Leisure Satisfaction and Life Satisfaction:

Examining the Mediating Roles of Self-Rated Physical Health and Mental Health

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners. I understand that my thesis may be made electronically available to the public.

Abstract

Researchers have studied leisure satisfaction and life satisfaction in different eras (Brown & Frankel, 1993; Neal et al., 1999; Ragheb & Griffith, 1982). A recent study demonstrated that leisure activities and life satisfaction correlate positively (Kim et al., 2022). However, limited information is available regarding the explanatory mechanisms underlying this connection. Drawing from the bottom-up spillover theory proposed by Andrews & Withey (1976), this research examines two potential explanatory mechanisms, self-rated physical health (SRPH) and self-rated mental health (SRMH), which could help explain the relationship between leisure satisfaction and overall life satisfaction. The current study uses population-level secondary data from Statistics Canada and the Canadian Community Health Survey (CCHS) (n = 113,290). The research suggests three hypotheses: (i) that leisure satisfaction has a positive relationship with life satisfaction; (ii) that self-rated physical health will positively mediate the association of life satisfaction and leisure satisfaction; and (iii) Self-rated mental health will operate as a positive mediator in the relationship between life satisfaction and leisure satisfaction. Measures, such as leisure satisfaction (e.g., “How satisfied are you with your leisure activities?”), life satisfaction (“How satisfied are you with your overall life?”), SRPH and SRMH were obtained from the 2017-2018 CCHS. Results from the regression analysis revealed that leisure satisfaction was a significant predictor of life satisfaction. Self-rated physical and mental health also partially mediated this relationship. This research contributes to the growing knowledge of the intricate interplay between leisure, mental and physical health, and overall life satisfaction. Understanding these relationships has implications for interventions and policies to enhance individuals' well-being by considering the role of leisure activities and their impact on mental and physical health.

Keywords: leisure satisfaction, self-rated physical health, self-rated mental health, life satisfaction, canada community health survey (cchs), subjective well-being

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Chapter 1: Introduction

Life satisfaction is a fundamental aspect of subjective well-being, holding significant importance for individuals and society. According to Diener (1984), life satisfaction pertains to the cognitive assessment of one's entire life, encompassing an individual's evaluation of various aspects of their overall quality and contentment across different domains. This appraisal method goes beyond objective indications and thoroughly assesses personal experiences, relationships, and achievements (Diener, 2000). The significance of life satisfaction is emphasized by its essential function in the broader context of quality of life, which includes several aspects such as mental health, general health, and social integration (Diener et al., 2018).

The intricate connection between life satisfaction and psychological health is a powerful justification for its significance. Higher anxiety and depression in schizophrenia patients are strongly linked with lesser life satisfaction and satisfaction with other life domains such as daily activities, finances, health, and social life (Huppert et al., 2001). Likewise, positive subjective mental health is significantly linked with life satisfaction compared to factors like salary, physical health, and sexual orientation (Lombardo et al., 2018).

Furthermore, life satisfaction positively impacts physical well-being since research indicates a positive correlation between subjective well-being and health conditions. A study with healthy samples between 18- to 64-year-old Finnish adults found that individuals who report higher life satisfaction tend to have increased lifespan, and lower life satisfaction could predict mortality (Koivumaa-Honkanen et al., 2000).

Life satisfaction substantially impacts social dynamics and the overall well-being of a community, extending beyond the level of individual experience. Individuals who are satisfied with their lives are more inclined to establish and maintain favourable social

connections, promoting a feeling of social interconnectedness and togetherness within the community (Diener & Seligman, 2002).

Several studies have shown that people with higher life satisfaction status revealed more trusting and cooperative attitudes, more social acceptance, and more satisfying marriages than those with less life satisfaction overall (Barger et al., 2009; Diener & Seligman, 2002; Pavot & Diener, 2008). Kim et al. (2021) argue that life satisfaction should be a target of policy initiatives because it aids in improving numerous indicators of mental health, health behaviours, and physical health.

Medvedev and Landhuis (2018) found a strong association between happiness, subjective well-being, and perceived life satisfaction. However, Diener et al. (1999) argued that subjective well-being is just a catch-all concept that entails people's experiences, emotions, satisfaction with several domains of their lives, and overall satisfaction with their quality of life. They suggested that researchers should study these domains separately. Life satisfaction is an essential outcome of human experience from several life domains. It is the degree to which one's most critical needs, ambitions, and desires are satisfied in significant life domains (Sirgy, 2021). Life satisfaction is affected by various domains of a person's life, comprising job satisfaction, romance life, familial and social relationships, personal growth, education, sex life, housing, employment, health and wellness, leisure, and others (Argyle, 2001; Headey & Wearing, 1992, van Praag et al., 2003). Hawkins, Foose, and Binkley (2004) discovered that factors such as limitations in leisure time, satisfaction with leisure activities, and participation in leisure pursuits all impacted life satisfaction levels among participants from the USA and Australia. The researchers noted that the level of satisfaction with leisure activities was found to significantly affect life satisfaction compared to the other variables in both populations.

For many years, scientists have focused on leisure behaviour and satisfaction (Brown & Frankel, 1993; Deiner et al., 1999; Kelly et al., 1987; Ragheb & Griffith, 1982). In this study, leisure will be termed as any activity that a person, for their pleasure and not under the influence of another person, may conduct freely in spare time from work, family and other social activities intended to relax, entertain, learn, socialize, or express creativity (Dumazedier, 1967). Researching the association of leisure action with a human being's life satisfaction is crucial to evaluating the latter aspect (Hribernik & Mussap, 2010). Leisure satisfaction refers to the degree of satisfaction of a human being with leisure activity (Lloyd & Auld, 2002). Numerous studies have shown that leisure activities improve one's quality of life (QOL) and feelings of fulfillment. Overall, leisure appears to have a variety of effects on how one feels about their QOL and life satisfaction (Baker & Palmer, 2006; Lloyd & Auld, 2002). Despite the abundance of studies on leisure, the process underpinning the connection between leisure satisfaction and life satisfaction has not been extensively examined in leisure literature and deserves more attention.

1.1 Gaps in the Literature

Earlier studies have demonstrated that a positive correlation between leisure and overall life satisfaction exists (Hagerty, 2000; Van der Doef & Maes, 1999). Despite the favourable correlation, little is known about how leisure positively influences overall life satisfaction (Diener & Biswas-Diener, 2008). Moreover, the mechanisms underlying this relationship still need to be better understood. In other words, relatively little is known about why participating in leisure activities might influence overall life satisfaction (Baker & Palmer, 2006; Iwasaki, 2006). This study aims to advance our understanding by examining the potential mediating role of subjective physical health and psychological health to determine how leisure satisfaction affects overall life satisfaction.

Additionally, more robust population-level data is needed to examine these relationships and comprehend these findings' universality to the greater population. Indeed, there must be a movement beyond smaller-scale examinations of these relationships. Using population-level data will allow for a more robust examination of these relationships and provide a more transparent interpretation of these findings to the broader population.

1.2 Life domains affecting overall life satisfaction.

Campbell (1981) introduced twelve domains where satisfaction with these domains contributes to life satisfaction. He found that "satisfaction with life in general and satisfactions in the various domains of life are related, but we do not know which is primary and fundamental" (Campbell, 1981, page 49). Many research works have demonstrated that life domains can affect subjective well-being (SWB) (Diener, 2009). Diener (1984) also established that subjective well-being is significantly determined by a person's satisfaction with several life domains. According to renowned SWB academics, satisfaction with life is calculated as the aggregate of satisfactions in essential domains such as leisure, job, physical and mental health, financial condition, family, self, and surrounding people (Diener, Suh, Lucas, & Smith, 1999). Leisure is a crucial life domain and a fundamental component of total well-being. The correlation was higher than that of satisfaction with accommodation, education, employment, relationships with friends, or even family bonds. Studies have shown that leisure activities and satisfaction with leisure substantially impact life satisfaction more than gender, education, religion, marriage, aging, physical health, occupation, and salary (Riddick, 1985; Russell, 1990).

1.3 Study Purpose

This study will investigate the influence of leisure satisfaction on general life satisfaction in the Canadian context. We will also examine the mediating role of two variables, self-rated mental health and self-rated physical health, in the relationship between

leisure satisfaction and overall life satisfaction. Therefore, the purpose of the study consists of two parts: (i) to scrutinize the relationship between leisure satisfaction and overall life satisfaction and (ii) to examine the roles of the mediators, self-rated mental health and physical health, in this relationship. This study will use population-level secondary data drawn from Statistics Canada and the Canadian Community Health (CCHS) Survey to address these purposes.

1.4 Bottom-Up Spillover Theory

We intend to address the gaps in the literature by developing a model that connects leisure satisfaction to life satisfaction through the bottom-up spillover theory. The bottom-up spillover concept suggests that satisfaction gained through psychological domains might influence overall life satisfaction (Sirgy, 2021). The bottom-up spillover theory posits that increasing SWB requires allowing positive effects of different life domains, such as family, leisure, and spiritual aspects, to spill over to life satisfaction in general (Sirgy, 2021).

Researchers conducting life satisfaction studies have utilized this theory to explore the relationship between satisfaction in different domains and overall life satisfaction (Campbell et al., 1976; Diener, 1984; Diener et al., 1999; Gao & Potwarka, 2021; Heller et al., 2004; Kuykendall et al., 2015; Neal et al., 2007; Newman et al., 2014; Sirgy 2021). According to their findings, satisfaction with life depends on satisfaction with the leading life domains. In alignment with the bottom-up method, various leisure experiences are associated with well-being evaluations. Neal et al., 2007 employed the bottom-up spillover hypothesis and investigated whether aspects of travel experiences may have a bearing on life satisfaction. They observed that satisfaction with tourism experiences and tourists' SWB were impacted by assessing the standard of tourism services and reflecting on personal travel experiences (Neal et al., 2007). In addition to these benefits that arise from the inherent character of the

tourism experience, researchers have suggested the need-fulfillment process through which leisure satisfaction might positively contribute to an individual's life satisfaction.

In line with this theory, researchers have shown that leisure satisfaction can positively impact overall life satisfaction via a bottom-up spillover process where domains of life, such as family or health, affect subjective well-being (Kuykendall et al., 2015). For example, participating in enjoyable leisure activities with one's spouse can enhance marital satisfaction (Zabriskie & McCormick, 2003). Similarly, engaging in fun physical activities such as bicycling or playing organized sports has positively affected individuals' leisure satisfaction and health. Persons who engaged in regular physical activity reported higher levels of leisure satisfaction and better-perceived health than those who did not engage in regular physical activity (Wendel-Vos et al., 2004). In addition, studies showed that engaging in physical activities such as bicycle riding or organized sports can enhance physical and psychological well-being, increasing overall life satisfaction (Fox, 1999; Rodríguez-Fernández et al., 2017). These results emphasize the significance of adding physical activities into one's recreational time to improve general and psychological health conditions. Large-scale research conducted in 24 nations indicated that 18- to 30-year-olds with moderate to high levels of physical exercise reported greater life satisfaction, happiness, and perceived health (Pengpid & Peltzer, 2019). Additionally, a person's satisfaction with their travel experiences can influence their overall satisfaction with their leisure life. Participating in leisure activities that fulfil multiple psychological mechanisms, such as playing sports with friends, which provides opportunities for social interaction, skill-building, and relaxation, may promote subjective well-being more effectively than leisure activities that fulfil only one mechanism, such as watching television (Newman et al., 2014).

The bottom-up spillover theory comprehensively explains how individual domains influence life satisfaction. Engaging in leisure behaviours that satisfy multiple emotional

needs, like social interaction and relaxation, can significantly impact well-being more than activities that only meet one need. This research will consider satisfaction from active leisure participation as an independent variable affecting the dependent variable, overall life satisfaction.

1.5 Relationships between Leisure Satisfaction and Life Satisfaction: A "Black Box" Metaphor

Leisure satisfaction, seen as an external factor, plays a crucial role in shaping overall life satisfaction (Neal et al., 1999). Although the significance of leisure satisfaction is recognized, the complex mechanisms affecting total life satisfaction have not been thoroughly explored. The inquiry thoroughly examines the underlying mechanisms using a Black Box Theoretical framework (Tilak et al., 2022). The metaphorical "black box" means that when studying leisure, researchers often have minimal understanding of why leisure-related constructs ultimately produce certain social and health benefits (Mannell & Stynes, 1991). In other words, researchers often fail to examine particular explanatory mechanisms between leisure engagement and positive social/well-being outcomes. Regarding the present study, the relationship between leisure satisfaction and overall life satisfaction represents one of these "black box" metaphors in leisure research. This paper will provide detailed insights into the complex interactions that may affect the relationship between satisfaction with leisure activities and life satisfaction.

This study investigates how leisure satisfaction affects one's life satisfaction and overall well-being. Increased knowledge and utilization of the positive effects of leisure satisfaction (i.e., mental and physical health) might have implications for intervention, policy, and individual strategies to enhance overall well-being. These issues will be discussed further in the discussion chapter.

Chapter Two: Literature Review

This literature review defines leisure for the current study and discusses leisure and life satisfaction. The literature review will also address the role of subjective physical and mental health in mediating the relationship between leisure satisfaction and overall life satisfaction. In the book "Of Time, Work, and Leisure," De Grazia (1962) highlights the importance of leisure, stating that it provides people with opportunities for personal fulfillment, self-expression, and social interaction. According to the author, leisure is a break from usual work and a vital aspect of human existence, contributing to well-being and overall life satisfaction (De Grazia, 1962).

2.1 Defining Leisure

Defining leisure is as challenging as discovering the Holy Grail (Sessoms, 1986). Sessoms (1986) proposed viewing leisure as a system, a field of exploration rather than a set of distinctive behaviours. Leisure has been conceptualized and measured in various ways in the literature. Some researchers define leisure as activities apart from the absence of work obligation, family responsibility, or social accountability (Dumazedier, 1967), while others view it as a psychological or state-of-mind conceptualization (Neulinger, 1982). Many defined leisure as a subjective experience and a social construct (Iso-Ahola, 1980), as an activity (Shaw, 1985), or it can be conceptualized under the serious leisure perspective (Stebbins, 1982). According to Primeau (1996), there are three predominant ways that leisure is defined by analysis: (a) the outstanding time available after work-related activity, (b) the set of events that individuals recognize as pursuit of leisure within a known culture, and (c) a positive state of experience whose fundamental matter is permission to act freely and to act within intrinsically rewarding activities (as cited in Perkins & Nakamura, 2013). Some researchers consider leisure to be a mental state or an individual experience in which individuals feel a perception of independence and relaxation (Mannell, 1979; Shaw, 1985).

According to Iso-Ahola (1980), leisure is a social construct influenced by cultural, historical, and socioeconomic factors. Stebbins (1982) defined leisure as serious and casual, whereas actively pursuing leisure, such as travelling, is considered serious leisure. Meanwhile, watching television, napping, or engaging in non-active leisure is regarded as casual leisure.

To define leisure, a definition vantage point was prepared by Kleiber et al. in 2011, where leisure can be described as a subjective and objective phenomenon that can be based either externally on the researcher's perspective or internally on the perspective of the individual being studied (Kleiber et al., 2011). The objective approach considers individuals' number of activities or general activities and the frequency and time. In contrast, the subjective approach considers hypothetical constructs (e.g. satisfaction, attitudes, beliefs, emotions) to observe the participants using self-reported measures (Kleiber et al., 2011).

In line with our research, we will conceptualize leisure as serious or active leisure (Stebbins, 1982). This definition focuses on the specific actions and behaviours that individuals engage in during their leisure time. By using this conceptualization, we can more accurately measure and understand the types of activities that individuals engage in during their leisure time and how they may relate to other aspects of their lives (Csikszentmihalyi & LeFevre, 1989). Indeed, participation in leisure activities appears to be a significant factor in determining life satisfaction (Brown & Frankel 1993).

2.2. Literature on leisure satisfaction

Leisure satisfaction is an essential part of human well-being and can also reflect the quality of human life (Diener et al., 1999; Newman et al., 2014). Beard & Ragheb (1980) described it as positive emotions or satisfaction which people have in their free time. As for leisure engagement, scholars define it as the frequency, scope, and variousness of an individual's leisure activities, which can be defined structurally and subjectively (Newman et al., 2014). It is possible to presume that leisure satisfaction is positively related to six

dimensions: scholastic, psychological, social, relaxation-based, biological, and artistic (Beard & Ragheb, 1980). The dimensions assessed in this research evaluate how individuals' goals and wants are fulfilled through leisure activities.

Leisure satisfaction is a crucially important measuring category, as it shows whether people get what they want from their leisure, whether people are happy about what they do in their spare time, and whether all their needs are satisfied (Beard & Ragheb, 1980). This information can be used to improve leisure activities, which can be more satisfying and pleasant, create better leisure activities that are more appropriate for a particular group or individual, and provide additional leisure activities. Consequently, leisure satisfaction is accounted to be domain-level subjective well-being (Sirgy, 2021). These findings emphasize the significance of leisure satisfaction in promoting overall happiness and life satisfaction.

2.3 Leisure satisfaction as a key influencer of overall life satisfaction

Furthermore, in research by college students of former Union of Soviet Socialist Republics (USSR), satisfaction with leisure activities was found to be the most significant driver of determining their overall life satisfaction (Balatsky & Diener, 1993). The relationship between leisure satisfaction and social interaction has been well-documented in previous research (Foong, 1992). Some studies have even incorporated contentment with family life, friendships, and partners within the definition of leisure satisfaction (Balatsky & Diener, 1993).

According to previous research, an individual's satisfaction level with their leisure activities can impact their overall sense of happiness with other areas of their life, including overall life satisfaction (Sirgy, 2021). Numerous studies have investigated the correlation between leisure satisfaction and life satisfaction (Brown & Frankel, 1993; Griffin & McKenna, 1999). The research undertaken by Lemon et al. (1972) and Bull reveals that satisfaction with leisure engagement is generally related to older adults’ satisfaction with

their lives. However, according to Ragheb and Griffith (1982), the relationship between the quality of leisure activities (leisure satisfaction) and life satisfaction has not been fully explored due to a lack of clear definitions and methods to measure leisure satisfaction. Therefore, it is necessary to consider both the engagement in the activities and the level of satisfaction with the same to understand how they affect life satisfaction.

Life satisfaction, therefore, includes a sense of satisfaction with leisure activities. Consequently, there was a substantial correlation between the two variables. The extent to which leisure activity impacts a person's subjective well-being and life satisfaction is a crucial research question in the field. To examine this impact, leisure satisfaction, or the extent to which a person is satisfied with their leisure, is often employed as a general assessment of leisure (Lloyd & Auld, 2002). It was observed that leisure satisfaction, an individual leisure trait, was the most prominent indicator of quality of life (Lloyd & Auld, 2002). One may predict that the frequency of physical activity participation is a requirement but inadequate for predicting the connection between leisure satisfaction and life satisfaction. Additionally, one should determine whether this involvement meets the mental needs of the participant (Rodríguez et al., 2008).

Furthermore, in research by college students of former Union of Soviet Socialist Republics (USSR), satisfaction with leisure activities was found to be the most significant driver of determining their overall life satisfaction (Balatsky & Diener, 1993). The relationship between leisure satisfaction and social interaction has been well-documented in previous research (Foong, 1992). Some studies have even included satisfaction with family life, friendships, and life partners within the definition of leisure satisfaction (Balatsky & Diener, 1993). Cummins (1996) further emphasized this by identifying these elements under the category of affection, which is now referred to as relationships in the Personal Well-being Index. His findings indicate that leisure satisfaction may be a more significant overarching

life area component. These findings suggest that leisure should be considered a self-contained life domain instead of extending its definition to encompass other life domains. This indication is consistent with the understanding of leisure within the study of Subjective Well-being (SBW) and leisure.

The contribution of the leisure domain to subjective well-being has been the subject of investigation. Leisure satisfaction predicts a distinct variance in life satisfaction and is influenced by the core effect, suggesting that leisure satisfaction should be measured while controlling for underlying psychological issues (Hribernik & Mussap, 2010). The authors concluded that leisure satisfaction predicts distinctive variation in overall life satisfaction (International Well-being Group, 2006, as cited in Hribernik & Mussap, 2010). Thus, it should be considered a domain worthy of inclusion in models that predict life satisfaction. A study conducted by Brown and Frankel (1993) on a sample of Canadian adults found that leisure satisfaction was the most significant predictor of well-being. The significance of leisure satisfaction in predicting life satisfaction has been emphasized by Kinney and Coyle (1992) and Lloyd and Auld (2002). Furthermore, multiple regression models have confirmed the distinct impact of leisure satisfaction on overall life satisfaction and validated its status as a separate life domain contributing to subjective well-being (Hribernik & Mussap, 2010). Much of this research has focused on old-aged groups, assuming that work responsibilities for these participants have been primarily relinquished.

According to Liu and Yu (2015), when individuals have positive experiences and feelings during leisure activities they choose to participate in, they are more likely to have high levels of leisure satisfaction. Nevertheless, the factors influencing leisure satisfaction and the extent of an individual's satisfaction with their leisure experiences may vary. The study indicates that satisfaction with leisure activities is essential in improving positive functioning, such as morale, overall life satisfaction, and psychological health.

In a study on adolescents, Freire (2013) found that leisure satisfaction positively impacted higher levels of self-esteem, life satisfaction, and psychological health. They concluded that this correlation suggests a relationship between leisure satisfaction, mental well-being, and subjective well-being. Thus, the following hypothesis is proposed:

H1: Leisure satisfaction is positively associated with overall life satisfaction.

2.4 Potential mediators underpinning the relationship between leisure satisfaction and life satisfaction

Leisure represents many life areas but remains the most important and central to overall life satisfaction among all of them (Riddick, 1985). Although Several studies have reported a positive correlation between leisure and overall subjective life satisfaction, they have not sufficiently explained the mechanisms through which leisure affects one's satisfaction with life (Diener & Biswas-Diener, 2008). Recently, a study by Yu and Kim (2021) revealed a positive correlation between leisure activity and well-being, noting the importance of stress relief as a mediating factor. It has been found that stress relief mediates leisure satisfaction and SWB. Engaging in leisure activities helps relieve stress, contributing to higher subjective well-being. Epidemiological studies have shown that more stressful events and more significant perceived stress over time are associated with worse mental health and physical health and higher mortality (Epel et al., 2018). Thus, stress is directly related to the individuals' psychological health and physical health, and the relief of stress as a mediator could play a positive association between leisure satisfaction and overall life satisfaction (Iwasaki et al., 2005). Yet, the previous studies on the mediating effects of subjective mental health and subjective physical health in the associations between leisure satisfaction and life satisfaction were limited. This gap and the importance of SRPH and SRMH in life satisfaction research have influenced us to consider these variables as mediators.

2.5 Self-rated physical health (SRPH) and self-rated mental health (SRMH) mediating the relationship between leisure satisfaction and life satisfaction

SRPH and SRMH are essential to determining life satisfaction (Koivumaa-Honkanen et al., 2000; Lombardo et al., 2018). A study in Spain found that SRPH partially mediates the positive relationship between leisure activity and overall life satisfaction (Lera-López et al., 2017). The authors added that people with quality leisure activity tend to perceive a higher level of SRPH, which results in higher life satisfaction (Matin et al., 2017). On the other hand, perceived stress plays a significant role as a mediator between leisure life satisfaction and subjective well-being (Yu & Kim, 2021). Furthermore, scholars suggest that SRPH and SRMH are essential factors that can play critical roles as mediators in the link between physical activity and life satisfaction (Maher et al., 2015). However, limited studies, particularly related to Canada, examine the mediating role of SRPH and SRMH in relation to leisure satisfaction and life satisfaction. Hence, reviewing the literature for both of these factors and their relationship to life satisfaction is significant in the Canadian context.

2.6 Self-rated physical health

Subjective health can be defined as the self-reported opinion of one's general health condition (Monden, 2014). It is a commonly utilized subjective measure in the national census, leisure and health study, and other psychological and physiological study. A simple single-item enquiry about self-rated physical health suggested by the World Health Organization and European Union for evaluation of public health, which can help determine if an individual perceives their physical state as "excellent," "very good," "good," "fair," or "poor." (Bombak, 2013; Monden, 2014; Pinquart, 2001). In a study by Kaplan & Camacho (1983), mortality of the respondents was predicted significantly from a single-item measure of self-rated physical health. The respondents who rated their health condition as “excellent” had a higher proportion of surviving from 1965 to 1974, and mortality was higher among

those who rated their health “poor.” In this research, self-rated physical health was evaluated from the responses to, "In general, would you say your physical health is: 5=poor, 4=fair, 3=good, 2=very good, and 1=excellent?" (CCHS 17-18).

2.6.1 Self-rated physical health and leisure satisfaction

Multiple studies show that participation in physical activities during leisure improves overall mental and physical health. Therefore, there is a rising number of studies on the correlation between leisure satisfaction and public health. For example, exercise and physical activities during leisure time have been shown to stress the heart, resulting in minimal rates of heart disease and long life (Mannell, 2011). Japanese study noted additive effects of leisure and work-related physical activity (Nagaya et al., 2001). Leisure time physical activity is positively associated with self-rated health and contrary to obesity, while other domains of physical activity show gender-specific effects (Abu-Omar & Rütten, 2008). According to Iwasaki et al. (2005), physically active leisure activities in a social and cultural setting lead to physiological values, which improve cardiovascular health and provide long-term physical health benefits.

2.6.2 Self-rated physical health and life satisfaction

According to Diener and Biswas-Diener (2008), SRPH is one of the most vital indicators of life satisfaction. Scholars found that respondents who had reported poor health, chronic pain, or other health-related issues also scored low satisfaction with life (Strine et al., 2008). On the other hand, self-reported physical health is strongly linked to life satisfaction ((Matin et al., 2017). An individual's health and well-being can considerably impact their overall life satisfaction (Andrews & Withey, 1976; Campbell, 1981; Campbell et al., 1976; Diener, 1984). The study by Zumbo & Hubley (2003)found that health satisfaction plays a significant part in life satisfaction. Their large-scale survey discovered that health satisfaction and domain satisfaction variables describe a substantial portion of the variations in reported

happiness, life satisfaction, and overall life satisfaction. Hence, we propose the following hypothesis:

H2: Self-rated physical health will positively mediate the relationship between leisure satisfaction and overall life satisfaction.

2.7 Self-rated mental health

SRMH is an indicator of an individual's mental health status based on their judgments (CCHS 17-18). Self-rated mental health may be helpful for observing general mental health, even if it is not a substitute for specific psychological health indicators (Mawani & Gilmour, 2010). The use of a single-item measure of SRMH is becoming more prevalent in health-based research where respondents rate their psychological condition (Ahmad et al., 2014). Perceived mental health is often evaluated with responses to the question, "In general, would you say your mental health is: 5=poor, 4=fair, 3=good, 2=very good, and 1=excellent?" (CCHS 17-18).

2.7.1 Self-rated mental health and leisure satisfaction

Leisure satisfaction has been found to predict mental health strongly and is also positively associated with it (Mancini, 1978; Pearson, 1998). Mannell and Snelgrove (2012) developed a theoretical framework which also suggests a positive connection between leisure activities and the psychological health of senior citizens. Higher levels of leisure satisfaction are associated with a reduced likelihood of experiencing symptoms of depression (von Känel et al., 2014). According to recent research, engaging in various leisure activities may elevate one's mood and foster a positive perspective, which can help people manage stress (Hutchinson & Kleiber, 2005; Iwasaki & Schneider, 2003). Recreation can serve as a stress-reduction barrier or shield, assisting people to manage and develop resilience in the face of hardship. Because of this, there is a significant relationship between subjective mental health and well-being and leisure satisfaction (Iwasaki, 2006; Iwasaki et al., 2005). It has been

indicated that there is a close connection between the level of satisfaction an individual experiences in their leisure activities and their self-assessed mental health and overall well-being.

2.7.2 Self-rated mental health and life satisfaction.

Research has shown a significant link between an individual's well-being and psychological health markers, with psychological health being a more influential predictor than physical health (Lombardo et al., 2018). Having favourable mental health conditions, such as less stress, can mediate the relationship between leisure life satisfaction and overall life satisfaction (Yu & Kim, 2021). Participants with increased physical and mental health typically experience greater satisfaction. A positive association has been suggested between mental health and subjective well-being, with one influencing the other (Sirgy, 2021). Moreover, life satisfaction among teenagers in Spain is positively associated with their self-rated mental health, with age and gender acting as moderators in this correlation (Atienza-González et al., 2020). Finally, the following hypothesis is developed:

H3: Self-rated mental health will positively mediate the relationship between leisure satisfaction and overall life satisfaction.

2.8 Hypothesized Model Development

Based on the information discussed above. The subsequent model was created to represent a model to analyze the hypothesis we developed visually. To recognize the association between leisure satisfaction and overall life satisfaction, we will run a regression analysis using the Canadian Community Health Survey (CCHS) 17-18 database to consider self-rated mental health and self-rated physical health as the mediators.

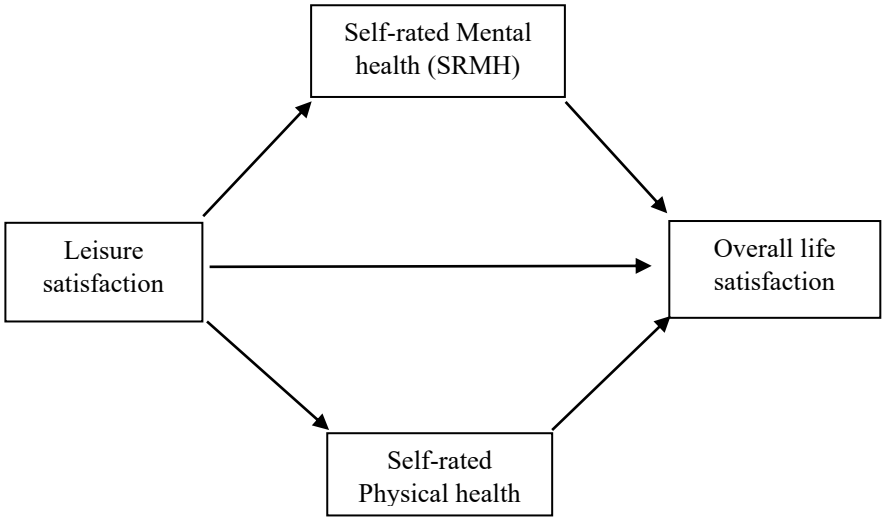

FIGURE 1 | Hypothesized associations between leisure satisfaction, overall life satisfaction, self-rated physical health, and mental health (before analyses).

2.9 Literature on Sociodemographic Factors as Control Variables

It is crucial to note that many additional factors might influence the hypothesized relationships presented in Figure 1. Statistical control is widely used in correlational analyses to offer more precise estimations of associations among variables, further conventional assessments of hypotheses, or exclude alternate rationalizations for empirical results (Becker et al., 2015). Several research works show that life satisfaction is deeply connected to sociodemographic variables such as age, sexuality, current marital status, income level, and schooling level (Fernández-Ballesteros et al., 2001). These variables are discussed in the next section.

2.9.1 Marital status

Marital status plays a salient role in defining life satisfaction, as married individuals have greater satisfaction than people with other marital statuses, such as single or widowed (Chipperfield & Havens, 2001). Research indicates that people who are not happy with their married lives are expected to report physical health difficulties and mental health problems and hence have a lower degree of life satisfaction and vice versa (Carr et al., 2014). The relationship between marital status and subjective well-being is complex and multifaceted and needs to be carefully controlled and accounted for when conducting studies on subjective well-being (Sirgy, 2021).

2.9.2 Age

It is challenging to establish a definite correlation between age and overall satisfaction with life (Bartram, 2021). The author states that people's experiences change with age, determining their satisfaction level. According to the author's research, a decline in health and losing a partner can cause a decline in life satisfaction. Furthermore, having mixed effects on life satisfaction, age is still a common control variable as it also influences other aspects of people's situations (e.g., income, health, marital status). This research has divided age into three categories: Youths, Adults, and Seniors (Government of Canada, 2023).

2.9.3 Gender

Previously, researchers have produced varied findings relating to the association between life satisfaction and gender (Joshanloo & Jovanović, 2020). Findings in experiments on gender differences in life satisfaction suggest that the association between gender and life satisfaction may be affected by other factors (Sirgy, 2021). Graham & Chattopadhyay (2013) applied Gallup World Poll (GWP) statistics to illustrate gender differences in life satisfaction regarding age, marital status, financial condition, educational background, and country's development level. Gender differences observed in an individual group should not be

generalized to other groups, and therefore, researchers may consider multiple moderator variables (Joshanloo & Jovanović, 2019).

2.9.4 Socio-economic status (SES)

SES has direct and mediated effects on well-being (Bradley & Corwyn, 2002). The results of the research conducted by Fernández-Ballesteros et al. (2001) show that two socioeconomic characteristics, education and income, affect overall life satisfaction directly and indirectly. Income level seems to have a significantly higher positive impact on the life satisfaction of the people who believe they belong to the middle or upper-middle class and a less positive effect on those who place themselves in the poorest third (Sirgy, 2021). On the other hand, education has a mixed impact on life satisfaction, based on the findings in several pieces of literature. People can achieve life goals by utilizing their education as a resource, which consequentially helps them gain high life satisfaction and people with lower levels of education are negatively affected by stress, dullness, and isolation (Möwisch et al., 2021).

Chapter Three: Methodology

The Canadian Institute for Health Information (CIHI) collaborated with Health Canada and Statistics Canada to collect data on a variety of issues in the health information system (Statistics Canada, 2021). The primary source of information for this thesis is the 2017–2018 Canadian Community Health Survey (CCHS). It is the last CCHS before COVID-19 and has the latest survey information before the pandemic. The results can be applied successfully since the situation is becoming more stable than it used to be before the pandemic. The Canadian Community Health Survey (CCHS) is a nationwide cross-sectional census of Canadians intended to shed light on the state of health in the country and the factors that influence it (Statistics Canada, 2021). Over 113,290 people participated in this study for over two years (Statistics Canada, 2021).

The CCHS is a biannual survey that gathers information on people's health in many ways, such as their level of exercise, eating habits, mental well-being, and access to medical treatment (CCHS, 2017-2018). The Public Health Agency of Canada finances the survey, which Statistics Canada conducts. Several problems with Canada's previous health information system were highlighted by the National Task Force on Health Information back in 1991 (Statistics Canada, 2021). Health Canada, Statistics Canada, and the Canadian Institute for Health Information (CIHI) collaborated to develop a Health Information Roadmap in response to these problems. The Canadian Community Health Study (CCHS) resulted from this effort. The Canadian Community Health Survey (CCHS) is a survey that uses the cross-sectional method to collect data. It is designed to assess Canadians' overall health and learn more about the factors contributing to or diminishing their health (Statistics Canada, 2021). The poll is done every two years and is available in both official languages. Consistent regional health estimates are derived from a broad pool of people (Statistics Canada, 2021).

The main objectives of this survey are to provide health data at the national, province, and intra-provincial levels in support of health monitoring activities, to provide a single source of information for health research on small populations and uncommon traits, to confirm timely dissemination of information that is readily available to a broad audience, and to produce a flexible data collection instruments with a swift response option to meet emergent public health challenges (Statistics Canada, 2021).

CCHS produces microdata files and files that integrate data from two years. Users may also combine years of CCHS data gathering to look at populations or unique traits, as the data is consistently designed and the population it represents is consistently represented (Statistics Canada, 2021). Health surveillance and population health research are the principal applications of CCHS data. Health and human resources departments at the federal and provincial levels, as well as social service organizations and other branches of government, utilize the data to track the progress of health promotion initiatives and make adjustments as needed (Statistics Canada, 2021). Health researchers from various disciplines use the data to inform their investigations. The media and other non-profit health groups disseminate CCHS findings to educate Canadians on essential health topics (Statistics Canada, 2021). Data collection for the poll started in 2001 and continued every two years through 2005 (Statistics Canada, 2021). The CCHS switched from collecting data every two years to collecting data once a year in 2007 (Statistics Canada, 2021). As of 2007, the annual sample size was reduced from its previous high of almost 130,000 respondents in 2001, 2003, and 2005 to 65,000 (Statistics Canada, 2021).

Computer-assisted telephone interviewing (CATI) and computer-assisted personal interviewing (CAPI) were used to compile the gathered data (Statistics Canada, 2021). This survey was given to a statistically valid and reliable cross-section of Canadian households, and it was done so in both official languages (Statistics Canada, 2021). The data used in this

study were retrieved from the Statistics Canada public use microdata files (PUMF). These PUMFs provide scholars and the general public with anonymized survey data access. Researchers can get valuable information from the PUMF and prepare it for analysis using SPSS. After eliminating duplicates and identifying outliers, the data was cleaned for statistical analysis. Certain variables may have to be omitted or re-coded to safeguard the privacy of survey respondents when utilizing public-use microdata files, and the data may be less accurate than the original data.

3.1 Sample

The sample of the CCHS 2017-18 that we examined in the current study for the impact of leisure satisfaction on life satisfaction, mediated by self-rated physical health (SRPH) and self-rated mental health (SRMH), was a nationally representative sample of the Canadian population aged 12 and older (Statistics Canada, 2021).

The population size for the CCHS 2017-18 was approximately 113,290 individuals, and it was designed to be representative of the Canadian population in terms of age, gender, and region (Statistics Canada, 2021). The survey oversampled certain population groups, such as women and senior citizens, to ensure that these groups were adequately represented in the sample. Additionally, the sample was weighted to account for non-response and to ensure that the sample represented the Canadian population concerning key demographic characteristics (Statistics Canada, 2021).

For the present study, the sample was further restricted to include only those individuals who reported having engaged in leisure activities in the past 12 months and provided complete data on leisure satisfaction, life satisfaction, SRPH, and SRMH. To do this, we conducted a missing value analysis in SPSS and then deleted the dependent and independent variables that had missing values. However, we finally used the present study's final sample for demographic variables, around N= 41,794.

It is critical to mention that the sample has some limitations and potential biases, such as non-response bias, measurement errors, and sampling errors. Additionally, the generalizability of the results may be restricted if the sample does not represent the population of interest.

3.2 Measures

Age is classified into three categories, which for the present analyses range where (1) represents "Youth" aged 15 to 24 years, (2) represents "Adults" aged 25 to 64 years, and (3) represents "Seniors" aged 65 or older. *Gender* is represented by male (0) and female (1).

Socioeconomic status is constructed with education and income scores. These scores were transformed into Z-scores, and their meaning was computed to form a single measure of current SES. Combining education and income ratings was necessary because they were measured on different scales. Response options for education included less than secondary school (1), secondary school graduation, no post-secondary education (2), post-secondary certificate, or university degree (3). Response options for income included less than $20,000 (1), $20,000 to $39,999 (2), $40,000 to $59,999 (3), $60,000 to $79,999 (4), or $80,000 or greater (5).

Self-rated mental health (SRMH) shows the participants' mental health status based on one's judgment (CCHS 2017- 18). Perceived mental health was evaluated with responses to the question, "In general, would you say your mental health is: 5=poor, 4=fair, 3=good, 2=very good, and 1=excellent?" (CCHS 2017-18). Responses to these questions were reverse-scored to get higher values to match a higher level of perceived mental health.

Self-rated physical health (SRPH) shows the participants' physical health status based on their judgment (CCHS 2017- 18). Perceived physical health was evaluated with responses to the question, "In general, would you say your mental health is: 5=poor, 4=fair, 3=good,

2=very good, and 1=excellent?" (CCHS 2017-18). Responses to these questions were reverse-scored to get the higher values to match a higher level of perceived mental health.

Satisfaction with Leisure Activities demonstrates participants' satisfaction with leisure activities before responding to this survey (CCHS 2017-18). The question was, "How satisfied are you with your leisure activities?" (CCHS 2017-18). The response was recorded as Very satisfied (1) to Very dissatisfied (5). Answers to these questions were reverse-scored to get the higher values to match a higher level of satisfaction with leisure activities. Other responses, such as skip, no response, do not know, etcetera, were removed from the re-coded variable.

Overall satisfaction with life shows how satisfied participants were with their lives. The question was, "How satisfied are you with your overall life?". The response was recorded as Very satisfied (1) to Very dissatisfied (5). Answers to these questions were reverse-scored in an attempt to get the higher values to match a higher level of satisfaction with life. Other responses, such as valid skip, no response, do not know, and refusal, were removed from the re-coded variable.

3.3 Data Analyses

We have used the SPSS 29 application from IBM to analyze the data in this research. Access to the online software has been given by Lowell L. Williamson, Faculty of Health IT Specialist, University of Waterloo. The secondary data has been examined for distributional normalcy, correlation, and regression. Descriptive statistics have been calculated, and the measures' consistency (item-to-total correlations) has been evaluated. Then, a bivariate correlation was run to determine the relationships among leisure satisfaction, life satisfaction, self-rated mental health, self-rated physical health, and control variables. This has allowed us to identify any associations between leisure satisfaction, life satisfaction, SRMH, SRPH, and control variables. Finally, two sets of linear regression models were employed to observe the

association of leisure satisfaction with life satisfaction. Control variables (Age, Gender, SES, Marital Status) and leisure were incorporated in the first model for each set of analyses to inspect their impact on overall life satisfaction. To thoroughly examine the potential roles of SRMH and SRPH in explaining any statistically significant associations between leisure satisfaction and overall life satisfaction, SRMH and SRPH have been tested as core mediators using a procedure outlined by Preacher & Hayes (2008).

The results of these analyses have allowed us to determine whether SRMH and SRPH are significant mediators of the connection between leisure satisfaction and life satisfaction. If they are significant mediators, it means that the presence of SRMH and SRPH partially or fully explains the connection between leisure satisfaction and life satisfaction. This explanation has allowed us to make inferences about how leisure satisfaction may impact life satisfaction through perceptions of one's mental and physical health condition.

Chapter 4: Results

This chapter first presents sample characteristics and descriptive statistics for all research variables. Second, the outcomes of the correlational analysis of model variables in Figure 1 are presented (i.e., leisure satisfaction, life satisfaction, SRPH, and SRMH). The chapter concludes with the results of the regression and mediation analysis employed to test each hypothesis under investigation (H1: *Leisure satisfaction is positively associated with overall life satisfaction*; H2: *Self-rated physical health will positively mediate the relationship between leisure satisfaction and overall life satisfaction; H3*: *Self-rated mental health will positively mediate the relationship between leisure satisfaction and overall life satisfaction*).

4.1 Sample Characteristics and Descriptive Statistics

Of the 113,290 respondents sampled, 41,794 were retained after removing the dependent (Life satisfaction) and independent variables (Leisure Satisfaction, SRMH, SRPH) with missing values. Most adults were between 25 to 64 years of age. A total of 60% of the respondents (25,100) belong to this group, whereas youths represented 10%, and 26% were seniors (Table 1). Men and women were equally represented in this sample, with 47% (19,514) and 53% (22,280), respectively. We can see that 51% or 21,150 of the respondents were married or in common law relationships, while the others were single or not in a relationship anymore. This shows that the respondents were primarily young and married, with equal representation between males and females.

The Socioeconomic Status (SES) was created by combining Education and Income variables into their respective Z scores to measure them on the same scale. Regarding education, most respondents fall in the “post-secondary or university education” category with 57%. Regarding income, most of the survey participants earn between $20,000 and $39,999, with 28% of the population. Among 41,794 respondents, 3,717 did not report their income, while 511 individuals did not share their educational background.

Table 1. *Means and Percentages of Demographic Variables*

Variables	*Frequency*	*Percent*
Sociodemographic variables		
Gender		
Male	19,514	47%
Female	22,280	53%
Marital Status		
Married/ Common-law	21,150	51%
Widowed/ Divorced/ Separated	8,127	19%
Single/ Never Married	12,464	30%
Age Groups		
Youths (15 - 24)	4,190	10%
Adults (25 -64)	25,100	60%
Seniors (65 and older)	10,917	26%
Income		
Less than $20,000	9,813	24%
$20,000 to $39,000	11,655	28%
$40,000 to $59,000	7,038	17%
$60,000 to $79,999	4,100	10%
$80,000 or greater	5,471	14%
Education		
Less than secondary school	8,903	21%
Secondary school or no post-secondary education	8,449	20%
Post-secondary certificate or university degree	23,931	57%

n = 41,794

Most of the respondents were generally satisfied with their leisure activities and overall life, as shown by the means of 4.05 (SD = 0.89) and 4.30 (SD = 0.72), respectively, which correspond with "satisfied" (Table 2). Most of the respondents appeared to be satisfied with their overall life and leisure activities. The average self-rated mental health (SRMH) mean was 3.95 (SD = 0.94), and the self-rated physical health (SRPH) mean was 3.67 (SD = 1.01). These descriptive statistics indicated that respondents generally had positive physical and mental health perceptions.

Table 2: *Means and Percentages of self-rated mental health, self-rated physical health, satisfaction with leisure activity, and overall life satisfaction.*

Variables	*M*	*SD*
Satisfaction		
Overall Life Satisfaction (OLS)	4.30	0.72
Leisure Satisfaction (LS)	4.05	0.89
Well-being		
Self-rated Physical Health (SRPH)	3.67	1.01
Self-rated Mental Health (SRMH)	3.95	0.94

***n* = 41,794.** Satisfaction variables are measured on a scale from 1 (very dissatisfied) to 5 (very satisfied). Well-being variables are measured on a scale from 1 (poor) to 5 (excellent).

4.2 Correlation Analysis

The results from the correlation analysis revealed a significant positive relationship between leisure satisfaction and life satisfaction ($r = .35$; $p < .001$). Leisure satisfaction was positively and significantly associated with SRPH ($r = .29$; $p < .001$) and SRMH ($r = .29$; $p < .001$). Moreover, SRPH and SRMH were positively and significantly associated with life satisfaction ($r = .47$; $p < .001$) and ($r = .46$; $p < .001$), respectively. Table 3 reports the correlation matrix for study variables.

Table 3. *Correlations of self-rated mental health, self-rated physical health, satisfaction with leisure activity, and overall life satisfaction.*

		Correlations							
No.	Variables	1.		2.		3.		4.	
1.	Overall Life Satisfaction	--							
2.	Leisure Satisfaction	0.35	***	--					
3.	SRPH	0.46	***	0.29	***	--			
4.	SRMH	0.47	***	0.29	***	0.45	***	--	

Note. SRPH = Self-rated physical health, SRMH = self-rated mental health, * p < .05, ** p < .01, *** p < .001

4.3 Hypotheses Testing

The dependent variable (overall life satisfaction) was regressed when predicting leisure satisfaction, SRPH, and SRMH variables. Regression analyses show that all the control variables and independent variables (IV) were significantly associated with overall life satisfaction, where p < .001 (Table 4). Based on our literature review and research focus, we developed three hypotheses. In this section, we describe each of those regression findings.

4.3.1 Leisure satisfaction is positively associated with overall life satisfaction (H1)

Before the mediation analysis, the regression results revealed that leisure satisfaction was a significant positive predictor of life satisfaction (β =.28; p, <001). This result suggests that respondents who were satisfied with their leisure activities reported higher overall life satisfaction. Thus, people who are more satisfied with leisure are more prone to report being satisfied with their lives in general. As shown in model 1 (Table 4), these results support *hypothesis 1*.

4.3.2 Self-rated physical health will positively mediate the relationship between leisure satisfaction and overall life satisfaction (H2)

The mediation analysis indicated that self-rated physical health positively mediated the relationship between leisure and overall life satisfaction (β = 0.19, p < .001), supporting

hypothesis 2. This outcome indicates that the beneficial effects of self-rated physical health partially explain the association between leisure satisfaction and overall life satisfaction.

4.3.3 Self-rated mental health will positively mediate the relationship between leisure satisfaction and overall life satisfaction (H3)

Similarly, SRMH was found to be a positive mediator in the relationship between leisure satisfaction and overall life satisfaction ($\beta = 0.21$, $p < .001$), supporting *hypothesis 3*. This finding in model 2 suggests that individuals' perceptions of their mental health significantly contribute to understanding how leisure satisfaction can influence overall life satisfaction.

Table 4. *Unstandardized regression coefficients for regression models examining the association of self-rated mental health and self-rated physical health with satisfaction with leisure activity and overall satisfaction with life.*

Independent Variables	Model 1			Model 2		
	Coeff.	sig.	SE	Coeff.	sig.	SE
Constant	3.58	***	0.02	2.37	***	0.02
Gender of the Respondents	-0.05	***	0.01	-0.05	***	0.01
Marital Status	-0.11	***	0.00	-0.08	***	0.00
Age Groups	-0.10	***	0.01	-0.04	***	0.01
Socioeconomic Status (SES)	0.05	***	0.00	-0.02	***	0.00
Satisfaction with Leisure Activities	0.28	***	0.00	0.15	***	0.00
Self-rated Physical Health of the Respondents	--	***	--	0.19	***	0.00
Self-rated Mental Health of the Respondents	--	***	--	0.21	***	0.00
Adjusted R^2	0.142	--	0.670	0.327	--	0.591

* $p < .05$, ** $p < .01$, *** $p < .001$, dependent variable = Overall life satisfaction

4.4 Hypothesized Model

We ran a matrix using the process macro version 4.2 by Hayes (2022) in SPSS 29. We used model 4, where X (IV) is Leisure Satisfaction, Y (DV) is Overall Life Satisfaction,

SRMH is Mediator 1 (M1) and SRPH is Mediator 2 (M2). We learned that the total effect (c) of leisure satisfaction on overall life satisfaction was significant (β = 0.28 $p < 0.001$). Compared to the total effect, the direct effect (c') of Leisure Satisfaction on SRMH is reduced (β = 0.15, $p < 0.001$) with the addition of SRPH and SRMH to model 2 (Table 5). We also found indirect effects (a and b paths) for the mediator to be statistically significant. A1 path (X to M1) shows that the β = .31 ($p < 0.001$) and A2 path (X to M2) shows that the β = .33 ($p < 0.001$). Likewise, SRMH and SRPH significantly impact Overall Life Satisfaction indicated through the paths B1 (M1 to Y) and B2 (M2 to Y); we found the β = .21 and .19, respectively, where p is less than 0.001. Both SRPH (β = .21, p < .001) and SRMH (β = .19, p < .001) showed significant positive relationships with Life Satisfaction, suggesting that individuals' perceptions of their physical and mental health directly influence their overall life satisfaction.

Table 5. *Total effects, direct effects, and bootstrap analysis of indirect effect for the association of satisfaction with leisure activity and overall satisfaction with life mediated by self-rated mental health and self-rated physical health.*

			Bootstrapping 95% CI	
	Effect	SE	Lower Limit	Upper Limit
Total Effect (c)	0.284	0.004	--	--
Direct Effect (c')	0.153	0.004	--	--
Indirect Effect (*ab*)	0.131	0.003	0.122	0.132

The potentially mediating roles of SRPH and SRHM in the association between leisure satisfaction and overall life satisfaction were tested and illustrated (Figure 1; Preacher and Hayes, 2008). Specifically, the initial association between leisure satisfaction and overall life satisfaction was partially reduced (β = .28*** vs. β = .15***), and the criteria for mediation were met, suggesting that SRPH and SRMH partially explain the association between leisure satisfaction and overall life satisfaction as the direct effect in the presence of mediators is significant.

Additionally, the mediation analysis revealed significant indirect effects. The indirect effect of SRMH is 0.066, and SRPH is 0.065. The mediating effect is significant as Lower Limit Confidence Interval (BootLLCI = 0.0620 and 0.0616, respectively) and Upper Limit Confidence Interval (BootULCI = 0.0690 and 0.0687, respectively) are positive in both cases, as seen from the output of the process macro (see Appendix) of this paper. These indirect effects suggest that the mediating roles of Self-Rated Mental Health and Self-Rated Physical Health explain part of the relationship between Leisure Satisfaction and Life Satisfaction.

Figure 2 | *Hypothesized associations between leisure satisfaction, overall life satisfaction, self-rated physical health, and self-rated mental health.*

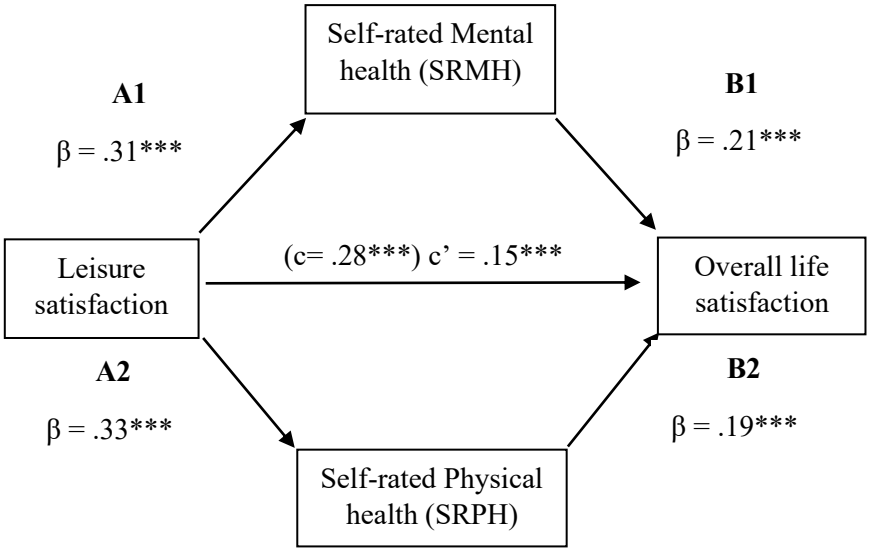

Figure 2 | Hypothesized associations between leisure satisfaction, overall life satisfaction, self-rated physical health, and mental health.

Note: Value in parentheses is the unstandardized coefficients before the addition of SRMH and SRPH mediators to the models; *** $p < .001$, n = 41,794

The analyses supported the hypotheses we developed earlier (H1, H2, H3). The next chapter will explain and interpret these findings and discuss implications for practice and future research avenues.

Chapter Five: Discussion

In this final chapter, we will discuss the results from our conducted analyses and exhibit how the findings relate to the literature we reviewed. Then, we will proceed to discuss the implications of the practice of the findings we have. Finally, we will acknowledge the limitations of this research and create a few recommendations for future research related to life and leisure satisfaction.

5.1 The relationship between leisure satisfaction and overall life satisfaction.

Statistical analysis showed a positive relationship between leisure and life satisfaction. Individuals who are satisfied with their leisure activities appear to be generally satisfied with their lives. This learning is harmonious with prior studies (e.g., Brown & Frankel, 1993). The strong correlation between leisure satisfaction and life satisfaction ($r = .35$; $p < .001$) and sin the regression model 1 in Table 4 exhibits $\beta = .28^{***}$, which indicates that increased leisure satisfaction (X) also increases life satisfaction (Y) positively, and the relationship is significant. This justifies *hypothesis 1* and is aligned with the theoretical lens of bottom-up spillover theory, where satisfaction, along with other life domains, spills over to life satisfaction (Sirgy, 2021). These associations are consistent with the research showing that people with higher levels of leisure satisfaction are less expected to encounter depression signs and more likely to have greater life satisfaction (von Känel et al., 2014).

H1: Leisure satisfaction is positively associated with overall life satisfaction. (Supported)

5.2 The mediating role of self-rated physical health

SRPH partially mediated the relationship between leisure satisfaction and life satisfaction. This finding is consistent with literature examining how leisure satisfaction positively affects life satisfaction, with health satisfaction being one of the mediators (Kinney & Coyle, 1992; Lera-López et al., 2017). In model 2 of Table 4, SRPH reduces the primary association between leisure satisfaction and overall life satisfaction ($\beta = .28^{***}$ vs. $\beta =$

.15***). Also, the adjusted R^2 increases from 0.142 to 0.327, indicating that SRPH partially mediates the positive relationship between leisure activity and overall life satisfaction. This mediation analysis result justifies *hypothesis 2* and suggests that leisure satisfaction positively influences SRPH, which partially mediates the relationship between leisure satisfaction and overall life satisfaction (Lera-López et al., 2017). The reason behind this mediating relationship of SRPH could be the self-fulfillment of the respondents when they perceive their physical health to be good enough to participate in leisure activities, which consequently satisfies them with their lives.

H2: Self-rated physical health will positively mediate the relationship between leisure satisfaction and overall life satisfaction. (Supported)

5.3 The mediating role of self-rated mental health

SRMH was found to mediate the relationship between leisure satisfaction and life satisfaction partially. When added to the hypothesized model 2 (Table 4) along with SRPH for mediation analysis, the association between leisure satisfaction and life satisfaction was reduced from 0.28 to 0.15 ($p<0.001$), indicating there is a mediation going on and adjusted R^2 0.327 in model 2 indicates that 32.7% of the variance is explained by adding the mediators. This mediation is aligned with the literature, which demonstrates that SRMH can play an essential role as a mediator in describing the relationship between leisure satisfaction and life satisfaction (Maher et al., 2015). From this mediation, we may assume that when people perceive they are mentally healthy, they are more likely to psychologically benefit from leisure satisfaction, which ultimately influences their life satisfaction.

H3: Self-rated mental health will positively mediate the relationship between leisure satisfaction and overall life satisfaction. (Supported)

5.4 Implications for Practice

The research indicates that there are significant effects that are important to many groups, such as elected officials, lawmakers, leisure service organizations, and scholars. It is essential to recognize that public, non-profit, and private leisure services are crucial in improving individuals' life satisfaction and life satisfaction. These findings can assist elected officials and policymakers allocate resources and prioritize developing high-quality leisure services. This acknowledgment highlights the positive impact of leisure activities on overall well-being and urges lawmakers to prioritize leisure as a crucial component in their agendas.

The study emphasizes the ongoing concern among scholars and practitioners in the recreation and leisure area over health and well-being. From the study, we found that engaging in leisure activities and developing positive opinions regarding leisure are associated with enhancements in self-esteem. These findings suggest that leisure activities may be deliberately used to promote health by enhancing satisfaction and boosting self-esteem. Integrating leisure activities into health programs and therapies can improve participants' overall well-being.

These findings demonstrate that leisure service companies and organizations can engage the public with leisure-focused messages that highlight the benefits of leisure to life satisfaction, mental health and physical well-being. Overall, this advocacy will likely raise public awareness about the importance of leisure services, draw support for recreational activities, and deepen the understanding of the benefits of being involved in leisure for their wellbeing.

Schot et al. (2020) underscore the transdisciplinary nature of the challenges highlighted and the need for professionals, researchers, and policymakers to work in concert and underscore the transdisciplinary nature of the actions necessary for sustaining long-term investments in park and recreation system-based public health. This report closes with a

statement about the need for a research-to-practice-to-policy shift, a critical goal in our work. Recreation and public health are transdisciplinary work requiring collaborators from various disciplines to succeed.

This research, therefore, offers a clear path for future research. It encourages additional work on the relationships between pleasure in leisure activities, life satisfaction, physical health, mental health, and all the other interlinked elements of existence. Continued research can lead to a deeper exploration of the specifics and evidence-based treatments and policies that can aid our comprehension of the more subtle relationship between leisure and life satisfaction.

5.5 Limitations

This study is grounded on data gathered through self-report from the CCHS 2017-18. The use of self-report data introduces a risk of measurement error. As such, people can have flawed memories or even not want to report accurate information about how much they enjoy leisure activities, how satisfied they are with their lives overall, and how they assess their self-reported physical and mental health. This introduces a potential source of bias due to measurement error, which reduces the validity and reliability of the estimates. Also, due to the endeavour of designing a study, there could be uncontrolled variations in the administration process of the survey that could affect the quality of the answers received. Noise could be created in the data due to variations in administering the survey, participants' understating of a question in the survey, or cultural differences in the understanding of specific ideas.

Another limitation of this study is that the data is based on a cross-section design from the 2017-18 Canadian Community Health Survey (CCHS). According to the cross-sectional design, there is no control of the temporal sequence; the data in this design is collected at a certain point. This design problem affects our capability of selecting causal relationships

between variables with available correlations. Specifically, the correlations between leisure satisfaction, life satisfaction, self-rated physical health (SRPH) and self-rated mental health (SRMH) would be reciprocal or affected by covariates, which limit our understanding of the tangible meaning of the correlations.

5.6 Scope for future research

Future researchers interested in this subject matter may include diverse sample populations in the study to improve the generalizability of the results. A deeper understanding of how leisure activities affect overall well-being and subjective health in different scenarios may be gained by considering diverse demographic groups, cultural backgrounds, and socioeconomic conditions.

We have used subjective variables (SRPH and SRMH) as the mediators to define the underlying mechanisms of the relationship between leisure and life satisfaction. In future research, it would be helpful to use objective physical health data (e.g. glucose level, blood tests, weight) and objective mental health data, such as anxiety scales, depression inventories, and other neurological reports. Objective data can be incorporated to better understand the relationship between leisure and life satisfaction.

Blending qualitative research methods like focus groups or interviews with quantitative analysis can better understand individuals' subjective experiences regarding leisure satisfaction, life satisfaction, and health. Qualitative data can capture nuanced perspectives and contextual details that quantitative measures may not fully encompass.

5.7 Conclusion

This research intended to investigate the connections among leisure satisfaction, self-rated mental health (SRMH), self-rated physical health (SRPH), and overall life satisfaction using data from the Canadian Community Health Survey (CCHS) 2017-18. The results confirm the theory that enjoyment of leisure activities is linked to higher levels of general life

satisfaction. The study found that SRPH and SRMH had essential mediation functions in explaining the relationship between leisure satisfaction and life satisfaction.

The statistical studies showed positive relationships between leisure satisfaction, SRPH, SRMH, and life satisfaction, highlighting the interconnection of these elements. Regression analysis showed that people who are satisfied with their leisure activities generally had greater overall life satisfaction. Introducing SRPH and SRMH as mediators increased the model's explanatory capacity, strengthening their importance in clarifying the connection between leisure and life happiness.

The study offers fascinating insights, but it is important to recognize several limitations, such as the cross-sectional nature of the data and its dependence on self-reported measurements. Future research should use longitudinal study designs, measurable measurements, and varied sample groups to overcome these constraints. Furthermore, combining qualitative research methods with quantitative analysis can provide a more thorough insight into individuals' subjective experiences regarding leisure pleasure, life satisfaction, and health.

This study expands the understanding of the complex relationship between leisure, mental and physical health, and overall happiness. Comprehending these connections can help improve individuals' well-being through treatments and policies that consider the influence of leisure activities on mental and physical health.

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Appendix

Syntax

```
*** Tuesday 26 December 2023
RECODE DHHGMS (3=2) (4=3) (1 thru 2=1) (ELSE=SYSMIS) INTO MARSTAT.
EXECUTE.
RECODE DHH_SEX (1=1) (2=0) (ELSE=SYSMIS) INTO GENDER.
VARIABLE LABELS  GENDER 'Gender of the respondents'.
EXECUTE.
RECODE GEN_015 (5=1) (4=2) (3=3) (2=4) (1=5) (ELSE=SYSMIS) INTO SRMH.
EXECUTE.
RECODE GEN_005 (5=1) (4=2) (3=3) (2=4) (1=5) (ELSE=SYSMIS) INTO SRPH.
EXECUTE.
RECODE INCDGPER (2=1) (3=2) (4=3) (5=4) (6=5) (ELSE=SYSMIS) INTO INCOME_TOTAL.
EXECUTE.
RECODE EHG2DVR3 (1=1) (2=2) (3=3) (ELSE=SYSMIS) INTO EDUCATION.
EXECUTE.
DESCRIPTIVES VARIABLES=INCOME_TOTAL EDUCATION
  /SAVE
  /STATISTICS=MEAN STDDEV MIN MAX.
COMPUTE SES=mean (ZINCOME_TOTAL, ZEDUCATION).
EXECUTE.
RECODE DHHGAGE (2 thru 4=1) (5 thru 12=2) (12 thru 16=3) (ELSE=SYSMIS) INTO AGE.
EXECUTE.
RECODE GENDVSWL (1=5) (2=4) (3=3) (4=2) (5=1) (ELSE=SYSMIS) INTO LIFESAT.
EXECUTE.
RECODE SWL_010 (1=5) (2=4) (3=3) (4=2) (5=1) (ELSE=SYSMIS) INTO LEISAT.
VARIABLE LABELS  LEISURE_SAT 'Satisfaction with Leisure Activities'.
EXECUTE.
```

```
*** Thursday 26 December 2023
FREQUENCIES VARIABLES=GENDER MARSTAT AGE SES LIFESAT LEISAT SRPH SRMH
  /STATISTICS=STDDEV MEAN SKEWNESS SESKEW
  /ORDER=ANALYSIS.
DESCRIPTIVES VARIABLES=GENDER MARSTAT SES AGE LIFESAT LEISAT SRPH SRMH
  /STATISTICS=MEAN STDDEV MIN MAX.
CORRELATIONS
  /VARIABLES= LIFESAT LEISAT SRPH SRMH
  /PRINT=TWOTAIL NOSIG FULL
  /MISSING=PAIRWISE.
*** Regular SPSS regression syntax ***
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT LIFESAT
  /METHOD=ENTER GENDER MARSTAT SES AGE LEISAT
  /METHOD=ENTER GENDER MARSTAT AGE SES LEISAT SRPH SRMH.
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT LIFESAT
  /METHOD=ENTER GENDER MARSTAT AGE SES LEISAT SRPH SRMH.
*** Ran Process Macro V 4.2 Model 4 ***
```

Process Macro

```
Run MATRIX procedure:

************ PROCESS Procedure for SPSS Version 4.2 ************
          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022).
www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : LIFESAT
    X  : LEISAT
   M1  : SRMH
   M2  : SRPH

Sample
Size:  41794

**************************************************************************
OUTCOME VARIABLE:
 SRMH

Model Summary
R       R-sq        MSE          F        df1        df2          p
.2899   .0840      .8148  3834.2898     1.0000 41792.0000      .0000

Model
              coeff         se          t          p       LLCI
ULCI
constant     2.6972      .0207   130.2192      .0000     2.6566
2.7378
LEISAT        .3090      .0050    61.9216      .0000      .2993
.3188

Standardized coefficients
            coeff
LEISAT      .2899

**************************************************************************
OUTCOME VARIABLE:
 SRPH

Model Summary
R       R-sq        MSE          F        df1        df2          p
.2905   .0844      .9330  3851.7531     1.0000 41792.0000      .0000

Model
           coeff         se          t          p       LLCI
ULCI
constant     2.3346      .0222   105.3280      .0000     2.2912
2.3780
```

```
LEISAT        .3315      .0053    62.0625      .0000      .3210
.3419

Standardized coefficients
            coeff
LEISAT      .2905

************************************************************
OUTCOME VARIABLE:
 LIFESAT

Model Summary
 R       R-sq        MSE          F        df1        df2          p
.5662      .3206      .3497  6572.2895     3.0000 41790.0000   .0000

Model
              coeff         se          t          p       LLCI
ULCI
constant     2.1216      .0165   128.2920      .0000     2.0891
2.1540
LEISAT        .1530      .0035    44.0070      .0000      .1462
.1598
SRMH          .2118      .0035    60.4444      .0000      .2050
.2187
SRPH          .1966      .0033    60.0299      .0000      .1902
.2030

Standardized coefficients
            coeff
LEISAT      .1887
SRMH        .2785
SRPH        .2766

********************** TOTAL EFFECT MODEL ************************
OUTCOME VARIABLE:
 LIFESAT

Model Summary
 R       R-sq        MSE          F        df1        df2          p
.3498   .1224      .4518  5826.2907     1.0000 41792.0000      .0000

Model
coeff         se          t          p       LLCI       ULCI
constant   3.1519      .0154   204.3659      .0000     3.1217
3.1822
LEISAT        .2837      .0037    76.3301      .0000      .2764
.2909

Standardized coefficients

coeff
LEISAT      .3498
```

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y ***********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_cs
.2837	.0037	76.3301	.0000	.2764	.2909	.3498

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_cs
.1530	.0035	44.0070	.0000	.1462	.1598	.1887

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	.1306	.0026	.1256	.1357
SRMH	.0655	.0018	.0620	.0690
SRPH	.0652	.0018	.0616	.0687

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTAL	.1611	.0028	.1555	.1668
SRMH	.0807	.0021	.0766	.0850
SRPH	.0804	.0021	.0762	.0845

****************** ANALYSIS NOTES AND ERRORS *********************
Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----