially FR, is positively correlated with PH outcomes, this study showed a significant effect of FR on PF and related aspects (RP, BP, GH). The results of this study are in line with broader research highlighting how FR can significantly reduce the risk of mortality and contribute to a healthier lifestyle (Lee et al., 2014; Shiroma et al., 2014). The significant positive impact of FR on PH and MH, as demonstrated by the statistical results of this study, strengthens the growing evidence supporting regular participation in physical activity, especially running, as a means to improve overall health. The t-values and p-values reported in this study indicate that FR has a profound impact on PF, RP, BP, and GH, which confirms previous conclusions that aerobic exercise plays an important role in reducing lifestyle-related diseases (Hespanhol Junior et al., 2015).

A research study reveals that long-distance running may be used as a therapeutic modality and that running can enhance mental health (Poczta & Malchrowicz-Moško, 2018; Malchrowicz-Moško et al., 2020). This study supports multiple earlier studies that have shown FR to be correlated and significant with MH. Positive effects of FR are seen in MH. According to several research, participant's moods and sense of self-worth improved while their levels of anxiety, stress, sadness, and rage declined (Rogerson et al., 2016; Morris & Scott, 2019; Teychenne et al., 2020; Pascoe et al., 2020). Researchers have shown that, in the early stages, FR participants focus on the health benefits, but later they are integrated into the community, so they have the opportunity to socialise well (Stevinson et al., 2015). FR provides a space to collaborate with other community members, where FR participants simultaneously feel that their health is improving (Wiltshire & Stevinson, 2018).

FR practitioners feel that what they do has an effect on fitness, MH, SF, and increases self-confidence, as well as maintaining participation in FR (Stevinson & Hickson, 2014). Teenagers who exercise frequently can decrease their levels of anxiety, despair, and other unpleasant feelings. Exercise that is appropriate for the teenager will boost MH and positively influence the development of MH in adolescents. Playing sports may help you stay mentally well, stay physically strong and energetic, and enhance your cognitive abilities. In addition to enhancing athletes' focus, recall, reflexes, and cognitive processes, it also ignites their creative juices. To increase their physical fitness and mental health, teenagers are therefore urged to actively participate in sports (Wu & Jiang, 2024).

In addition, the impact of FR on MH observed in this study is consistent with findings from previous studies, which consistently show that physical activity reduces symptoms of mental health disorders such as anxiety, depression, and stress (Teychenne et al., 2020). However, this study complements existing literature by specifically exploring the impact of FR in South Sulawesi. Furthermore, the significant correlation between FR and MH highlights the importance of incorporating PA into MH interventions, especially given the high prevalence of MH disorders globally (Velten et al., 2014).

MWB is a subjective experience and concept for self-actualisation, MWB is not only understood as being free from disease. People with strong MWB, on the other hand, will grow and have high degrees of social, psychological, and emotional development. MWB indicates positive functioning in six domains: self-

acceptance, positive relationships with others, personal growth, life goals, environmental mastery, and autonomy. It also describes an individual's emotional state and cognitive evaluation of life satisfaction, including the presence of positive feelings, the absence of negative feelings, and overall perceived satisfaction with life (Kekäläinen et al., 2020; Rodriguez-Ayllon et al., 2019). This study also found a link between FR and MWB. Some evidence from samples of adolescents and adults who do PA generally have higher MWB than those who do not (Andersen et al., 2019; Doré et al., 2016). The high and low intensity of training also affects a person's MWB level (Holstila et al., 2017; Panza et al., 2019). MWB is also influenced by gender and, the type of sport played (Wolf & Wohlfart, 2014; Arfanda et al., 2024).

The benefits of FR for MWB have been shown by earlier studies (Stevinson & Hickson, 2014). Research has indicated that children and adolescents in the general population who engage in physical exercise have higher levels of MH and MWB (Lubans et al., 2016; Andersen et al., 2017). Specifically, it has been proposed that physical activity is crucial for fostering positive self-image and self-esteem as well as for lowering anxiety and social inhibition (Liu et al., 2015). Much research has revealed a favorable correlation between MWB and PA levels (Downward & Dawson, 2016; Wicker & Frick, 2015); nevertheless, new investigations into the association between PA intensity and subjective well-being in healthy individuals have produced contradictory findings (Downward & Dawson, 2016; Wicker & Frick, 2015; Loprinzi, 2015; Loprinzi & Davis, 2016).

The findings of this study introduce new insights into the positive effects of FR on MWB. Unlike many studies that focus on objective health measures, this study incorporates self-rated health assessments using tools such as the SF-36 and the WHO Well-Being Index-5, which highlight participants' perceptions of their health and MWB. These subjective assessments underscore the importance of not only physical fitness, but also mental resilience and well-being gained through regular participation in FR. This study also provides new insights into the social benefits of FR, specifically how participants integrate into the community, foster positive social relationships, and enhance self-esteem, which contributes to MH and SF. Furthermore, the findings emphasize that FR may serve as an effective intervention to promote psychological development, particularly among adolescents, by enhancing self-esteem and reducing social inhibition, as previously noted (Lubans et al., 2016; Liu et al., 2015).

In terms of MWB, the findings suggest that the benefits of FR extend beyond traditional measures of physical fitness. By fostering a sense of community and promoting social interaction, FR serves as a holistic activity that enhances individuals' psychological and emotional growth. This underscores the multifaceted nature of MWB, encompassing social, psychological, and emotional components (Kekäläinen et al., 2020). Furthermore, the findings of this study demonstrate the importance of self-assessment in understanding health outcomes, as subjective perceptions of health can provide valuable insights into personal well-being and may motivate individuals to continue engaging in health-promoting behaviours.

However, it is important to consider that the benefits of FR, like other forms of PA, may vary depending on factors such as intensity, frequency, and individual participant characteristics. While this study provides strong evidence for the positive effects of FR, it is limited by its focus on self-assessed measures and its relatively small sample size in one region. Further research is needed to explore the long-term impact of FR in different populations and to examine how factors such as gender, socioeconomic status, and pre-existing health conditions may mediate these effects. Nonetheless, this study presents a strong case for the integration of leisure running into public health strategies aimed at improving PH, MH, and MWB.

CONCLUSION

This study recommends FR as a practical and accessible way to improve PH, MH, and MWB. This study suggests that fun running can be an alternative or complement to other health interventions, providing a simple yet effective approach to achieving holistic health. The current study provides a new perspective by demonstrating the interrelationships between PA, MH, and MWB. This study contributes to the body of knowledge by adding empirical evidence on how FR, as a form of PA, positively impacts PH, MH, and MWB in South Sulawesi. This study introduces a methodological contribution by using self-assessment tools (SF-36 and WHO-5) to evaluate participants' perceptions of their PH, MH, and MWB. This approach emphasises subjective experiences of health and well-being. The limitations of this study are that it focuses on fun run

participants in South Sulawesi, thus limiting generalisation to other regions, and the assessment using a questionnaire may cause bias due to different perceptions of respondents. Recommendations for future research include involving more participants and a wider area so that it can be generalised.

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CONFLICT OF INTEREST

All authors declare no conflict of interest.

REFERENCES

- Açma, A., Carrat, F., & Hejblum, G. (2022). Comparing SF-36 Scores Collected Through Web-Based Questionnaire Self-Completions and Telephone Interviews: An Ancillary Study of the Sentipat Multicenter Randomized Controlled Trial. *Journal of Medical Internet Research*, 24(3). <https://doi.org/10.2196/29009>
- Andersen, J. R., Natvig, G. K., Aadland, E., Moe, V. F., Kolotkin, R. L., Anderssen, S. A., & Resaland, G. K. (2017). Associations between Health-Related Quality of Life, Cardiorespiratory Fitness, Muscle Strength, Physical Activity and Waist Circumference in 10-Year-Old Children: The Ask Study. *Quality of Life Research*, 26(12), 3421–3428. <https://doi.org/10.1007/s11136-017-1634-1>
- Andersen, M. H., Ottesen, L., & Thing, L. F. (2019). The Social and Psychological Health Outcomes of Team Sport Participation in Adults: An Integrative Review of Research. *Scandinavian Journal of Public Health*, 47(8), 832–850. <https://doi.org/10.1177/1403494818791405>
- Arfanda, P. E., Hasmyati, Syahrudin, Aprilo, I., Arimbi, Mappaampo, M. A., Latuheru, R. V., Puspodari, & Putera, S. H. P. (2023). Rote Low Impact Aerobics Dance and Video Low Impact Aerobics Dance Can Increase Concentration in Adolescents. *JOSSAE (Journal of Sport Science and Education)*, 8(1), 21–28. <https://doi.org/10.26740/jossae.v8n1.p21-28>
- Arfanda, P. E., Aprilo, I., Mappaampo, M. A., Muhammad, H. N., & Jr, P. B. D. (2024). Self-Rated Health of Physical Function, Physical Role, and Bodily Pain are Related to General Health in the Fun-Run Community. *International Journal of Physical Education, Sports and Health*, 11(3), 365–368. <https://doi.org/10.22271/kheljournal.2024.v11.i3f.3367>
- Atkin, A. J., & Gill, J. M. R. (2023). Physical Activity—Maximising Benefits for All. *British Journal of Sports Medicine*, 57(22), 1411–1412. <https://doi.org/10.1136/bjsports-2023-107765>
- Åvitsland, A., Leibinger, E., Kolle, E., Haugen, T., & Dyrstad, S. M. (2021). Associations Between Changes in Physical Fitness and Psychological Difficulties Status among Norwegian Adolescents. *Mental Health and Physical Activity*, 21(March), 100411. <https://doi.org/10.1016/j.mhpa.2021.100411>
- Bond, K. A., & Batey, J. (2016). Running for Their Lives: A Qualitative Analysis of the Exercise Experience of Female Recreational Runners. *Women in Sport and Physical Activity Journal*, 14(2), 69–82. <https://doi.org/10.1123/wspaj.14.2.69>
- Bremer, E., & Lloyd, M. (2014). The Importance of Fundamental Movement Skill Proficiency for Physical Activity in Elementary School Age Females. *PHENex Journal*, 6(2), 1–12. <https://ojs.acadiau.ca/index.php/phenex/article/view/1535>

- Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., Carty, C., Chaput, J. P., Chastin, S., Chou, R., Dempsey, P. C., Dipietro, L., Ekelund, U., Firth, J., Friedenreich, C. M., Garcia, L., Gichu, M., Jago, R., Katzmarzyk, P. T., ... Willumsen, J. F. (2020). World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *British Journal of Sports Medicine*, 54(24), 1451–1462. <https://doi.org/10.1136/bjsports-2020-102955>
- Cao, M., Yang, B., Tang, Y., Wang, C., & Yin, L. (2024). Effects of Low-Volume Functional and Running High-Intensity Interval Training on Physical Fitness in Young Adults with Overweight/Obesity. *Frontiers in Physiology*, 15(January), 1–11. <https://doi.org/10.3389/fphys.2024.1325403>
- Chaeroni, A., Kusmaedi, N., Ma'mun, A., & Budiana, D. (2021). Aktivitas Fisik : Apakah Memberikan Dampak Bagi Kebugaran Jasmani dan Kesehatan Mental? *Jurnal Sporta Saintika*, 6(1), 54–62. <https://doi.org/10.24036/sporta.v6i1.163>
- Chalfoun, C., Karelis, A. D., Stip, E., & Abdel-Baki, A. (2016). Running for Your Life: A Review of Physical Activity and Cardiovascular Disease Risk Reduction in Individuals with Schizophrenia. *Journal of Sports Sciences*, 34(16), 1500–1515. <https://doi.org/10.1080/02640414.2015.1119875>
- Choi, K. W., Chen, C. Y., Stein, M. B., Klimentidis, Y. C., Wang, M. J., Koenen, K. C., Smoller, J. W., Wray, N. R., Ripke, S., Mattheisen, M., Trzaskowski, M., Byrne, E. M., Abdellaoui, A., Adams, M. J., Agerbo, E., Air, T. M., Andlauer, T. F. M., Bacanu, S. A., Bækvad-Hansen, M., ... Sullivan, P. F. (2019). Assessment of Bidirectional Relationships between Physical Activity and Depression among Adults a 2-Sample Mendelian Randomization Study. *JAMA Psychiatry*, 76(4), 399–408. <https://doi.org/10.1001/jamapsychiatry.2018.4175>
- Collins, H., Booth, J. N., Duncan, A., & Fawcner, S. (2019). The Effect of Resistance Training Interventions on Fundamental Movement Skills in Youth: A Meta-Analysis. *Sports Medicine - Open*, 5(1). <https://doi.org/10.1186/s40798-019-0188-x>
- Denworth, L. (2021). *Adolescent Brains Are Wired to Want Status and Respect: That's an Opportunity for Teachers and Parents*. Scientific American, a Division of Springer Nature America, Inc. <https://doi.org/10.1038/scientificamerican0521-56>
- Doré, I., O'Loughlin, J. L., Beauchamp, G., Martineau, M., & Fournier, L. (2016). Volume and Social Context of Physical Activity in Association with Mental Health, Anxiety and Depression among Youth. *Preventive Medicine*, 91, 344–350. <https://doi.org/10.1016/j.ypmed.2016.09.006>
- Doré, I., Sylvester, B., Sabiston, C., Sylvestre, M. P., O'Loughlin, J., Brunet, J., & Bélanger, M. (2020). Mechanisms Underpinning the Association between Physical Activity and Mental Health in Adolescence: A 6-Year Study. *International Journal of Behavioral Nutrition and Physical Activity*, 17(1), 1–9. <https://doi.org/10.1186/s12966-020-0911-5>
- Downward, P., & Dawson, P. (2016). Is It Pleasure or Health from Leisure that we Benefit from Most? An Analysis of Well-Being Alternatives and Implications for Policy. *Social Indicators Research*, 126, 443–465. <https://doi.org/10.1007/s11205-015-0887-8>
- Durden-Myers, E. J., Green, N. R., & Whitehead, M. E. (2018). Implications for Promoting Physical Literacy. *Journal of Teaching in Physical Education*, 37(3), 262–271. <https://doi.org/10.1123/jtpe.2018-0131>
- Erskine, H. E., Moffitt, T. E., Copeland, W. E., Costello, E. J., Ferrari, A. J., Patton, G., Degenhardt, L., Vos, T., Whiteford, H. A., & Scott, J. G. (2015). A Heavy Burden on Young Minds: The Global Burden of Mental and Substance use Disorders in Children and Youth. *Psychological Medicine*, 45(7), 1561–1563. <https://doi.org/10.1017/S0033291714002888>

- Fathoni, M. I., & Qorih, A. (2023). Manajemen Event New Year Run 2022 Semarang Runners. *Indonesian Journal for Physical Education and Sport*, 4(1), 289–298. <https://doi.org/10.15294/inapes.v4i0.62348>
- Fletcher, G. F., Landolfo, C., Niebauer, J., Ozemek, C., Arena, R., & Lavie, C. J. (2018). Promoting Physical Activity and Exercise: JACC Health Promotion Series. *Journal of the American College of Cardiology*, 72(14), 1622–1639. <https://doi.org/10.1016/j.jacc.2018.08.2141>
- Gebel, K., Ding, D., Chey, T., Stamatakis, E., Brown, W. J., & Bauman, A. E. (2015). Effect of Moderate to Vigorous Physical Activity on All-Cause Mortality in Middle-Aged and Older Australians. *JAMA Internal Medicine*, 175(6), 970–977. <https://doi.org/10.1001/jamainternmed.2015.0541>
- Gute, D., Schlögl, S., & Groth, A. (2022). Keep on Running! An Analysis of Running Tracking Application Features and Their Potential Impact on Recreational Runner's Intrinsic Motivation. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 13304 LNCS, 359–373. https://doi.org/10.1007/978-3-031-05412-9_25
- Harris, J., Cook, T., Gibbs, L., Oetzel, J., Salsberg, J., Shinn, C., Springett, J., Wallerstein, N., & Wright, M. (2018). Searching for the Impact of Participation in Health and Health Research: Challenges and Methods. *BioMed Research International*, 2018. <https://doi.org/10.1155/2018/9427452>
- Haris, R. N. H., Makmur, R., Andayani, T. M., & Kristina, S. A. (2019). Penilaian Properti Psikometrik Instrumen Kualitas Hidup (HRQoL) pada Populasi Umum: Tinjauan Sistematis. *Jurnal Manajemen dan Pelayanan Farmasi (Journal Of Management And Pharmacy Practice)*, 9(2), 65–75. <https://doi.org/10.22146/jmpf.41911>
- Haryanto, A. I., Kadir, S. S., Ramadan, G., Fataha, I., Samin, G., & Gani, A. A. (2021). Membangkitkan Semangat Berolahraga melalui Kegiatan Fun Run. *Jurnal Sibermas (Sinergi Pemberdayaan Masyarakat)*, 10(2), 442–449. <https://doi.org/10.37905/sibermas.v10i2.11356>
- Herbert, C., Meixner, F., Wiebking, C., & Gilg, V. (2020). Regular Physical Activity, Short-Term Exercise, Mental Health, and Well-Being among University Students: The Results of an Online and a Laboratory Study. *Frontiers in Psychology*, 11(May). <https://doi.org/10.3389/fpsyg.2020.00509>
- Hespanhol Junior, L. C., Pillay, J. D., van Mechelen, W., & Verhagen, E. (2015). Meta-Analyses of the Effects of Habitual Running on Indices of Health in Physically Inactive Adults. *Sports Medicine*, 45(10), 1455–1468. <https://doi.org/10.1007/s40279-015-0359-y>
- Holstila, A., Mänty, M., Rahkonen, O., Lahelma, E., & Lahti, J. (2017). Changes in Leisure-Time Physical Activity and Physical and Mental Health Functioning: A Follow-Up Study. *Scandinavian Journal of Medicine and Science in Sports*, 27(12), 1785–1792. <https://doi.org/10.1111/sms.12758>
- Isnaini, L. M. Y., Alfarizi, L. M., & Mulyan, A. (2021). Survei Minat dan Motivasi Masyarakat Mengikuti Fun Race and Trail Run di Masa New Normal di Kawasan Pariwisata Sembalun Lombok Timur Nusa Tenggara Barat. *Jurnal Ilmiah Mandala Education*, 7(1), 11–15. <https://doi.org/10.58258/jime.v7i1.1626>
- Jones, P. B. (2013). Adult Mental Health Disorders and Their Age at Onset. *British Journal of Psychiatry*, 202(SUPPL. 54), 5–10. <https://doi.org/10.1192/bjp.bp.112.119164>
- Kansra, A. R., Lakkunarajah, S., & Jay, M. S. (2021). Childhood and Adolescent Obesity: A Review. *Frontiers in Pediatrics*, 8(January), 1–16. <https://doi.org/10.3389/fped.2020.581461>
- Kekäläinen, T., Freund, A. M., Sipilä, S., & Kokko, K. (2020). Cross-Sectional and Longitudinal Associations between Leisure Time Physical Activity, Mental Well-Being and Subjective Health in Middle Adulthood. *Applied Research in Quality of Life*, 15(4), 1099–1116. <https://doi.org/10.1007/s11482-019-09721-4>

- Laberge, S., Bush, P. L., & Chagnon, M. (2012). Effects of a Culturally Tailored Physical Activity Promotion Program on Selected Self-Regulation Skills and Attitudes in Adolescents of an Underserved, Multiethnic Milieu. *American Journal of Health Promotion, 26*(4), 105–116. <https://doi.org/10.4278/ajhp.090625-QUAN-202>
- Lavie, C. J., Laddu, D., Arena, R., Ortega, F. B., Alpert, M. A., & Kushner, R. F. (2018). Reprint of: Healthy Weight and Obesity Prevention: JACC Health Promotion Series. *Journal of the American College of Cardiology, 72*(23), 3027–3052. <https://doi.org/10.1016/j.jacc.2018.10.024>
- Lee, D. C., Pate, R. R., Lavie, C. J., Sui, X., Church, T. S., & Blair, S. N. (2014). Leisure-Time Running Reduces All-Cause and Cardiovascular Mortality Risk. *Journal of the American College of Cardiology, 64*(5), 472–481. <https://doi.org/10.1016/j.jacc.2014.04.058>
- Liu, M., Wu, L., & Ming, Q. (2015). How Does Physical Activity Intervention Improve Self-Esteem and Self-Concept in Children and Adolescents? Evidence from a Meta-Analysis. *PLoS ONE, 10*(8), 1–17. <https://doi.org/10.1371/journal.pone.0134804>
- Loprinzi, P. D. (2015). Joint Associations of Objectively-Measured Sedentary Behavior and Physical Activity with Health-Related Quality of Life. *Preventive Medicine Reports, 2*, 959–961. <https://doi.org/10.1016/j.pmedr.2015.11.004>
- Loprinzi, P. D., & Davis, R. E. (2016). Bouted and Non-Bouted Moderate-to-Vigorous Physical Activity with Health-Related Quality of Life. *Preventive Medicine Reports, 3*, 46–48. <https://doi.org/10.1016/j.pmedr.2015.12.005>
- Lu, Y., Wiltshire, H. D., Baker, J. S., & Wang, Q. (2021). The Effects of Running Compared with Functional High-Intensity Interval Training on Body Composition and Aerobic Fitness in Female University Students. *International Journal of Environmental Research and Public Health, 18*(21). <https://doi.org/10.3390/ijerph182111312>
- Lubans, D., Richards, J., Hillman, C., Faulkner, G., Beauchamp, M., Nilsson, M., Kelly, P., Smith, J., Raine, L., & Biddle, S. (2016). Physical Activity for Cognitive and Mental Health in Youth: A Systematic Review of Mechanisms. *Pediatrics, 138*(3). <https://doi.org/10.1542/peds.2016-1642>
- Malchrowicz-Moško, E., León-Guereño, P., Tapia-Serrano, M. A., Sánchez-Miguel, P. A., & Waśkiewicz, Z. (2020). What Encourages Physically Inactive People to Start Running? An Analysis of Motivations to Participate in Parkrun and City Trail in Poland. *Frontiers in Public Health, 8*(November). <https://doi.org/10.3389/fpubh.2020.581017>
- Marques, A., Peralta, M., Santos, T., Martins, J., & Gaspar de Matos, M. (2019). Self-Rated Health and Health-Related Quality of Life are Related with Adolescents' Healthy Lifestyle. *Public Health, 170*, 89–94. <https://doi.org/10.1016/j.puhe.2019.02.022>
- Morris, P., & Scott, H. (2019). Not Just a Run in the Park: A Qualitative Exploration of Parkrun and Mental Health. *Advances in Mental Health, 17*(2), 110–123. <https://doi.org/10.1080/18387357.2018.1509011>
- Nakamura, P. M., Teixeira, I. P., Smirmaul, B. P. C., Sebastião, E., Papini, C. B., Gobbi, S., & Kokubun, E. (2014). Health related quality of life is differently associated with leisure-time physical activity intensities according to gender: A cross-sectional approach. *Health and Quality of Life Outcomes, 12*(1), 1–10. <https://doi.org/10.1186/1477-7525-12-98>
- Oja, P., Kelly, P., Pedisic, Z., Titze, S., Bauman, A., Foster, C., Hamer, M., Hillsdon, M., & Stamatakis, E. (2017). Associations of Specific Types of Sports and Exercise with All-Cause and Cardiovascular-Disease Mortality: A Cohort Study of 80 306 British Adults. *British Journal of Sports Medicine, 51*(10), 812–817. <https://doi.org/10.1136/bjsports-2016-096822>

- Panza, G. A., Taylor, B. A., Thompson, P. D., White, C. M., & Pescatello, L. S. (2019). Physical Activity Intensity and Subjective Well-Being in Healthy Adults. *Journal of Health Psychology, 24*(9), 1257–1267. <https://doi.org/10.1177/1359105317691589>
- Pascoe, M., Bailey, A. P., Craike, M., Carter, T., Patten, R., Stepto, N., & Parker, A. (2020). Physical Activity and Exercise in Youth Mental Health Promotion: A Scoping Review. *BMJ Open Sport and Exercise Medicine, 6*(1), 1–11. <https://doi.org/10.1136/bmjsem-2019-000677>
- Pedisic, Z., Shrestha, N., Kovalchik, S., Stamatakis, E., Liangruenrom, N., Grgic, J., Titze, S., Biddle, S. J. H., Bauman, A. E., & Oja, P. (2020). Is Running Associated with a Lower Risk of All-Cause, Cardiovascular and Cancer Mortality, and is the More the Better? A Systematic Review and Meta-Analysis. *British Journal of Sports Medicine, 54*(15), 898–905. <https://doi.org/10.1136/bjsports-2018-100493>
- Poczta, J., & Malchrowicz-Moško, E. (2018). Running as a Form of Therapy Socio-Psychological Functions of Mass Running Events for Men and Women. *International Journal of Environmental Research and Public Health, 15*(10), 1–15. <https://doi.org/10.3390/ijerph15102262>
- Portugal, E. M. M., Cevada, T., Sobral Monteiro-Junior, R., Teixeira Guimarães, T., Da Cruz Rubini, E., Lattari, E., Blois, C., & Camaz Deslandes, A. (2013). Neuroscience of Exercise: from Neurobiology Mechanisms to Mental Health. *Neuropsychobiology, 68*(1), 1–14. <https://doi.org/10.1159/000350946>
- Posadzki, P., Pieper, D., Bajpai, R., Makaruk, H., Könsgen, N., Neuhaus, A. L., & Semwal, M. (2020). Exercise/Physical Activity and Health Outcomes: An Overview of Cochrane Systematic Reviews. *BMC Public Health, 20*(1), 1–12. <https://doi.org/10.1186/s12889-020-09855-3>
- Powell-Wiley, T. M., Poirier, P., Burke, L. E., Després, J. P., Gordon-Larsen, P., Lavie, C. J., Lear, S. A., Ndumele, C. E., Neeland, I. J., Sanders, P., & St-Onge, M. P. (2021). Obesity and Cardiovascular Disease A Scientific Statement From the American Heart Association. *Circulation, 143*(21), E984–E1010. <https://doi.org/10.1161/CIR.0000000000000973>
- Quirk, H., Bullas, A., Haake, S., Goyder, E., Graney, M., Wellington, C., Copeland, R., Reece, L., & Stevinson, C. (2021). Exploring the Benefits of Participation in Community-Based Running and Walking Events: A Cross-Sectional Survey of Parkrun Participants. *BMC Public Health, 21*(1), 1–15. <https://doi.org/10.1186/s12889-021-11986-0>
- Rahma, A., & Wempi, J. . (2023). Strategi Komunikasi Voluntrip dalam Menumbuhkan Partisipasi Kaum Zillennial pada Kegiatan Sosial. *Jurnal PIKMA : Publikasi Ilmu Komunikasi Media Dan Cinema, 6*(1), 246–260. <https://doi.org/10.24076/pikma.v6i1.1322>
- Rodbard, H. W., Cariou, B., Zinman, B., Handelsman, Y., Wolden, M. L., Rana, A., & Mathieu, C. (2014). Health Status and Hypoglycaemia with Insulin Degludec Versus Insulin Glargine: A 2-Year Trial in Insulin-Naïve Patients with Type 2 Diabetes. *Diabetes, obesity & metabolism, 16*(9), 869–872. <https://doi.org/10.1111/dom.12271>
- Rodriguez-Ayllon, M., Cadenas-Sánchez, C., Estévez-López, F., Muñoz, N. E., Mora-Gonzalez, J., Migueles, J. H., Molina-García, P., Henriksson, H., Mena-Molina, A., Martínez-Vizcaino, V., Catena, A., Löff, M., Erickson, K. I., Lubans, D. R., Ortega, F. B., & Esteban-Cornejo, I. (2019). Role of Physical Activity and Sedentary Behavior in the Mental Health of Preschoolers, Children and Adolescents: A Systematic Review and Meta-Analysis. *Sports Medicine, 49*(9), 1383–1410. <https://doi.org/10.1007/s40279-019-01099-5>
- Rogerson, M., Brown, D. K., Sandercock, G., Wooller, J. J., & Barton, J. (2016). A Comparison of Four Typical Green Exercise Environments and Prediction of Psychological Health Outcomes. *Perspectives in Public Health, 136*(3), 171–180. <https://doi.org/10.1177/1757913915589845>

- Ryu, S., Rodriguez-Gonzalez, P., & Gao, Z. (2023). A Review of Health Wearable-Based Physical Activity Interventions Among Children and Adolescents. *International Journal of Physical Activity and Health*, 2(2). <https://doi.org/10.18122/ijpah.020206.boisestate>
- Saqib, Z. A., Dai, J., Menhas, R., Mahmood, S., Karim, M., Sang, X., & Weng, Y. (2020). Physical activity is a medicine for non-communicable diseases: A survey study regarding the perception of physical activity impact on health wellbeing. *Risk Management and Healthcare Policy*, 13, 2949–2962. <https://doi.org/10.2147/RMHP.S280339>
- Scheerder, J., Breedveld, K., & Borgers, J. (2015). *Running Accros Europe. The Rise and Size of One of the Largest Sport Markets*. Palmgrave McMillan. <https://doi.org/10.1057/9781137446374>
- Shiroma, E. J., Sesso, H. D., Moorthy, M. V., Buring, J. E., & Lee, I. M. (2014). Do Moderate-Intensity and Vigorous-Intensity Physical Activities Reduce Mortality Rates to the Same Extent? *Journal of the American Heart Association*, 3(5), 7–9. <https://doi.org/10.1161/jaha.114.000802>
- Silva, A., & Sobreiro, P. (2022). Running Involvement, Loyalty to Running, and Subjective Well-Being: A Cluster Analysis. / Implicación Y Lealtad En Carrera Y Bienestar Subjetivo En Corredores: Análisis De Clusters. *Cuadernos de Psicología Del Deporte*, 22(1), 138–159. <https://doi.org/10.6018/cpd.468611>
- Sirois, F. M. (2020). The Association between Self-Compassion and Self-Rated Health in 26 Samples. *BMC Public Health*, 20(1), 1–12. <https://doi.org/10.1186/s12889-020-8183-1>
- Steiger, A. E., Allemand, M., Robins, R. W., & Fend, H. A. (2014). Low and Decreasing Self-Esteem during Adolescence Predict Adult Depression Two Decades Later. *Journal of Personality and Social Psychology*, 106(2), 325–338. <https://doi.org/10.1037/a0035133>
- Stevinson, C., & Hickson, M. (2014). Exploring the Public Health Potential of a Mass Community Participation Event. *Journal of Public Health (United Kingdom)*, 36(2), 268–274. <https://doi.org/10.1093/pubmed/ftd082>
- Stevinson, Clare, Wiltshire, G., & Hickson, M. (2015). Facilitating Participation in Health-Enhancing Physical Activity: A Qualitative Study of Parkrun. *International Journal of Behavioral Medicine*, 22(2), 170–177. <https://doi.org/10.1007/s12529-014-9431-5>
- Stoewen, D. L. (2017). Dimensions of Wellness: Change Your Habits, Change Your Life. *Canadian Veterinary Journal*, 58(8), 861–862. <https://pubmed.ncbi.nlm.nih.gov/articles/PMC5508938/>
- Stubbs, B., Vancampfort, D., Rosenbaum, S., Firth, J., Cosco, T., Veronese, N., Salum, G. A., & Schuch, F. B. (2017). An Examination of the Anxiolytic Effects of Exercise for People with Anxiety and Stress-Related Disorders: A Meta-Analysis. *Psychiatry Research*, 249, 102–108. <https://doi.org/10.1016/j.psychres.2016.12.020>
- Teychenne, M., White, R. L., Richards, J., Schuch, F. B., Rosenbaum, S., & Bennie, J. A. (2020). Do We Need Physical Activity Guidelines for Mental Health: What Does the Evidence Tell Us? *Mental Health and Physical Activity*, 18, 100315. <https://doi.org/10.1016/j.mhpa.2019.100315>
- Tinartayu, S., & Riyanto, B. U. D. (2015). SF-36 as The Instrument for Measuring Quality of Life of Tuberculosis Patients. *Mutiara Medika*, 15(1), 7–14. <https://doi.org/10.18196/mmjkk.v15i1.2488>
- Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A Systematic Review of the Literature. *Psychotherapy and Psychosomatics*, 84(3), 167–176. <https://doi.org/10.1159/000376585>
- Velten, J., Lavallee, K. L., Scholten, S., Meyer, A. H., Zhang, X. C., Schneider, S., & Margraf, J. (2014). Lifestyle Choices and Mental Health: A Representative Population Survey. *BMC Psychology*, 2(1), 1–11. <https://doi.org/10.1186/s40359-014-0055-y>

- Venegas-Carro, M., Herring, J. T., Riehle, S., & Kramer, A. (2023). Jumping vs. Running: Effects of Exercise Modality on Aerobic Capacity and Neuromuscular Performance after a Six-Week High-Intensity Interval Training. *PLoS ONE*, 18(2 February), 1–16. <https://doi.org/10.1371/journal.pone.0281737>
- Weatherson, K., Gierc, M., Patte, K., Qian, W., Leatherdale, S., & Faulkner, G. (2020). Complete Mental Health Status and Associations with Physical Activity, Screen Time, and Sleep in Youth. *Mental Health and Physical Activity*, 19(May), 100354. <https://doi.org/10.1016/j.mhpa.2020.100354>
- Wicker, P., & Frick, B. (2015). The Relationship between Intensity and Duration of Physical Activity and Subjective Well-Being. *European Journal of Public Health*, 25(5), 868–872. <https://doi.org/10.1093/eurpub/ckv131>
- Wiltshire, G., & Stevinson, C. (2018). Exploring the Role of Social Capital in Community-Based Physical Activity: Qualitative Insights from Parkrun. *Qualitative Research in Sport, Exercise and Health*, 10(1), 47–62. <https://doi.org/10.1080/2159676x.2017.1376347>
- Wintle, J. (2022). Physical Education and Physical Activity Promotion: Lifestyle Sports as Meaningful Experiences. *Education Sciences*, 12(3). <https://doi.org/10.3390/educsci12030181>
- Wolf, I. D., & Wohlfart, T. (2014). Walking, Hiking and Running in Parks: A Multidisciplinary Assessment of Health and Well-Being Benefits. *Landscape and Urban Planning*, 130(1), 89–103. <https://doi.org/10.1016/j.landurbplan.2014.06.006>
- Wong, M. Y. C., Ou, K. L., Chung, P. K., Chui, K. Y. K., & Zhang, C. Q. (2023). The Relationship between Physical Activity, Physical Health, and Mental Health among Older Chinese Adults: A Scoping Review. *Frontiers in Public Health*, 10(January), 1–18. <https://doi.org/10.3389/fpubh.2022.914548>
- World Health Organization. (2020). *WHO guidelines on physical activity and sedentary behaviour: Web Annex Evidence profiles*. Geneva: World Health Organization <https://www.who.int/publications/i/item/9789240015111>
- Wu, S., & Jiang, X. (2024). A78: Effect of Physical Activity on Adolescent Mental Health. *International Journal of Physical Activity and Health*, 3(1). <https://doi.org/10.18122/ijpah.3.1.22.boisestate>
- Yamin, S. (2021). *SMARTPLS 3, AMOS & STATA: Olah Data Statistik (Mudah & Praktis)* (1st ed.). Dewangga Energi Internasional Publishing.
- Zhang, T., Lu, G., & Wu, X. Y. (2020). Associations between Physical Activity, Sedentary Behaviour and Self-Rated Health among the General Population of Children and Adolescents: A Systematic Review and Meta-Analysis. *BMC Public Health*, 20(1), 1–16. <https://doi.org/10.1186/s12889-020-09447-1>
- Zschucke, E., Gaudlitz, K., & Ströhle, A. (2013). Exercise and Physical Activity in Mental Disorders: Clinical and Experimental Evidence. *Journal of preventive medicine and public health = Yebang Uihakhoe chi*, 46 Suppl 1(Suppl 1), S12–S21. <https://doi.org/10.3961/jpmph.2013.46.S.S12>

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