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Master's Thesis of Social Welfare

Effects of Childhood Stressful Life Events on Subjective Well-being in Adulthood

– Focusing on the roles of self-esteem and social support –

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성인기 주관적 안녕감에 미치는 영향
– 자아존중감과 사회적 지지의 역할을 중심으로 –

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Effects of Childhood Stressful Life Events on Subjective Well-being in Adulthood

- Focusing on the roles of self-esteem and social support -

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Abstract

Effects of Childhood Stressful Life Events on Subjective Well-being in Adulthood

- Focusing on the roles of self-esteem and social support –

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The purpose of this study is to examine the effects of childhood stressful life events on subjective well-being in adulthood based on the stress process model. In addition, the study investigates the roles of one's internal and external resources, specifically self-esteem and social support, in the relationship between childhood stressful life events and subjective well-being in adulthood.

Well-being is an inevitable factor for happier and healthier lives, and thus an important value in the field of social welfare. Unfortunately, the World Happiness Report 2022 overtly presents the poor subjective well-being score of Korea with the rank of 36th among 38 OECD countries. Considering Korea's high rank in the Human Development Index, which measures income,

education, and health, it can be inferred that mental health in Korea falls short compared to the country's prosperity in other areas. Despite the Korean government's various efforts to strengthen mental health, the score of subjective well-being is still in the decline. Therefore, there is a need to study the factors of subjective well-being at a broader perspective. As a result, this study focused on childhood stressful life events as one of the factors affecting subjective well-being in adulthood as childhood experiences can have a vast impact on mental health outcomes in adulthood. In addition, the study scrutinizes the mechanism behind the dynamic process between childhood stressful life events, subjective well-being in adulthood, and one's internal and external resources, specifically self-esteem and social support.

In order to address the purpose of the study, the research questions are as follows. Firstly, do childhood stressful life events affect subjective well-being in adulthood? Secondly, does self-esteem mediate the effects of childhood stressful life events on subjective well-being in adulthood? Thirdly, does social support mediate the effects of childhood stressful life events on subjective well-being in adulthood? Fourthly, does self-esteem moderate the effects of childhood stressful life events on subjective well-being in adulthood? Fifthly, does social support moderate the effects of childhood stressful life events on subjective well-being in adulthood?

The study utilized wave 1 to wave 16 (2006 ~ 2021) integrated data from the Korea Welfare Panel Study (KOWEPS). The total sample size was 10,059. To examine the effects of childhood stressful life events on subjective well-

being in adulthood, multiple linear regression analysis using Ordinary Least Squares (OLS) estimation method was conducted. Secondly, to explore the mediating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood, multiple linear regression analysis using OLS estimation method was used and Baron and Kenny's (1986) method for mediation was followed. Then, to test the significance of mediation effect, SPSS Process Macro model 4 was employed. Lastly, to study the moderating effects of self-esteem and social support, hierarchical multiple linear regression analysis using OLS estimation method was carried out.

The study's findings are as follows. Firstly, childhood stressful life events negatively affected the levels of subjective well-being in adulthood. Secondly, self-esteem and social support did mediate the effects of childhood stressful life events on subjective well-being in adulthood. Nevertheless, self-esteem and social support did not moderate the effects of childhood stressful life events on subjective well-being in adulthood.

Based on the study's findings, the theoretical implications are discussed. Firstly, by demonstrating that childhood stressful life events negatively affect subjective well-being in adulthood, it supported Pearlin et al.'s (1981) stress process model which explains the process between a stressor, mediators, and an outcome. The study's findings supported that childhood stressful life events do act as a stressor that has a negative impact on mental health outcome, and that one's internal and external resources work as mediators in the

relationship between a stressor and an outcome. Furthermore, by proving that the negative effects of childhood stressful life events last until adulthood, it provided practical grounds on the life course perspective which asserts that childhood experiences can alter outcomes in adulthood.

As to the implications for practice and policy, as childhood stressful life events have been identified as one of the factors influencing the level of subjective well-being in adulthood, there is a need to adopt broader perspective and consider childhood experiences in the intervention measures. Next, there is also a need to strengthen early intervention measures and policies to prevent negative effects of stressful life events during childhood to prolong until adulthood. Although the Dream Start Programs, that have been introduced to prevent harmful effects from childhood stressful life events to persist until later stages in life, have been expanding, there has been criticisms arguing that it lacks budget, labour, and relevant infrastructure to be completely effective. Thirdly, there is a need to devise intervention measures to aid adults with childhood stressful life events, such as trauma-focused cognitive behavioural intervention.

Lastly, the limitations of the study are discussed. Firstly, there is a fundamental limitation in understanding the causal relationship between the variables. Secondly, the responses to childhood experiences utilized in the study were measured retrospectively, and therefore have a possibility of recollection bias. Thirdly, despite the broad conceptualization of the variables in the study, the operationalizations of the variables were limited and could

not completely capture the deeper context of each variable. Lastly, the independent variable of the study was produced by adding responses to five different childhood stressful life events to explore the accumulated effects of childhood experiences on outcomes in adulthood. As a result, the study could not consider the hierarchy and the depth of each experience's effects on subjective well-being in adulthood.

Keywords : childhood stressful life events, subjective well-being in adulthood, self-esteem, social support

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Chapter 1. Introduction

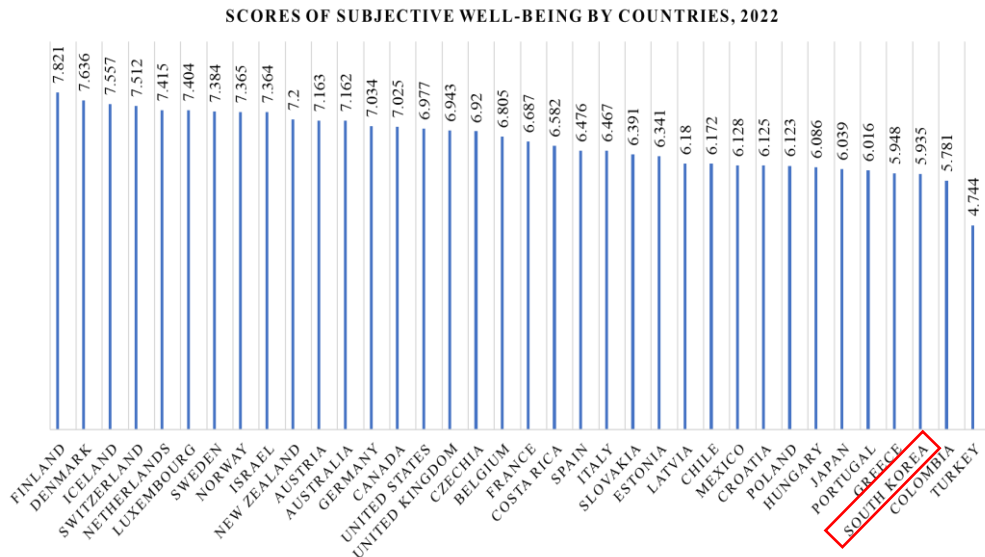
1.1. Research Background

As Aristotle once said, happiness is viewed as an ultimate goal and purpose in human existence. As happiness is correlated with a well-being, it is a significant and essential aspect in individuals' lives (Meyers & Diener, 1995). Well-being is crucial in individuals' lives as it is dynamically related to major domains in life, such as health, longevity, income, and behaviours (De Neve et al., 2013). Studies have shown that those who have higher levels of subjective well-being are more likely to live longer, be more productive, and thus perform financially better, and engage in more social networks (Danner, Snowdon & Friesen, 2001; Lucas & Fujita, 2000; Proto, Sgroi, & Oswald, 2012). As a result, well-being is an important value in the field of social welfare. International Federation of Social Workers (IFSW) states that the profession of social work should intervene in various areas of life and address challenges that hinder individuals' well-being (Hare, 2004). Furthermore, subjective well-being is significant to mental health because mental health is not only defined as the absence of illness but also as the presence of subjective well-being (Sadler, 2011). Hence, well-being is an inevitable factor for happier and healthier lives, and an important value in the field of social welfare.

Unfortunately, the World Happiness Report 2022 overtly presents the poor subjective well-being score in Korea. Based on this measure, Korea scored

5.94 out of 10, which was ranked 59th among 146 countries surveyed, and 36th among 38 OECD countries (Helliwell, Layard, & Sachs, 2022). The <Figure 1> below presents subjective well-being scores of countries, including Korea.

<Figure 1> Scores of subjective well-being by countries in 2022



Note. Scores of Cantril Ladder scale by countries. Adapted from World Happiness Report 2022. Helliwell, J. F., Layard, R., Sachs, J. D., De Neve, J.-E., Aknin, L. B., & Wang, S. (Eds.). New York: Sustainable Development Solutions Network.

Korea's subjective well-being score has been declining continuously since 2011(Jung et al., 2019). Considering Korea's high rank in the Human Development Index, which measures income, education, and health, it can be inferred that mental health in Korea falls short compared to the country's prosperity in other areas (Jung et al., 2019). Despite the government's strenuous efforts to strengthen mental health in Korea, such as diverse mental health services being offered for different stages of life, the score of subjective

well-being is still in the decline. Therefore, there is a need to study the factors of subjective well-being at a deeper level.

Taking a broader perspective in comprehending the factors of subjective well-being in adulthood, it is essential to scrutinize the experiences during childhood. This is because, according to the life course perspective, childhood experiences can have a vast impact on various outcomes in adulthood, including mental health. The life course perspective assumes that the outcomes in adulthood would differ based on choices made and events experienced during the early stages of life (Ben-Shlomo & Kuh, 2002).

In fact, studies have examined how negative experiences in childhood, such as low childhood socioeconomic status or adverse childhood experiences, have effects on mental and physical health outcomes, such as depressive symptoms, suicide ideation, self-rated health status, and diabetes in adulthood (Kim & Choi, 2019; Kim et al., 2016; Lee & Jung, 2016; Yoo & Yoo, 2016; Yoon, 2019; Yoon, Suk, & Noh, 2021; Yi & Hong, 2020). However, studies have focused primarily on the relationship between childhood experiences and depressive symptoms and suicide ideation. Studies seldom investigate how stressful experiences during childhood, such as parental loss, divorce, the experience of dropping out of school, or living at relative's home due to financial difficulties, can become a stressor and have lasting effects on subjective well-being in adulthood. Therefore, it is necessary to explore the effects of childhood stressful life events on subjective well-being in adulthood.

The relationship between childhood experiences and subjective well-being in adulthood can be elucidated by Pearlin et al.'s (1981) stress process model. The stress process model enables understanding of the dynamic process among stressors, mediators, specifically the one's internal and external resources, and the outcomes of stress (Pearlin et al., 1981). Based on this framework, stressful experiences during childhood can be understood as a stressor that can affect one's levels of internal and external resources, such as self-esteem and social support, and therefore influence the levels of subjective well-being in adulthood.

Research have shown that self-esteem, one's internal resource, can mediate and moderate the relationship between stressors, such as low socioeconomic status, loneliness, and perceived inequity in marriage, on outcomes, such as depression, anxiety, and life satisfaction throughout the life course (Chen et al., 2016; Longmore & Demaris, 1999; Moksnes et al., 2010). Furthermore, research also have discovered the mediating effects of social support, one's external resource, in the relationship between stressors, such as bullying, unemployment, and parenting stress, and outcomes, such as life satisfaction, negative health consequences, and psychological distress (Davidson & Demaray, 2019; Gore, 1978; Lu et al., 2018). Yet, there are not much research done to understand how self-esteem and social support can mediate or moderate the lasting effects of childhood stressful life events on subjective well-being in adulthood. Thus, this study examines whether self-esteem and social support can mediate and moderate the lasting effects of childhood stressful life events on subjective well-being in adulthood.

To sum up, Korea's level of subjective well-being is low compared to the country's economic development and affluence. Although the government is providing diverse mental health services to elevate the levels of subjective well-being among Korean adults, it tends to have difficulties in considering the lasting impacts of childhood experiences on mental health outcomes in adulthood. Nonetheless, as the life course perspective indicates childhood experiences can be a key factor in influencing outcomes in adulthood. Furthermore, the stress process model explains that childhood stressful life events can act as a stressor that have an influence on outcomes of mental health. The stress process model also implies that one's internal and external resources, such as self-esteem and social support, can be essential in diminishing or protecting the effects of stressors on outcomes. Therefore, this study aims to explore the effects of childhood stressful life events on levels of subjective well-being among Korean adults, and the roles of self-esteem and social support in this relationship.

Through this study, the study is able to provide the significance of understanding mental health in a life course perspective, and therefore highlight the significance of considering life course trajectories in devising mental health policies and practice. Additionally, the study can underscore the need to strengthen early interventions for those children who have high risks of experiencing stressful life events, and therefore have high risks of developing poor mental health outcomes in adulthood. Moreover, by understanding the roles of self-esteem and social support in the relationship between childhood experiences and subjective well-being in adulthood, the

study can offer practical intervention measures to enhance mental health of those who have been affected by stressful life experiences in childhood and have low levels of subjective well-being.

1.2. Research Objectives and Questions

This study aims to assess the effects of childhood stressful life events on the levels of subjective well-being among Korean adults, and the roles of self-esteem and social support in this relationship. By understanding the relationship between these variables, the study will be able to provide theoretical grounds to understand how childhood stressful life events are one of the key determinants of subjective well-being in adulthood, and how self-esteem and social support can influence this relationship. Eventually, this study will be able to suggest practical and political implications in the measures to increase the level of subjective well-being among Korean adults. To address the objectives of the study, the research questions to be addressed are the following:

[Research Question 1]

Do childhood stressful life events affect subjective well-being in adulthood?

[Research Question 2]

Does self-esteem mediate the effects of childhood stressful life events on subjective well-being in adulthood?

[Research Question 3]

Does social support mediate the effects of childhood stressful life events on subjective well-being in adulthood?

[Research Question 4]

Does self-esteem moderate the effects of childhood stressful life events on subjective well-being in adulthood?

[Research Question 5]

Does social support moderate the effects of childhood stressful life events on subjective well-being in adulthood?

Chapter 2. Literature Review

In this chapter, theoretical background, and empirical findings relevant to studying the effects of childhood stressful life events on subjective well-being in adulthood and the roles of self-esteem and social support in this relationship are discussed. Firstly, the stress process model, the fundamental basis of this study, is introduced. Then, the life course perspective, a theoretical perspective explaining the lasting effects of childhood experiences on health outcomes in adulthood, is reviewed. Next, based on the stress process model, conceptualization of and relevant studies on subjective well-being in adulthood, childhood stressful life events, self-esteem, and social support are discussed. Lastly, other factors associated with subjective well-being in adulthood are considered.

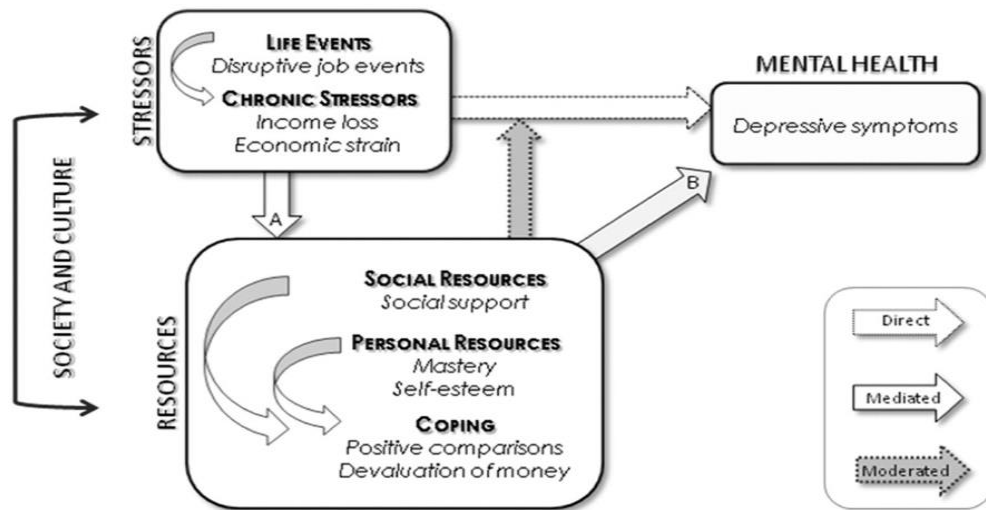
2.1. Stress Process Model

The stress process model comprehends stress in a dynamic process between stressors, mediators, and outcomes of stress. By studying the process of stress, an individual's psychological reactions and changes to stress can be understood in depth. Applying the stress process model to the study, the relationship between childhood stressful life events and subjective well-being, self-esteem, and social support in adulthood are scrutinized as a process between a stressor, mediators, and an outcome. In the following, the overview and application of the stress process model are given.

The stress process model, presented by Pearlin et al. (1981), consists of background context, stressors, mediators, and outcomes of stress. The background context refers to any factors that have a potential influence on stress (Pearlin et al., 1990). It usually includes sociodemographic information, such as age, gender, education level, and income, and thus become control variables in statistical analysis. Then, the stressor is defined as a threat that is beyond one's coping abilities and can disturb stability (Pearlin & Bierman, 2013). Pearlin et al. (1981) classified stressors as primary stressors and secondary stressors. The primary stressor refers to the very first preceding stressor whereas the secondary stressors refer to any new or clustered stress arising from the primary stressor (Pearlin et al., 1981). Next, mediators refer to one's resources that can intervene in the relationship between stressors and outcomes (Pearlin et al., 1981). This illustrates that not only the stressors can affect the outcome, but also the mediators can indirectly affect the outcome. Exploring the indirect effects of mediators enable understanding of how one's resources can lessen or protect the negative impact of stressors on outcomes (Pearlin & Bierman, 2013). Mediators can be organized into internal resources, such as self-esteem, and external resources, such as social support (Pearlin & Bierman, 2013). Pearlin and Schooler (1978) stated that based on levels of individuals' internal and external resources, these mediators not only mediate but also moderate the effects of stressors on outcomes. Mediators can intervene in the effects of a stressor on an outcome whereas moderators can protect and buffer the effects of a stressor on an outcome. Finally, an outcome in the stress process model refers to the manifestation of stress and mediators, such as mental health conditions and well-being (Pearlin, 1989; Pearlin et al.,

1981). The following <Figure 2> presents one of studies done by Aneshenel and Avison (2015) to verify the stress process model by studying the relationship between the stress from disruptive job events and depressive symptoms. It shows that not only the stress from disruptive job events directly affects depressive symptoms but one's internal and external resources, such as self-esteem and social support, also affects depressive symptoms by mediating and moderating the relationship.

<Figure 2> Stress process model

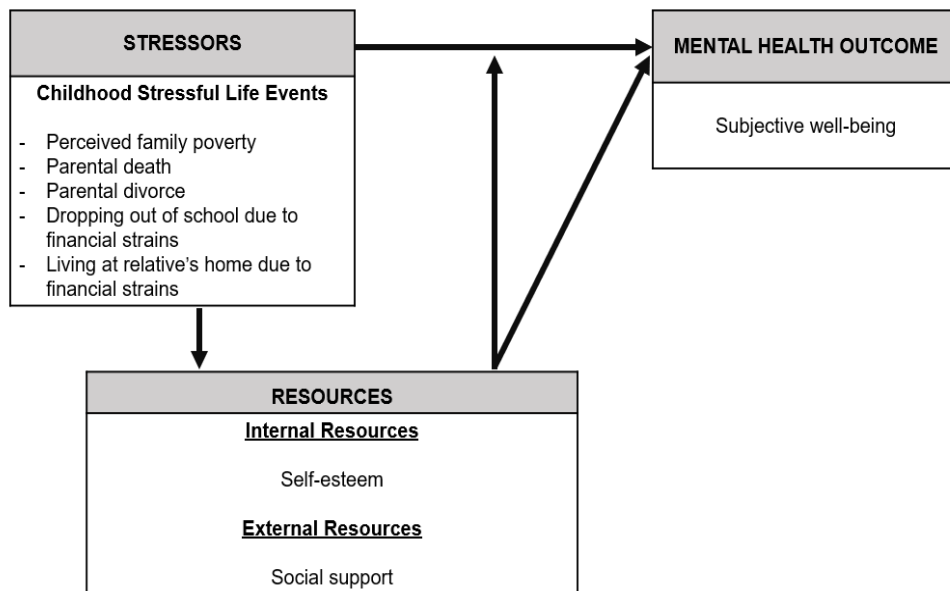


Note. The original stress process model based on Pearlin et al. (1981). Adapted from “The Stress Process: An Appreciation of Leonard I. Pearlin” by C.S., Aneshensel, & W.R. Avison. (2015). *Society and Mental Health*, 5(2): 69.

Studies based on the stress process model primarily focused on the process of stressors, mediators, and outcomes in a single stage of life. Nevertheless, taking a broader approach, this study examines how childhood stressful life events affects subjective well-being in adulthood, and how self-

esteem and social support in adulthood intervene in this relationship. The childhood stressful life events will be understood as a stressor, self-esteem and social support as mediators, and subjective well-being in adulthood will be understood as an outcome. The <Figure 3> represents the application of stress process model to the study.

<Figure 3> Application of stress process model



To discuss in detail, Pearlin (1989) maintained that among life events, those that provoke undesired, unprepared, unusual, and uncontrollable changes are recognized as a stressor. This is because changes in the environment are inevitable in life, and therefore not all changes can be harmful but only those that are sudden and unwanted changes can be harmful (Fairbank & Hough, 1979; Gersten et al., 1977; Thoits, 1981; Vinokur &

Seltzer, 1975). Based on this concept of life events as stressors, childhood stressful life events can be interpreted as a stressor in this study because experiences of parental loss, death, and financial difficulties would incur undesired, unprepared, unusual, and uncontrollable changes and readjustments in a child's environment. These unwanted and sudden pressures to make readjustments would act as a stressor to children. As a result, childhood stressful life events can be understood as a primary stressor. Underlying this theoretical assumption, this study will examine how childhood stressful life events would act as a stressor and have lasting influences on the outcome, the levels of subjective well-being in adulthood. In a reference to the stress process model, it can be implied that childhood stressful life events would negatively affect subjective well-being in adulthood.

Then, Pearlin et al. (1981) recognized that one's internal and external resources, such as self-esteem and social support, can interfere in the process between a stressor and an outcome. The indirect effects of resources can play a significant role in intervening and buffering the effects of stressors on outcomes (Pearlin, 1989; Pearlin & Schooler, 1978). This study aims to explore the roles of internal and external resources, specifically self-esteem and social support, in the relationship between childhood stressful life events and subjective well-being in adulthood. The presence of mediation effect of self-esteem and social support would suggest that the effects of childhood stressful life events on subjective well-being in adulthood would indirectly be affected by self-esteem or social support. A significant moderation effect of

self-esteem and social support would imply that the effects of childhood stressful life events on subjective well-being in adulthood would be protected by self-esteem or social support. Observing both mediating and moderating effects of one's internal and external resources enables understanding of the mechanism behind how one's resources intervene and protect the effects of a stressor on the outcome. In a reference to the stress process model, it can be inferred that one's self-esteem and social support would mediate and moderate the relationship between childhood stressful life events on subjective well-being in adulthood.

In short, the stress process model provides a framework to understand the dynamic process between the stressors, mediators, and the outcomes of stress. In a reference to the model, this study explores how childhood stressful life act as a stressor and have an impact on outcome, the subjective well-being in adulthood. Furthermore, this study also examines whether one's internal and external resources, specifically one's self-esteem and social support can mediate and moderate the effects of childhood stressful life events on subjective well-being in adulthood.

2.2. Life Course Perspective

In addition to the stress process model, life course perspective offers a useful theoretical perspective in understanding the long-term effects of childhood experiences on outcomes in adulthood.

The life course perspective is a theoretical perspective that observes how time, relationships, transitions between life stages, and societal changes affect individuals' lives from birth to death (Hutchison, 2010). It fundamentally assumes that stages in life are intertwined, and that lives are ordered and shaped by age, social structures, and historical changes (Elder & Johnson, 2018). As a result, life course perspective has been used widely to study how early disadvantageous or difficult experiences can affect health status over the life course (Yoo & Yoo, 2016).

Some of the important conceptual frameworks within the life course perspective that are particularly useful in illustrating the relationship between childhood stressful life events and subjective well-being in adulthood are linked lives, human agency, and accumulative disadvantage. Firstly, the concept of link lives states that various social relationships are interconnected (Carr, 2018). It underscores that social relationships in the past continuously affect outcomes in the future. In reference to this, it can be inferred that relationships within family during childhood would last and affect social relationships in adulthood, and thus the levels of subjective well-being.

Further, the concept of human agency emphasizes that individuals are active agents who construct life events based on opportunities and constraints of the past and social circumstances (Carr, 2018). Based on this concept, it can be implied that experiences of social constraints and poor social circumstances can intervene in the process of an individual actively constructing one's state of well-being and life events in adulthood.

In addition, the concept of cumulative disadvantage implies that exposure to negative experiences would accumulate over time, and therefore increase the risk factors in later stages of life (Ben-Shlomo & Kuh, 2002). This indicates that the experiences in early stages of life not only directly have an influence on outcomes in the later stages of life, but also can indirectly add to or interact with other disadvantages. In fact, Lynch et al. (1997) found that disadvantageous social conditions during childhood accumulated to various psychological vulnerabilities in adulthood, and thus endangered mental health. In reference to this concept, it can be inferred that childhood stressful life events would add and interact, and thus have effects on self-esteem and social support, and subjective well-being in adulthood.

In sum, as these illustrate, the life course perspective emphasizes the significance of experiences during childhood and its lasting influences until the adulthood. As a result, in addition to the stress process model, it can be a useful theoretical perspective in studying how childhood stressful life events can last and affect the levels of subjective well-being in adulthood.

2.3. Subjective Well-being

In this section, empirical studies on subjective well-being, the dependent variable of this study, are reviewed. The concept of subjective well-being and factors that are found to influence subjective well-being are discussed.

1. Conceptualization of subjective well-being

The concept of well-being may be vague, yet many scholars have attempted to conceptualize the concept for a long time. Diener (1984) stated that the meaning of well-being goes beyond pleasant experiences and positive emotions in life. Instead, it should focus on individuals' own subjective judgements and appraisals of life experiences (Diener, 1984). This indicates that the judgement and evaluation of the experience are more significant to well-being than the actual life experiences. Chekola (1975) considered well-being as satisfactions with one's goals, aspirations, or life as a whole. Similarly, Shin and Johnson (1978) understood well-being as being in harmony with one's life and one's ideals in life. Based on these conceptualizations, it can be implied that individuals' subjective assessments are essential to well-being.

As subjective appraisals are an important aspect of well-being, it is essential to consider how individuals evaluate lives in positive and negative ways. Diener (1984) proposed that the subjective appraisals of well-being are done through the processes of cognitive and affective evaluations. The

cognitive evaluation is associated with life satisfaction as it assesses discrepancies between the present and the ideal, whereas the affective evaluation is associated with assessing everyday experiences and the following positive or negative affects (Diener, 1984). In a reference to these concepts, the study will consider levels of subjective well-being.

Then, to discuss measurements of subjective well-being, one of the earliest efforts to measure was the Cantril Ladder Scale (Cantril, 1965). Although it is a single-item measure, it has been widely used to measure levels of subjective well-being (Diener, 1984). The Cantril Ladder measures levels of subjective well-being by asking individuals to identify where their current lives are at on a ladder numbered from 0 to 10, assuming that the best possible life represents a 10 while the worst possible life represents a 0. The Cantril Ladder Scale is still a broadly used scale to measure subjective well-being as it is used in more than 150 countries, representing levels of subjective well-being of more than 98% of the world's adult population (Gallup, 2009).

2. Factors of subjective well-being

It is also crucial to understand the factors that affect levels of subjective well-being. Diener, Oishi, and Tay (2018) theorized subjective well-being to be influenced by the following factors. Firstly, in accordance with findings from evolutionary studies, subjective well-being is hypothesized to be affected by the fulfilment of basic and psychological needs (Diener, Oishi, & Tay, 2018). According to Maslow (1943), basic and psychological needs of

human beings are food, shelter, safety, love, self-esteem, and self-actualization. In fact, studies have confirmed that fulfilment of these basic and psychological needs, such as income and supportive social relationships, was positively associated with levels of subjective well-being. (Cummins, 2000, Diener et al., 2010; Kahneman & Deaton, 2010; Moore, Diener, & Tan, 2018; Tay, Zphur, & Batz, 2018). This relationship between fulfilment of needs and subjective well-being was consistent across 123 nations as well (Tay & Diener, 2011). Based on these empirical studies, it can be concluded that satisfying basic and psychological needs are vital for positive subjective well-being. Thus, this study aims to explore how childhood stressful life events, which can lead to difficulties in satisfying basic and psychological needs during childhood, have an impact on subjective well-being in adulthood.

Secondly, in addition to fulfilment of needs, life circumstances are theorized to have influences on subjective well-being (Diener, Oishi, & Tay, 2018). In fact, studies have shown that stressful life events, such as widowhood, unemployment, and disability, affect subjective well-being negatively (Lucas, 2007; Lucas et al., 2003; Luhmann et al., 2012). Diner, Oishi & Tay (2018) further found that subjective well-being is more critical and sensitive to negative changes in life as negative life events affect subjective well-being longer than positive life events do. From these findings, it can be inferred that stressful life events in childhood can affect subjective well-being in adulthood as stressful life events affect subjective well-being in a long term. Hence, based on these findings, this study observes the lasting effects of childhood stressful life events on subjective well-being in adulthood.

To sum up, the study investigates the effects of childhood stressful life events on subjective well-being in adulthood. In this study, subjective well-being is conceptualized as an outcome of individuals' evaluations of life. The empirical findings on subjective well-being suggest that unfulfillment of basic needs and psychological needs, such as financial stability, self-esteem, and supportive relationships, can lead to low levels of subjective well-being. This relationship can be further explained by the stress process model as the unfulfillment of needs can become a stressor and is reflected in the poor well-being. Furthermore, studies discovered that negative changes and life events affect subjective well-being negatively for a longer period of time. This is analogous to the life course perspective as it highlights that disadvantageous changes in the early stages of life can have lasting effects on negative outcomes in adulthood. Based on these empirical findings and theoretical frameworks, this study will examine the lasting effects of stressful life events during childhood on subjective well-being in adulthood.

2.4. Childhood Stressful Life Events

In this section, empirical studies on childhood stressful life events, the independent variable of this study, are reviewed. The concept of childhood stressful life events, and empirical studies on the effects of childhood stressful life events on subjective well-being, self-esteem, and social support are discussed.

1. Conceptualization of childhood stressful life events

Life events are defined as those events that affect one's daily life, which can involve marriages, changing homes, employments, and deaths of close ones (Lin & Ensel, 1984). Then, stressful life events can be interpreted as changes that become a threat to homeostasis, a tendency to sustain stability. These changes that instigate unexpected and unwanted pressures to make readjustments in one's environment would become a stressor (Fairbank & Hough, 1979; Gersten et al., 1977; Thoits, 1981; Vinokur & Seltzer, 1975). However, rather than considering all changes in an environment as stressors, Pearlin (1989) maintained that stressful life events should only be understood as life events that entail undesired, unprepared, unusual, and uncontrollable changes and readjustments.

Then, it is essential to understand what specific life events, particularly in childhood emerge into stressors. Lewis, Siegel, and Lewis (1984) organized a list of events during childhood that can affect children's mental health. The

events that influenced children to ‘feel bad’ were grouped into three domains: 1) events with parents, 2) events with peer groups, and 3) geographic mobility. In addition, expanding from adverse childhood experiences (ACEs)¹, Hunter et al. (2003) came up with Child Life Events Measure to understand components of stressful life events in childhood. It classified stressful life events into five distinct categories: family transitions, family stress, exposure to violence, residential transitions, and justice system involvement. Yet, among diverse conceptualization of negative childhood stressful life events, Shin, and Kim (1996) figured that parental death and financial difficulties were found to be biggest causes of stress among children. Therefore, this study would focus on the stress experienced during childhood due to changes within family and school, as well as the economic status.

Based on these conceptualizations of childhood stressful life events, this study specifically focused on the following events: perceived family poverty, parental death, parental divorce, dropping out of school due to financial difficulties, and living at a relative’s home due to financial difficulties during childhood. Perceived family poverty, dropping out of school due to financial difficulties or living at a relative’s home due to financial difficulties can be stressor to children because experiences of poverty can bring unwanted

¹ Adverse Childhood Experiences (ACEs) refers to traumatic experiences that occur during childhood, between the ages of 0 and 18, that can potentially affect physiological and psychological health in the adulthood. ACEs include physical, emotional, and sexual abuse, physical and emotional neglect, and experience of mental illness, incarceration, violence, substance abuse and divorce within the household (Felitti et al., 1998)

changes in children's environment. Furthermore, parental death or divorce would be a stressor to children because it produces unwelcomed changes in familial settings. Therefore, these five experiences have been operationalized as childhood stressful life events in this study.

2. Childhood stressful life events and subjective well-being

In addition to the conceptualization of childhood stressful life events, it is crucial to understand the effects of childhood stressful life events. Studies have proven that negative childhood experiences can negatively affect children's physical, psychological, and behavioural well-being. Studies showed that maltreatment, poverty, adverse childhood experiences, and emotional abuse were associated with a delay in brain development, academic failures, heavy consumption of alcohol, and development of depressive symptoms during childhood and adolescence (Dube et al., 2006; Luby et al., 2013; Roberts et al., 2018; Shapero et al., 2014).

Studies have also found the lasting effects of childhood stressful life events on outcomes in adulthood. Focusing on the studies in Korea, Yoon (2019) found direct effects of dropping out of school due to financial difficulties on depressive symptoms in middle adulthood. Further, Kim and Choi (2019) reported that low childhood socioeconomic status had direct effect on depression in late adulthood, even after controlling adulthood socioeconomic status. Additionally, Lee and Jung (2016) discovered the indirect effects of childhood socioeconomic status on mental health outcomes

in adulthood. They found that socioeconomic status in childhood affected education level in early adulthood and income level in middle adulthood, which in turn affected depressive symptoms in late adulthood. Moreover, Yoon et al. (2021) revealed that experiencing deficiency during childhood negatively affected income and levels of life satisfaction in the adulthood, which then affected depression in the adulthood.

Overall, based on these finding, it can be inferred that childhood stressful life events would affect subjective well-being in adulthood poorly. Despite the significance of subjective well-being in mental health, empirical studies mainly focused on the effects of a child's low socioeconomic status on psychological and physical health symptoms. Therefore, this study examines how childhood stressful life events can affect subjective well-being of Korean adults.

3. Childhood stressful life events, self-esteem, and social support

Furthermore, childhood stressful life events can also impact one's internal and external resources, specifically self-esteem and social support. Firstly, childhood stressful life events can affect one's self-esteem, as developing self-esteem is an important developmental task during childhood (Erikson, 1950). Stressful life events during childhood would affect self-esteem negatively as stressful experiences become sources of information to evaluate oneself on (Turner & Cole, 1994). In fact, studies have shown that stressful life events in childhood could lead to low self-esteem. Studies showed that

those who have gone through parental divorce and parental death displayed lower levels of self-esteem and disruptive emotional and behavioural problems at school during childhood (Bynum & Durm, 1996; Haine et al., 2010; Worden & Silverman, 1996). Furthermore, studies discovered that financial difficulties at home affected parents' levels of self-esteem, which indirectly lowered children's levels of self-esteem (Mayhew & Lempers, 1998; Whitbeck et al., 1991, 1997).

As to the effects of childhood stressful life events on social support among children, Ford, Clark and Stansfeld (2011) have shown that experiences of adversities during childhood was associated with smaller social network size. Additionally, studies figured that undergoing stressful life events, such as parental divorce and death during childhood led children to have poorer quality of social relationships at school, compared to those who did not have stressful life events (Guidubaldi et al., 2019; Lansford, 2009; Long & Forehand, 1987; Neff et al., 2020).

Studies have found that the effects of childhood stressful life events on self-esteem and social support persist throughout the life course as well. Studies reported that the effects of witnessing parental death or parental divorce as a child lasted and negatively affected levels of self-concept, specifically self-esteem and self-power, in adulthood (Amato, 1996; Marks, Jun, & Song, 2007). In addition, Mustonen et al. (2011) discovered that those who experienced parental divorce as a child were less satisfied with their marital status compared to those who did not have such experiences. Furthermore, experiences of stressful life events during childhood were found

to be a predictor of affective and anxiety disorders during adulthood due to smaller social network size and poorer quality of close relationships in adulthood (Ford, Clark, & Stansfeld, 2011).

Based on these findings, it can be conjectured that childhood stressful life events can negatively affect one's internal and external resources, specifically self-esteem and social support. In other words, it can be predicted that more experiences of stressful life events during childhood, the more levels of self-esteem and social support would decrease throughout the life course, and thus levels of subjective well-being. Therefore, this study observes the relationships between childhood stressful life events, self-esteem, social support, and subjective well-being in adulthood.

2.5. Self-Esteem

In this section, empirical studies on self-esteem, the mediating and moderating variable of this study are reviewed. The concept of self-esteem, the developmental process of self-esteem, and the roles of self-esteem as a mediator and a moderator are discussed.

1. Conceptualization of self-esteem

The concept of self-esteem dates to the works of Hume in *Treatise of Human Nature* (1740), where it is defined as an internal evaluation of one's strengths. Based on this concept, many scholars have presented distinct definitions of self-esteem. James (1890) defined self-esteem as an appraisal of one's capabilities, prospectives, and achievements. Coopersmith (1967) conceptualized self-esteem as an evaluation of oneself, specifically beliefs in one's abilities, value, importance, and potential. Rosenberg (1965) theorized self-esteem as positive or negative attitudes towards self. In sum, self-esteem can be comprehended as positive or negative assessments of oneself, based on one's abilities, values, and significance. In fact, Rosenberg (1979) identified different approaches in which these appraisals of self are made. Firstly, one can appraise by a reflected appraisal, which is appraising oneself based on others' viewpoints on one. Next, an individual can assess through a social comparison, which is assessing oneself by comparing self with surrounding others. In addition, self-esteem can be developed by self-

attribution, which is comprehending one's behaviour or actions based on one's previous behaviours or experiences.

Based on these literatures, it can be understood that self-esteem is developed by absorbing, interpreting, and evaluating various interactions in the environment (Rosenberg, 1979). As a result, having a positive environment during childhood would be essential and critical as developing a sense of self-esteem is particularly crucial during childhood as it is an important developmental task to accomplish (Erikson, 1950). Therefore, this study focuses on the relationship between childhood stressful life events and levels of self-esteem in adulthood, and how this affects levels of subjective well-being as well.

2. The roles of self-esteem

Scholars theorized that self-esteem is important to subjective well-being because self-esteem enables positive evaluation of life experiences (Diener & Fujita, 1995; Kahneman, 1999; Schwarz & Strack, 1999). As self-esteem is a positive or negative assessment of oneself, those with higher levels of self-esteem will tend to believe themselves as worthy whereas those with lower levels of self-esteem will tend to believe themselves as worthless (Rosenberg, 1979). As a result, individuals with positive self-esteem would be able to tolerate negative life experiences and maintain steady levels of subjective well-being because they have a strong and confident sense of self-worth (Baumeister, 1997). On the other hand, individuals with negative self-esteem

would be vulnerable to negative life experiences and low levels of subjective well-being because they have a weak and poor sense of self-worth (Baumeister, 1997). This theory is in accordance with the stress process model that identified self-esteem as one's internal resource that can intervene in the relationship between stressors and an outcome of stress (Pearlin, 1989).

To discuss the roles of self-esteem as one's internal resource, Chen et al. (2016) found that the relationship between socioeconomic status and life satisfaction was mediated by self-esteem among adolescents. Kim and Kim (2008) have found that self-esteem act as a mediator during adulthood as well. The study figured that the effects of depression and life satisfaction among elders were mediated by self-esteem. These findings indicate that self-esteem can indeed act as a mediator and indirectly affect the effects of a stressor on an outcome throughout the life course.

The moderating effects of self-esteem in the relationship between stressors and the outcomes of stress were found among children and adults as well. Moksnes et al. (2010) found that self-esteem moderated the effects of stress from peer pressure, intimate relationships, and academic performance on depression and anxiety among adolescents. Additionally, Longmore and Demaris (1999) discovered the moderating effects of self-esteem in the relationship between perceived inequity in marriage and depression in adulthood.

In sum, literatures have shown the mediation and moderation effects of self-esteem in the relationship between a stressor and an outcome. However, they have focused on the roles of self-esteem in a single life stage, rather than

to study the effects in a life course perspective. Moreover, there are very few studies, especially in Korea, which observe the mediating and moderating effects of self-esteem in the relationship between negative childhood experiences and subjective well-being in adulthood. Therefore, based on the stress process model, this study examines the roles of self-esteem in the relationship between childhood stressful life events on subjective well-being in adulthood.

2.6. Social support

In this section, empirical studies on social support, another mediating and moderating variable of this study, are reviewed. The concept of social support, measurements of social support, and the roles of self-esteem as a mediator and a moderator are discussed.

1. Conceptualization of social support

To firstly define social support, Cobb (1976) perceived social support as a source of information that enables individuals to feel cared, loved, respected, appreciated, and belonged. Then, House (1981) defined social support as interactions between individuals that involve affective, instrumental, informational, and appraisal support. Affective support is in harmony with Cobb's (1976) definition of social support as it is referred as enabling individuals to feel care for and affected (House, 1981; Tilden & Weinert, 1987). Instrumental support refers to providing tangible assistance, such as goods and services (House, 1981; Krause, 1986). Information support refers to offering information to cope with and solve difficult life circumstances (House, 1981). Appraisal support is defined as supporting individuals by providing information that aids positive self-evaluation (House, 1981). Appraisal support can include giving affirmation and encouragement (Kahn & Antonucci, 1980). Lastly, Pearlin et al. (1989) defined social support as accessing and utilizing individuals, groups, or organizations in difficult life circumstances. Deriving from these conceptualizations, social support can be

considered as any form of support that can be one's external sources to cope with stressful circumstances.

As the definitions of social support differ, the measurements of social support differ as well. House et al. (1985) stated that social support can be measured by assessing the type, quality, quantity, and intensity of social networks and relationships. While measuring the type and quantity of social relationships can be important, the perceived quality of social relationships is particularly a key to psychological well-being. This is because studies have shown that perceived support buffered stressors greatly than the actual social support provided (Schwarzer & Leppin, 1991; Wethington & Kessler, 1986). Chung (2019) reasoned that this is because the perception of affection and satisfaction in the quality of relationships makes support-seeking behaviour easier in difficult and stressful events. In other words, those relationships that are perceived to be satisfactory will enable individuals to seek support more easily compared to those relationships that are unsatisfactory. Therefore, focusing on these conceptions of social support, this study will focus on individuals' satisfaction in family and social relationships to understand how individuals perceive their levels of social support.

2. The roles of social support

As stated, social support is essential in subjective well-being. This is because receiving love and care from others is one of the individuals' psychological needs, and therefore the fulfilment of the psychological needs

will lead to higher levels of subjective well-being (Diener, Osihi, & Tay, 2018). In fact, studies have consistently shown a positive relationship between social support and subjective well-being throughout the life course (Chu, Saucier, & Hafner, 2010; Cobb, 1976; Hall & Wellman, 1985; Myers & Diener, 1995). In other words, regardless of children or adults, those who maintained positive and satisfying social relationships displayed higher levels of subjective well-being compared to those who did not. These findings are in accordance with the stress process model as social support, one's external resource, can intervene and lessen the effects of stressors and outcomes of stress. Therefore, it can be implied that the social support would be able to mediate and moderate the relationship between childhood stressful life events and subjective well-being in adulthood.

In fact, studies have shown the mediating effects of social support, as one's external resource, in the relationship between stressors and the outcomes of stress during both childhood and adulthood. Firstly, Newsom, Schulz, and Richard (1996) have proven that social support mediated the effects of stress from physical disability on depressive symptoms among physically disabled adults. Lu et al. (2018) also discovered that social support mediated the relationship between parenting stress and life satisfaction among parents. As to the mediating effects of social support among children, Cakar (2020) showed full mediation effects of social support in the relationship between the stress from loss of a family member and subjective well-being.

Studies have also found the moderating effects of social support among children and adults. Gore (1978) showed moderating effects of social support

in the relationship between unemployment and negative health consequences. Furthermore, Navarrete, Nieto, and Lara (2020) discovered moderating effects of social support in the relationship between marital violence and depression and anxiety. Among children, Davidson and Demaray (2019) observed that social support, specifically relationships with parents, teachers, and peers, moderated the effects of bullying on the internalization of psychological distress.

In sum, through these studies, it can be concluded that social support, as one's external resource, can change or protect the negative effects of stressors on outcomes of stress. However, there are few studies exploring the mediating and moderating effects of social support in the relationship between stressful life events and subjective well-being in a life course perspective. Thus, based on the stress process model, this study investigates the roles of social support, as one's external resource, in the relationship between childhood stressful life events and subjective well-being in adulthood.

2.7. Other Factors Affecting Subjective Well-being

To better explore the effects of childhood stressful life events on subjective well-being, other factors that can influence the levels of subjective well-being must be controlled before analysis. Therefore, based on empirical studies, factors that were identified to affect levels of subjective well-being in adulthood are reviewed in this section.

The socio-demographic characteristics, such as age, gender, education level, and marital status were found to have effects on subjective well-being. Firstly, age was found to have effects on the levels of subjective well-being, yet the findings were inconsistent. While some studies have proven that with age, the levels of subjective well-being decreased (Diener & Suh, 1997; Lucas & Gohm, 2000; Smith & Baltes, 1993), some studies showed that with age, the levels of subjective well-being increased (Wilson, 1967). Secondly, there were inconsistent findings on the relationship between gender and subjective well-being as well. While some studies discovered that men had significantly higher levels of subjective well-being than that of women (Haring, Stock, & Okun, 1984; Stevenson, & Wolfers, 2009), some studies revealed that women had significantly higher levels of subjective well-being than that of men (Blanchflower & Oswald, 2004; Fujita, Diener, & Sandvik, 1991; Tay et al., 2014). Next, marital status was found to have positive effects on the levels of subjective well-being in adulthood (Glenn & McLanahan, 1981; Kim, Moon & Seong, 2014; Yoo, 2012). Thirdly, education level was figured to have

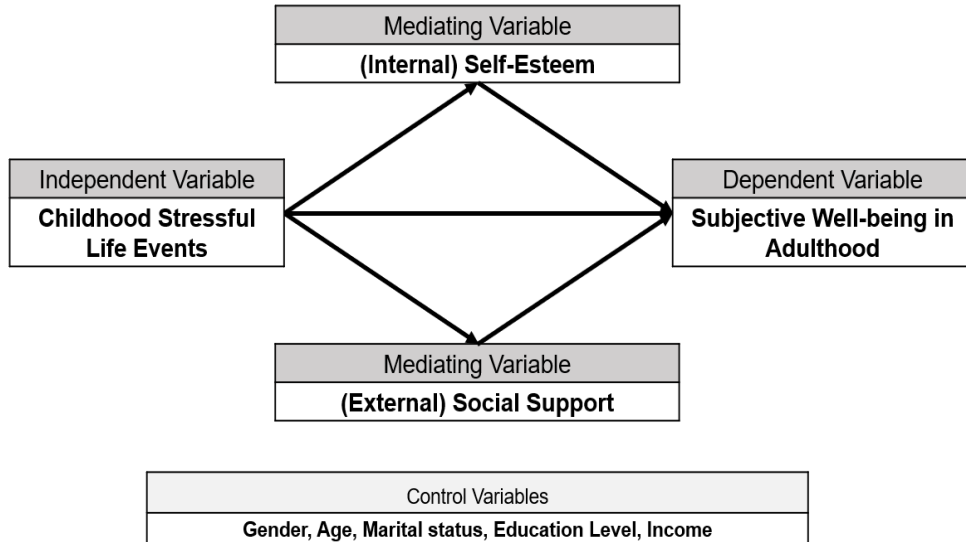
positive effects on the levels of subjective well-being in young adulthood (Kim, Moon & Seong, 2014). Lastly, income was found to have positive effects on the levels of subjective well-being (Sacks, Stevenson, & Wolfers, 2013). Thus, to strengthen the validity of this study, the relationship between childhood stressful life events and subjective well-being in adulthood were examined after controlling the aforementioned factors.

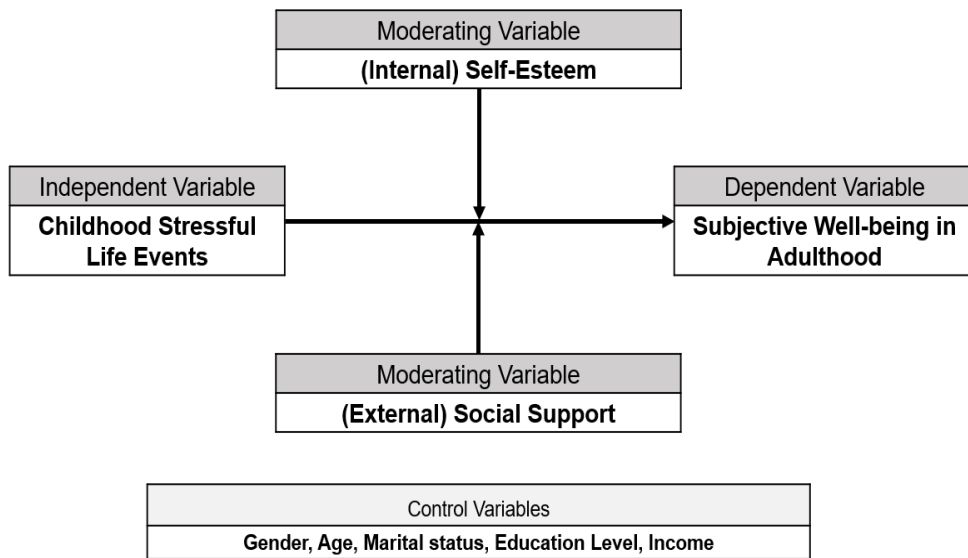
Chapter 3. Research Design

3.1. Research Model

The objective of this study is to study the effects of childhood stressful life events on subjective well-being in adulthood. In addition, this study also aims to investigate the roles of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood. The following <Figure 4> represents the research model of this study.

<Figure 4> Research model





3.2. Research Questions and Hypotheses

Based on the research model, the corresponding research questions and hypotheses are as follows:

Research Question 1. Do childhood stressful life events affect subjective well-being in adulthood?

Hypothesis 1. Childhood stressful life events will negatively affect subjective well-being in adulthood.

Research Question 2. Does self-esteem mediate the effects of childhood stressful life events on subjective well-being in adulthood?

Hypothesis 2. Self-esteem will mediate the effects of childhood stressful life events on subjective well-being in adulthood.

Research Question 3. Does social support mediate the effects of childhood stressful life events on subjective well-being in adulthood?

Hypothesis 3. Social support will mediate the effects of childhood stressful life events on subjective well-being in adulthood.

Research Question 4. Does self-esteem moderate the effects of childhood stressful life events on subjective well-being in adulthood?

Hypothesis 4. Self-esteem will moderate the effects of childhood stressful life events on subjective well-being in adulthood.

Research Question 5. Does social support moderate the effects of childhood stressful life events on subjective well-being in adulthood?

Hypothesis 5. Social support will moderate the effects of childhood stressful life events on subjective well-being in adulthood.

Chapter 4. Research Method

4.1. Data and Sample

In order to study the effects of childhood stressful life events on subjective well-being in adulthood, and the roles of self-esteem and social support in this relationship, this study utilized wave 1 to wave 16 (2006 ~ 2021) integrated data from the Korea Welfare Panel Study (KOWEPS).

KOWEPS has been conducted since 2006 by the Korea Institute for Health and Social Affairs and Seoul National University Institute of Social Welfare to better understand the living conditions of the poor, working poor, and near poor, and therefore to implement appropriate welfare policies and services. KOWEPS consists of surveys on households, household members, and an additional themed survey on disabled, children, and awareness on welfare on a recurring basis. The sampling of KOWEPS is done by applying a stratified double-sampling strategy. The attrition rate of the original sample to the latest wave is 46.04% ($n = 3,816$).

Because the questionnaires on childhood stressful life events, the independent variable of the study, were only asked once when the respondents entered the sample pool, the study used the integrated data of waves 1 to 16 to analyse all possible responses. The original sample size was 10,545. The sample of this study was selected by firstly identifying those who have answered their levels of subjective well-being, the dependent variable of this

study, in the 16th wave, the latest data. Then, the sample was filtered based on those who have answered their levels of self-esteem and social support, the intervening variables of this study, in the same data. Next, the sample was filtered by selecting those who have answered the questionnaires on childhood stressful life events in the integrated data. After filtering out all the missing responses, the total sample size of this study was 10,059. <Table 1> below shows the sampling procedure of the study and the sample sizes in each procedure of sample selection.

<Table 1> Sampling procedure

Questionnaires	Wave	Sample Size
Original sample size	1 st ~ 16 th waves integrated	10,545
Responses to subjective well-being	16 th wave	10,545
Responses to self-esteem and social support	16 th wave	10,544
Responses to childhood stressful life events	1 st ~ 16 th waves integrated	10,354
Final responses without missing values	1 st ~ 16 th waves integrated	10,059

4.2. Statistical Analysis

The purpose of this study is to explore the effects of childhood stressful life events on subjective well-being in adulthood, and the roles of self-esteem and social support in this relationship. To address the research objectives, the following steps of qualitative data analysis were carried out using IBM SPSS 26.0 and Hayes' (2012) SPSS Process Macro statistical tools.

Firstly, to understand the demographic characteristics of the sample, frequency analysis was conducted. Then, to gain an insight into the general information of the variables used in the study, descriptive analysis, and independent sample t-tests were carried out. These allowed verification of the mean, standard deviation, skewness, and kurtosis of variables prior to the regression analyses.

Furthermore, to observe the correlations between variables, Pearson's correlation coefficients were calculated. Pearson's correlation coefficient above 0.8 indicates a strong association between variables, and therefore signifies a multicollinearity (Gujarati, 2003). Through the correlation analysis, a presence of multicollinearity was checked prior to the regression analysis.

Thirdly, to test the first research question, which addresses the effects of childhood stressful life events on subjective well-being in adulthood, multiple linear regression, using the Ordinary Least Squares (OLS) estimation method was employed. Experiences of childhood stressful life events, subjective well-being in adulthood, and control variables were included in the analysis.

Fourthly, to test the second and third research questions, which address the mediating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood, multiple linear regression analysis using the OLS estimation, was used and followed the Baron and Kenny's (1986) method for mediation. Then, to test the statistical significance of mediation effects, SPSS Process Macro model 4 was utilized.

Lastly, to test the fourth and fifth research questions, which address the moderating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood, hierarchical multiple linear regression analysis using OLS estimation method was used.

4.3. Measurement of Variables

1. Independent variable: Childhood stressful life events

Childhood stressful life events were measured by recollecting childhood experiences between the ages of 0 to 17. Childhood stressful life events were specifically consisted of five different stressful life events in childhood: perceived family poverty during childhood, the experience of parental death, the experience of parental divorce, the experience of dropping out of school due to financial difficulties, and the experience of living at a relative's home due to financial difficulties. The responses were taken from the integrated waves from 1 to 16.

The perceived family poverty during childhood was measured by asking respondents to choose options from 1= Very Poor, 2= Poor, 3= Average, 4= Affluent, and 5= Very Affluent. As the independent variable of this study were produced by adding all the responses of five childhood stressful life events, responses to this questionnaire were recoded as dichotomous variables. 1= Very Poor, and 2= Poor were recoded as 1= Poor, and 3= Average, 4= Affluent, and 5= Very Affluent were recoded as 0= Not Poor. Next, the experiences of parental loss, parental divorce, dropping out of school, and living at a relative's due to financial strains were measured as 1= No, and 2= Yes. For this study, the responses were recoded as 0= No, and 1= Yes. Then, the responses for every five experiences were added and used as a continuous variable. The scores of this variable could range from 0, meaning no childhood stressful life events, to 5, illustrating all childhood stressful life

events experienced. Thus, the higher score illustrated the more stressful life events experienced during childhood.

2. Dependent variable: Subjective well-being

Subjective well-being was measured with a Cantril Ladder scale. The Cantril ladder asks a respondent to imagine a ladder numbered from 0 at the bottom to 10 at the very top, and to evaluate where one feels like standing where 0 represents the worst in life and 10 represents the best in life. As this variable was measured on a 10-point Likert scale, it was treated as a continuous variable. The scores could range from 0 to 10, in which the higher the score represented higher levels of subjective well-being in adulthood. The responses were taken from the latest wave, which was the 16th wave.

3. Intervening variables: Self-esteem and Social support

Self-esteem was measured with the Korean version of the Rosenberg Self-Esteem scale (K-RSES). The self-esteem scale was developed by Rosenberg (1965), translated into Korean as K-RSES by Jeon (1974), and validated by Lee (2004). The scale is comprised of 10 questions as presented in <Table 2>. The respondents were asked to answer based on how they generally felt about themselves during the year surveyed. The responses were measured on a 4-point Likert scale from 1= Never, 2= Not really, 3= Yes, and 4= Always. Questions regarding low levels of self-esteem were reverse-coded. Then, all

responses were added and averaged as a continuous variable. The scores could range from 0 to 4, in which a higher score indicated higher levels of self-esteem. The responses were taken from the latest wave, which was the 16th wave.

<Table 2> Korean version of the Rosenberg Self-Esteem Scale

Variable	Questionnaire	
Self-Esteem	1) I think I am as valuable as any other person.	
	2) I think I have a good personality.	
	3) All in all, I think I am a failure.	Reverse coding
	4) I can work well with almost all types of people.	
	5) I have almost nothing to be proud of.	Reverse coding
	6) I am positive towards myself.	
	7) I am generally satisfied with myself.	
	8) I want to be able to respect myself more.	Reverse coding
	9) I sometimes think that I am useless.	Reverse coding
	10) I sometimes think that I am a bad person.	Reverse coding

Social support was measured with satisfaction in family and social relationships. The responses were measured on a 5-point Likert scale from 1= Very dissatisfied, 2= Somewhat dissatisfied, 3= Neutral, 4= Generally satisfied, to 5= Very satisfied. The responses to each satisfaction were added and averaged as a continuous variable. The scores could range from 0 to 5.

Thus, the higher score indicated higher levels of social support. The responses were taken from the latest wave, which was the 16th wave.

4. Control variables

Based on the literature reviews, factors that are expected to affect subjective well-being in adulthood were included as control variables in this study. The control variables consisted of gender, age, education level, income, and marital status. The responses were taken from the latest wave, which was the 16th wave.

Firstly, gender was coded as 1= Male, and 2= Female, which was recoded as 1= Male, and 0= Female. Secondly, age was calculated by subtracting 2021, the year surveyed, from the year of birth. Thirdly, responses to education level were recoded as 1= elementary school and below, 2= middle school, 3= high school, and 4= university education and above. Fourthly, income was calculated by dividing household income by the square root of the number of household members. Then, to adjust for the problem of nonlinearity, natural log transformation was taken and to detect outliers, cases exceeding standardized score of ± 3 was excluded from the analysis. Next, responses to marital status were recoded as 0= Unmarried, Widowed, Divorced, and Separated, and 1= Married. The <Table 3> lists the measurement of variables utilized in the study.

<Table 3> Measurement of variables

Variable		Measurement	Level	Wave
Independent variable	Childhood stressful life events	Sum of responses to: 1) Perceived family poverty, 2) Parental death, 3) Parental divorce, 4) Dropping out of school due to financial difficulties, 5) Living at relative's home due to financial difficulties	Continuous	1 st ~ 16 th Integrated wave
Dependent variable	Subjective well-being in adulthood	10-point Likert scale (Cantril Ladder Scale)	Continuous	16 th wave
Intervening variables	Self-esteem	Averaged sum of responses to K-RSES (Korean version of the Rosenberg Self-Esteem Scale)	Continuous	16 th wave
	Social Support	Averaged sum of responses to 1) Satisfaction in family relationship, 2) Satisfaction in social relationships	Continuous	16 th wave
Control variables	Gender	1 = Male 0 = Female	Categorical	16 th wave
	Age	2021 – Year of birth	Continuous	
	Education level	1 = Elementary school or below 2 = Middle school 3 = High school 4 = University and above	Ordinal	
	Income	LN (Household income divided by square root of number of household members)	Continuous	
	Marital status	1 = Married 0 = Widowed, Divorced, Separated, Unmarried, Others	Categorical	

Chapter 5. Findings

5.1. Demographic Characteristics

In order to understand the demographic characteristics of the study's participants, frequency analysis on the control variables, specifically gender, education level, and marital status was conducted. The results are summarized in <Table 4>.

Firstly, in terms of gender, there were more female participants with 5,826 (57.9%) than male participants with 4,233 (42.1%). Secondly, as to the education level, 2,644 (26.3%) participants had either no education, completed traditional village school, or had an elementary school diploma, 1,212 (12.0%) participants had a middle school diploma, 2,784 (27.7%) participants had a high school diploma, and 3,419 (34.0%) participants had either a college degree, a bachelor's degree, a master's degree, or higher levels of education. Lastly, regarding marital status, there were more married participants with 6,008 (59.7%) than those who were not married, including those who were widowed, divorced, and separated, with 4,051 (40.3%).

<Table 4> Frequency analysis of control variables

(n=10,059)

Variable		Frequency	Percentage
Gender	Male	4,233	42.1
	Female	5,826	57.9
Education Level	No education, Traditional village school, Elementary school diploma	2,644	26.3
	Junior high school diploma	1,212	12.0
	High school diploma	2,784	27.7
	College degree, Bachelor's degree, Master's degree or above	3,419	34.0
Marital Status	Married	6,008	59.7
	Unmarried (Unmarried, Widowed, Divorced, Separated, etc.)	4,051	40.3

In addition to the frequency analysis, the descriptive analysis of variables was done to examine minimum and maximum values, average, standard deviation, skewness, and kurtosis. The results are displayed in <Table 5>. All the variables of the study had absolute values of skewness and kurtosis below 3 and 10 respectively, and therefore satisfied normality assumption for multiple linear regression analysis (Kline, 2005).

Firstly, to observe the descriptive statistics of subjective well-being in adulthood, the dependent variable of the study, ranged from 0 to 10. It had an average of 6.5 and a standard deviation of 1.75. Secondly, as to the independent variable of the study, childhood stressful life events had a minimum value of 0 and maximum value of 5. The mean value and standard deviation of childhood stressful life events were 0.79 and 0.93, respectively. Thirdly, in terms of the mediating and moderating variables, self-esteem had

a minimum value of 1.10 and maximum value of 4 with an average of 3.08 and a standard deviation of 0.42. Social support ranged from 1 to 5. It had an average of 3.78 and a standard deviation of 0.56. Lastly, to observe the descriptive statistics of the control variables, the ages of studied participants ranged from 18 to 100 with an average of 57.36 and a standard deviation of 18.97. The minimum and maximum value of the log of income were 5.81 and 10.02 respectively and had an average of 7.90 and a standard deviation of 0.67.

<Table 5> Descriptive analysis of key variables

(n=10,059)

Variable		min	MAX	Average	Standard Deviation	Skewness	Kurtosis
Dependent variable	Subjective well-being in adulthood	.00	10.00	6.50	1.75	-.462	.257
Independent variable	Childhood stressful life events	.00	5.00	.79	.93	1.070	.592
Intervening variable	Self-esteem	1.10	4.00	3.08	.42	-.625	.638
	Social Support	1.00	5.00	3.78	.56	-.805	1.744
Control variables	Age	18.00	100.00	57.36	18.97	-.239	.959
	Income	5.81	10.02	7.90	.67	-1.73	-.627

Finally, prior to the multiple linear regression analyses to test the hypotheses, independent samples t-tests were carried out to explore the statistically significant differences in the scores of subjective well-being between groups. The results demonstrated that there were statistically significant differences in the scores of subjective well-being in gender ($t = 4.620$, $p < 0.001$), and marriage status ($t = -21.072$, $p < 0.001$). The analytic results are given in the <Table 6>.

<Table 6> Independent samples t-test

Variable		N	Average	Standard Deviation	t
Gender	Male	4,233	6.59	1.69	4.626***
	Female	5,826	6.43	1.78	
Marriage status	Married	6,008	6.79	1.66	21.072***
	Unmarried (Unmarried, Widowed, Divorced, Separated, etc.)	4,051	6.06	1.78	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

5.2. Correlations

In addition to descriptive analysis, Pearson correlation analysis was done to investigate the relationship between the variables. The results are shown in the <Table 7>. When the Pearson coefficient exceeds an absolute value of 0.8, it indicates a presence of multicollinearity (Gujarati, 2003: 359). As none of the absolute values of Pearson correlation coefficients exceed 0.8, it can be implied that there is no multicollinearity between variables of the study.

To observe correlations between the two mediating and moderating variables, there was a statistically significant positive correlation between the two mediating variables, self-esteem, and social support ($r = 0.472$, $p < 0.001$). As to correlations between the independent variable and mediating variables, there was a statistically significant negative correlations between the independent variable and the mediating and moderating variables, self-esteem ($r = -.191$, $p < 0.001$) and social support ($r = -.146$, $p < 0.001$).

Next, to observe correlations between the two mediating and moderating variables and control variables, there were statistically significant negative correlations between self-esteem and gender ($r = -0.61$, $p < 0.001$) and age ($r = -0.302$, $p < 0.001$). Furthermore, social support was negatively correlated with gender ($r = -0.025$, $p < 0.05$) and age ($r = 0.192$, $p < 0.001$). On the other hand, there were positive correlations between self-esteem and education level ($r = 0.353$, $p < 0.001$), income ($r = 0.402$, $p < 0.001$), and marital status ($r = 0.202$, $p < 0.001$). Additionally, social support was positively correlated

with education level ($r = 0.216, p < 0.001$), income ($r = 0.322, p < 0.001$), and marital status ($r = 0.155, p < 0.001$).

As to the statistically significant correlations between the independent variable and control variables, childhood stressful life events was negatively correlated with education level ($r = -0.443, p < 0.001$), income ($r = -0.295, p < 0.001$) and marital status ($r = -0.060, p < 0.001$). Nonetheless, childhood stressful life events were positively correlated with age ($r = 0.298, p < 0.01$). There was no statistically significant correlation between childhood stressful life events and gender.

Lastly, to observe correlations between control variables, there were statistically significant negative correlations between gender and education level ($r = -0.208, p < 0.001$), gender and income ($r = -0.556, p < 0.001$), gender and marital status ($r = -0.167, p < 0.001$), age and education level ($r = -0.732, p < 0.001$), and age and income ($r = -0.556, p < 0.001$). However, there were positive correlations between gender and age ($r = 0.057, p < 0.001$), age and marital status ($r = 0.076, p < 0.001$), education level and income ($r = 0.579, p < 0.001$), education level and marital status ($r = 0.109, p < 0.001$), income and marital status ($r = 0.240, p < 0.001$).

<Table 7> Correlations between the variables

	Childhood stressful life events	Self-esteem	Social support	Gender	Age	Education level	Income	Marital status
Childhood stressful life events	1							
Self-esteem	-.191***	1						
Social support	-.146***	.472***	1					
Gender	.003	-.061***	-.025*	1				
Age	.298***	-.303***	-.192***	.057***	1			
Education level	-.443***	.352***	.216***	-.208***	-.732***	1		
Income	-.295***	.402***	.322***	-.130***	-.556***	.579***	1	
Marital status	-.060***	.202***	.155***	-.167***	.076***	.109***	.241***	1

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

5.3. Multiple Linear Regression Analyses

The purpose of this study is to examine the effects of childhood stressful life events as a stressor on the outcome, subjective well-being in adulthood, and the roles of one's internal and external resources, specifically self-esteem and social support, in this relationship. The analyses were carried out through multiple linear regression analyses using OSL estimation method. Then, SPSS Process Macro model 4 was utilized to test the statistical significance of the mediation effect. This chapter discusses the analytic results on the research questions of the study.

$$[\text{Research Model 1}] Y = \beta_0 + \beta_1 X + \beta_k C_k + \epsilon$$

$$[\text{Research Model 2}] Y = \beta_0 + \beta_1 X + \beta_2 M_1 + \beta_3 M_2 + \beta_k C_k + \epsilon_Y$$

$$[\text{Research Model 3}] Y = \beta_0 + \beta_1 X + \beta_2 M_1 + \beta_3 M_2 + \beta_4 M_1 X + \beta_5 M_2 X + \beta_k C_k + \epsilon_Y$$

M_1 : Self-esteem

M_2 : Social support

Y : Subjective well-being in adulthood

X : Childhood stressful life events

C_1 : Gender

C_4 : Income

C_2 : Age

C_5 : Marital status

C_3 : Education level

1. Effects of childhood stressful life events on subjective well-being in adulthood

The first research question of this study is to observe the effects of childhood stressful life events on childhood. The research model included childhood stressful life events and control variables.

The results indicated that the model's goodness fit was statistically significant at $p < 0.001$ with a F-value of 333.535. The adjusted R^2 was .166, implying that 16.6% of the variance of the dependent variable, subjective well-being in adulthood, was explained by independent and control variables.

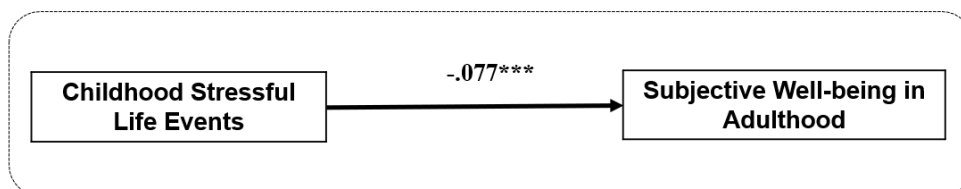
To observe the effects of control variables on subjective well-being in adulthood, age, gender, education level, income, and marital status had statistically significant positive effects on subjective well-being in adulthood. Then, to observe the effects of childhood stressful life events on subjective well-being in adulthood, it is shown that childhood stressful life events did have negative effects on subjective well-being in adulthood ($B(se) = -.077(.019)$, $p < 0.001$). Therefore, the analytic results supported hypothesis 1, which assumes that childhood stressful life events would negatively affect subjective well-being in adulthood. The analytic results are summarized in the <Table 8> and depicted in <Figure 5>.

<Table 8> Effects of childhood stressful life events on subjective well-being in adulthood

		B	S.E.	β	t
Intercept		-.705	.287		-2.453
Control variables	Gender	.125	.034	.035	3.696***
	Age	.005	.001	.051	3.501***
	Education level	.178	.023	.121	7.874***
	Income	.783	.031	.300	24.886***
	Marital status	.427	.035	.120	12.095***
Independent variable	Childhood stressful life events	-.077	.019	-.041	-3.977***
R ²		.167			
Adjusted R ²		.166			
F		333.535***			

Note: * p < .05, ** p < .01, *** p < .001

<Figure 5> Relationship between childhood stressful life events on subjective well-being in adulthood



2. Mediating effects of self-esteem and social support

The second and third research questions of the study observe the mediating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood. According to Baron and Kenny (1986), in order to test the mediating effect, the independent variable must have statistically significant effects on both dependent and mediating variables. Then, the mediating variable must have statistically significant effects on the dependent variable, after controlling the independent variable.

The effects of independent variable on the dependent variable have been tested with research model 1. It has been confirmed that childhood stressful life events did indeed have an impact on subjective well-being in adulthood. Thus, in the following, analytic results on the effects of childhood stressful life events on self-esteem and social support are given. Then, analytic results on their mediating effects in the relationship between childhood stressful life events and subjective well-being in adulthood are followed.

Firstly, an analysis to investigate the effects of childhood stressful life events on self-esteem was conducted. The analytic model was statistically significant at $p < 0.001$ with a F-value of 418.051. In addition, 19.9% of the variance of dependent variable, self-esteem, was explained by independent and control variables as the adjusted R^2 value was .199.

As to the effects of childhood stressful life events on self-esteem, childhood stressful life events had statistically significant negative effects on self-esteem ($B(se) = -.013(.005)$, $p < 0.01$). This result indicates that as the number of childhood stressful life events experienced increased, the levels of self-esteem decreased. Therefore, it has been verified that childhood stressful life events did have negative effects on self-esteem in adulthood. The results are given in <Table 9>.

<Table 9> Effects of childhood stressful life events on self-esteem

		B	S.E.	β	t
Intercept		1.736	.068		25.650
Control variables	Gender	.022	.008	.026	2.827**
	Age	-.002	.000	-.068	-4.772***
	Education level	.049	.005	.138	9.135***
	Income	.155	.007	.247	20.923***
	Marital status	.116	.008	.136	13.986***
Independent variable	Childhood stressful life events	-.013	.005	-.029	-2.848**
R^2		.200			
Adjusted R^2		.199			
F		418.051***			

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Then, an analysis to study the effects of childhood stressful life events on social support was carried out. Results demonstrated that the model's goodness of fit was statistically significant at $p < 0.001$ with the F-value 217.731. Moreover, 11.4% of the total variance of dependent variable was explained with other variables in the research model.

To discuss the effects of childhood stressful life events on social support, there was a statistically significant negative relationship between the variables ($B(se) = -.028(.006)$, $p < 0.001$). This suggests that as the more childhood stressful life events experienced, the levels of social support in adulthood decreased. The results are provided in the <Table 10>.

<Table 10> Effects of childhood stressful life events on social support

		B	S.E.	β	t
Intercept		2.005	.094		21.329
Control variables	Gender	.034	.011	.030	3.104**
	Age	-.001	.000	-.026	-1.767
	Education level	.008	.007	.018	1.136
	Income	.220	.010	.265	21.371***
	Marital status	.105	.012	.093	9.131***
Independent variable	Childhood stressful life events	-.028	.006	-.047	-4.409***
R²		.115			
Adjusted R²		.114			
F		217.731***			

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Through these analyses, it has been verified that childhood stressful life events indeed had a statistically significant effect on both self-esteem and social support, the mediating variables. As a result, it was then appropriate to study the mediating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood. Thus, an analysis including childhood stressful life events, self-esteem, social support, and control variables was done.

The results disclosed that the analysis model had a good fit as the F-value was statistically significant at $p < 0.001$ with the value of 877.357. The adjusted R^2 value was .411, indicating that 41.1% of the variance of the dependent variable, subjective well-being in adulthood, was explained by variables included in the analysis.

As to the mediating effects, both self-esteem ($B(se) = 1.701(.039)$, $p < 0.001$) and social support ($B(se) = .737(.028)$, $p < 0.001$) had statistically significant positive effects on subjective well-being after controlling childhood stressful life events and other control variables. This is understood as each unit of self-esteem and social support increased, the levels of subjective well-being increased by 1.701 and .737, respectively. The results are shown in <Table 11>.

<Table 11> Effects of childhood stressful life events, self-esteem, and social support on subjective well-being in adulthood

		B	S.E.	β	t
Intercept		2.377	.246		9.644
Control variables	Gender	.061	.028	.017	2.157
	Age	.008	.001	.085	6.937***
	Education level	.089	.019	.061	4.665***
	Income	.357	.027	.137	13.086***
	Marital status	.151	.030	.042	5.048***
Independent variable	Childhood stressful life events	-.034	.016	-.018	-2.106*
Mediating variable	Self-esteem	1.701	.039	.409	44.086***
	Social support	.737	.028	.234	26.517***
R^2		.411			
Adjusted R^2		.411			
F		877.357***			

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Through these analyses, it has been verified that all conditions that Baron & Kenny (1986) suggested for the presence of mediation effect had been met. The results indicated that childhood stressful life events had statistically significant negative effects on self-esteem, social support, and subjective well-being. Moreover, self-esteem and social support had statistically significant effects on subjective well-being, after controlling childhood stressful life events. Additionally, the effects of childhood stressful life events on subjective well-being in adulthood decreased after including self-esteem and social support in the model as the unstandardized regression coefficient of childhood stressful life events reduced from $-.077$ to $-.034$ with the inclusion of self-esteem and social support in the model. Thus, it can be inferred that self-esteem and social support did mediate the effects of childhood stressful life events on subjective well-being in adulthood.

To confirm the statistical significance of the mediation effect, SPSS Process Macro model 4 was employed. It is acknowledged that the mediation effect is statistically significant if 0 is not included in the confidence interval of the indirect effect (Shrout & Bolger, 2002). According to the results, the indirect effects of self-esteem and social support were $-.022$ and $-.020$ respectively, and neither the confidence intervals included 0. Therefore, it can be stated that the mediating effects of self-esteem and social support are statistically significant, which support hypothesis 2 and 3 of the study. The analytic results to test the statistical significance of mediation effects are displayed in <Table 12>. Finally, the relationships between childhood

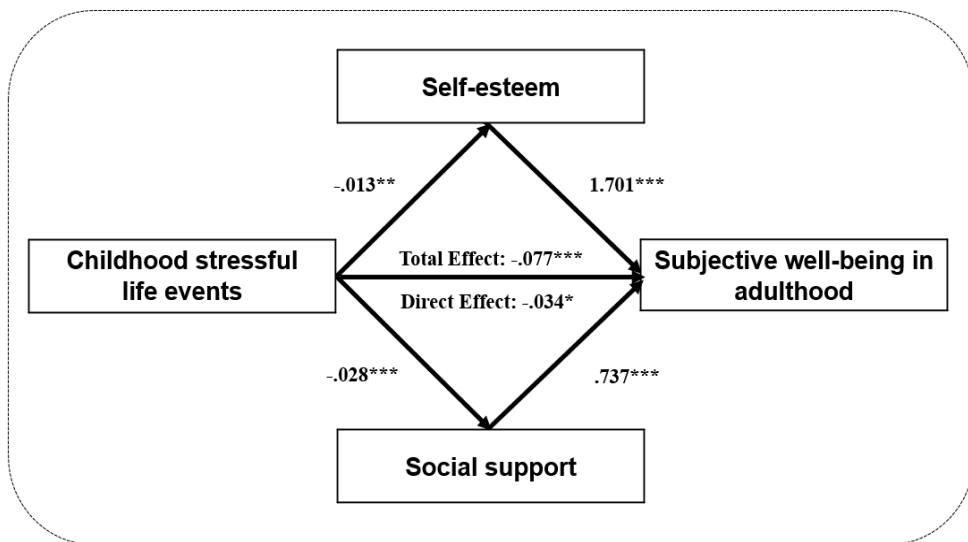
stressful life events, social support and subjective well-being in adulthood is drawn in <Figure 6>.

<Table 12> Statistical significance of mediation effect: self-esteem and social support

		Statistical significance of mediation effect			
		Effect	S.E.	t	p
Total Effect	Direct effect + Indirect effect	-.077	.019	-3.977	.000
Direct Effect	Childhood stressful life events → Subjective well-being in adulthood	-.034	.016	-2.106	.034
		Effect	BootSE	BootLLCI	BootULCI
Indirect Effect	Childhood stressful life events → Self-esteem → Subjective well-being in adulthood	-.022	.008	-.038	-.006
	Childhood stressful life events → Social support → Subjective well-being in adulthood	-.020	.005	-.030	-.011
	Childhood stressful life events → Self-esteem, Social support → Subjective well-being in adulthood	-.042	.011	-.063	-.021

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

<Figure 6> Relationship between childhood stressful life events, self-esteem, social support, and subjective well-being in adulthood



3. Moderating effects of self-esteem and social support

The fourth and fifth research questions of the study explored the moderating effects self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood. In order to investigate moderating effects of self-esteem and social support, hierarchical multiple linear regression analysis using OLS estimation were utilized. For a moderation effect to be significant, the interaction term, which is produced by multiplying independent and moderating variables, must be significant. Additionally, the R^2 change must increase with the inclusion of the interaction term, and the F-change value must be significant (Frazier et al., 2004).

The hierarchical multiple linear regression analysis was carried out by including control variables and childhood stressful life events in the first model. Then, the second model included control variables, childhood stressful life events, self-esteem, and social support. Lastly, the final model included control variables, childhood stressful life events, self-esteem, as well as the two interaction terms, produced by multiplying childhood stressful life events with self-esteem and social support. Prior to the analysis, childhood stressful life events, self-esteem and social support were mean-centred to avoid the issue of multicollinearity.

According to the analytic results, the final research model with the interaction term of childhood stressful life events and self-esteem had a good fit with the F-value of 702.348, which was statistically significant at $p < 0.001$.

The model explained 41.1% of the total variance of subjective well-being in adulthood.

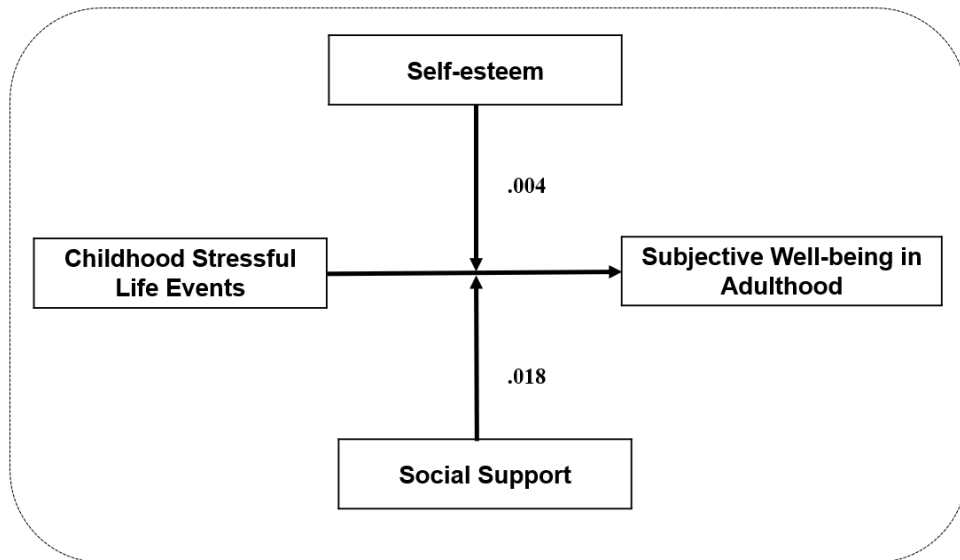
Nonetheless, the results indicated that neither the interaction terms were statistically significant. Furthermore, there was no increase in the R^2 change with the inclusion of two interaction terms, which implies that neither the interaction terms explained the variances of subjective well-being more than the model that did not include interaction terms. In other words, the explanatory power of the model did not increase by adding the interaction terms into the model. Additionally, the F-change value was not statistically significant. Based on these analytic results, it can be concluded that there are no moderation effect of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being, rejecting hypothesis 4 and 5 of the study. The results are summarized in the <Table 13> and the relationship between these variables are depicted in <Figure 7>.

<Table 13> Effects of childhood stressful life events, self-esteem, social support, and interaction terms on subjective well-being in adulthood

		Model 1			Model 2			Model 3		
		B	S.E.	β	B	S.E.	β	B	S.E.	β
Intercept		-.705	.287		2.377	.246		2.412	.248	
Control variables	Gender	.125	.034	.035***	.061	.028	.017*	.061	.028	.017*
	Age	.005	.001	.051***	.008	.001	.085***	.008	.001	.084***
	Education level	.178	.031	.121***	.089	.019	.061***	.088	.019	.060***
	Income	.783	.031	.300***	.357	.027	.137***	.357	.027	.137***
	Marital status	.427	.035	.120***	.151	.030	.042***	.150	.030	.042***
Independent variable	Childhood stressful life events (A)	-.077	.019	-.041***	-.034	.016	-.018*	-.058	.025	-.031*
Mediating & Moderating variable	Self-esteem (B)				1.701	.039	.409***	1.699	.039	.408***
	Social support (C)				.737	.028	.234***	.734	.028	.233***
Interaction term	A * B							.018	.038	.004
	A * C							.040	.029	.018
Adjusted R ²		.166			.411			.411		
ΔR^2					.244			.000		
F		335.535***			877.357***			702.348***		
ΔF					2085.364***			1.774		

Note: * p < .05, ** p < .01, *** p < .001

<Figure 7> Relationship between childhood stressful life events, interaction terms, and subjective well-being in adulthood



Chapter 6. Conclusion

6.1. Summary of Findings

Based on the stress process model, the study examined the effects of childhood stressful life events on subjective well-being in adulthood. In addition, the study explored the roles of one's internal and external resources, specifically the levels of one's self-esteem and social support, as mediating and moderating variables in the relationship between childhood stressful life events and subjective well-being in adulthood. The findings of the study are organized in the following.

Firstly, the effects of childhood stressful life events on subjective well-being in adulthood were analysed by employing multiple linear regression analysis using OLS estimation method. The results indicated that childhood stressful life events did indeed have negative effects on subjective well-being in adulthood. As five different experiences of childhood stressful life events were added in the analysis, the results implied that as childhood stressful life events accumulate, the levels of subjective well-being in adulthood decrease. Therefore, hypothesis 1, which assumes that childhood stressful life events would negatively affect subjective well-being in adulthood, was supported.

Secondly, the mediating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being

in adulthood were studied through a multiple linear regression analysis using OLS estimation method and following the Baron and Kenny's (1986) method for mediation. The analytic results all satisfied conditions for mediation effect. Then, when SPSS Process Macro model 4 was employed to test the statistical significance of the mediation effects, the indirect effects were also statistically significant. Thus, it can be concluded that self-esteem and social support did mediate the effects of childhood stressful life events on subjective well-being in adulthood, supporting hypothesis 2 and hypothesis 3.

Lastly, the moderating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood were studied through a hierarchical multiple linear regression analysis using OLS estimation method. The analysis revealed that both self-esteem and social support did not moderate the effects of childhood stressful life events on subjective well-being in adulthood as the interaction terms were not statistically significant. Additionally, the model's explanatory power did not increase by adding in the interaction terms. As a result, it can be inferred that self-esteem and social support did not moderate the relationship between childhood stressful life events and subjective well-being in adulthood, rejecting hypothesis 4 and hypothesis 5.

6.2. Discussion

The levels of subjective well-being among adults in Korea continue to decline and the scores are evidently low compared to other countries. Despite the government's persistent efforts to provide various mental health services for each stage of life, the levels of subjective well-being do not seem to improve. Recognizing this problem, based on stress process model and the life course perspective, the study focused on the stressful life events during childhood as one of the potential factors influencing the levels of subjective well-being in adulthood and observed the relationship between childhood stressful life events and subjective well-being. Further, the study assessed the roles of self-esteem and social support as one's internal and external resources in this relationship. In this section, based on the literature reviews, the analytic results are discussed.

1. Effects of childhood stressful life events on subjective well-being

The first research model demonstrated that childhood stressful life events did have negative effects on subjective well-being in adulthood. In the study, different stressful life events during childhood were added to observe the cumulative effects of childhood stressful life events, rather than to identify effects of each event. In other words, the study's findings showed that as more an individual experienced stressful life events in childhood, the more levels of subjective well-being in adulthood declined.

The negative effects of childhood stressful life events can be explained through the stress process model, which recognized stressful life events as one of the key stressors negatively affecting various outcomes. This relationship between childhood experiences and outcomes in adulthood is harmonious with previous studies that found parental death, divorce, and financial difficulties during childhood as a stressor which negatively affect diverse physical, psychological, and behavioural outcomes in adulthood (Berg, Rostila, & Saarela, 2014; Golberstein, Gonzales, & Meara; 2019; Lee & Jung, 2016; Strohschein, 2005; Yoon, Noh, & Suh, 2021)

In fact, the study's findings demonstrated that childhood stressful life events act as a lasting stressor affecting levels of subjective well-being in adulthood. This can be explained through the life course perspective, which emphasizes that childhood experiences can alter diverse outcomes in later stages of life. In fact, the findings can be interpreted by the allostatic load theory as well. It asserts that the continuous exposure to the stressful events would impair the physiological responses that regulate and control the effects of stress, and therefore lead to numerous physical and psychological disadvantages (McEwan & Stellar, 1993). Studies have shown that stressful life events in early stage of life predict the state of allostatic load and result in internalization of problems, such as depression, in adulthood (Lee, Kim, & Chung, 2021; McLaughlin et al., 2020). Therefore, the study's finding on the relationship between childhood stressful life events and subjective well-being in adulthood implies the need to consider lasting effects of stress from

childhood experiences in the implementation of mental health policies and practices in adulthood.

2. Mediating effects of self-esteem and social support

The study then observed the mediating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being. In the process of confirming the mediating effect, the analytic results proved that childhood stressful life events did have statistically significant negative effects on both self-esteem and social support. These demonstrate that those who experienced stressful life events as a child display lower levels of self-esteem and social support in adulthood compared to those who did not have such experiences. Applying the life course perspective, it can be understood that negative impacts of childhood stressful life events lasted and affected one's internal and external resources until the adulthood. These findings are analogous to previous studies that reported negative effects of stressful life events in childhood, such as witnessing parental death or parental divorce, on the levels of self-concept and satisfaction in relationships in adulthood (Amato, 1996; Ford, Clark, & Stansfeld, 2011; Marks, Jun, & Song, 2007).

Moreover, the findings indicated that self-esteem and social support did mediate the relationship between childhood stressful life events and subjective well-being. This indicates that the effects of childhood stressful

life events on subjective well-being were mediated by self-esteem and social support, and thus the direct effects decreased. In other words, as the experiences of childhood stressful life events decreased and the levels of self-esteem and social support increased, the levels of subjective well-being increased. This can be illustrated through the stress process model which states that self-esteem and social support can be interpreted as one's internal and external resources intervening in the effects of stressors on the outcome (Pearlin, 1989; Pearlin et al., 1981; Pearlin & Schooler, 1978). These findings are in harmony with previous studies that demonstrated mediating effects of self-esteem and social support in the relationship between stressors and psychological outcomes (Bradley & Corwyn, 2002; Cakar, 2020; Chen et al., 2016; Lu et al., 2018; Kim & Kim, 2008; Newsom, Schulz, & Richard, 1996).

To sum, childhood stressful life events act as a stressor that negatively affects outcomes in adulthood, such as self-esteem, social support, and subjective well-being in adulthood. Nevertheless, self-esteem and social support in adulthood can act as one's internal and external resources and indirectly affect the direct effects of childhood stressful life events on subjective well-being in adulthood. As a result, it is necessary to intervene in those children who are at risk of experiencing stressful life events, so that their self-esteem and social support, which are one's vital resources to regulate stress, are not negatively affected until adulthood. In addition, there is a need to consider measures to bolster self-esteem and social support for adults with experiences of childhood stressful life events.

3. Moderating effects of self-esteem and social support

In addition to the mediating effects of self-esteem and social support, the study explored the moderating effects of self-esteem and social support in the relationship between childhood stressful life events and subjective well-being in adulthood. According to the results, the moderating effects of self-esteem and social support were not significant. This indicates that neither self-esteem nor social support could not protect and buffer the effects of childhood stressful life events on subjective well-being in adulthood.

In fact, the cumulative disadvantage model of the life course perspective can effectively explain this finding. The cumulative disadvantage model states that the disadvantages in the early stage of life would lead to addition and interaction of other disadvantages in later stages of life. The experiences of stressful life events during childhood led to another disadvantage of lowered self-esteem and social support. Then, the lowered levels of one's resources hindered their coping capabilities to overcome the effects of stress. These disadvantages were added, interacted, and resulted in lower levels of subjective well-being in adulthood. Thus, it can be inferred that due to the weakened coping abilities of one's self-esteem and social support during childhood, they can only indirectly intervene in the relationship between childhood stressful life events and subjective well-being in adulthood, rather than to directly affect and protect the negative effects. As a result, the importance of prevention-oriented interventions during early stage of life is once again be emphasized.

6.3. Implications

1. Theoretical implications

The theoretical implications of the study are following. Firstly, by demonstrating that childhood stressful life events negatively affect subjective well-being in adulthood, it supported the stress process model which explains the process between a stressor, mediators, and an outcome. The study's findings suggest that childhood stressful life events do act as a lasting stressor that has negative impact on mental health outcome. Moreover, the study was able to explore the roles of one's internal and external resources, specifically self-esteem and social support. The results showed that both self-esteem and social support indirectly intervened in the negative effects of childhood experiences on the subjective well-being in adulthood. These results signify that one's resources do indeed work as a mediating factor against stressors (Pearlin et al., 1981; Pearlin and Bierman, 2013).

Secondly, by demonstrating that the negative effects of childhood stressful life events last until the adulthood, it provided practical grounds on the life course perspective as it asserts the lasting effects of childhood experiences on the outcomes of adulthood. To be more specific, the study assessed lasting effects of childhood stressful life events on subjective well-being in adulthood and revealed that as the more childhood stressful life events experienced, the more level of subjective well-being was lowered.

Hence, the study sheds light on the significance of childhood experiences on the subjective well-being in adulthood, as the life course perspective indicates.

Overall, the study discovered the mechanism behind the dynamic process between a stressor, one's resources, and the outcome as the stress process model presents. As a result, the study is significant in that it was able to manifest the effects of stressors and mediators on outcome as the stress process model illustrates as well as the persistence of negative effects of stressors throughout stages in life as the life course perspective underscores.

2. Policy and practice implications

The following are implications for policy and practice that can be driven from the study. Firstly, the study was able to identify childhood stressful life as one of the determinants of subjective well-being in adulthood. While the subjective well-being score of Korea continues to decline and constantly ranks low, the study was able to discover one of the factors affecting subjective well-being negatively. As a result, the study suggested the need to consider childhood experiences when implementing mental health policies and services.

The current mental health policies and services tend to focus on specific stages of life. Firstly, according to the Ministry of Health (2016), services such as crisis intervention for child abuse, mental health education for parents and teachers, and assessments for psychological development are provided

for infants. Then, school-based mental health services and research are offered for children and adolescents. Next, different mental health services for university students, pregnant women, and employers are provided during young and middle adulthood. Lastly, specific mental health services and education for elders are given during late adulthood. Nevertheless, these programs and services tend to lack in comprehensive considerations of life course as a whole. As a result, since childhood stressful life events have been identified as one of the factors in subjective well-being in adulthood, there is a need to adopt broader perspective and consider childhood experiences in the intervention measures.

Next, there is also a need to strengthen early intervention measures and policies to prevent negative effects of stressful life events during childhood that prolong until the adulthood. The study's findings proved that childhood stressful life events negatively affect one's self-esteem and social support. As a result, it is essential to recognize children who are going through or at risk of experiencing childhood stressful life events and to provide early intervention through local social welfare centres and children welfare institutions.

In fact, the government introduced the Dream Start Program in 2007 as one of the key child welfare programs to offer integrated services to children from disadvantaged families so that they are not deprived of advantages and opportunities. This program is targeted to prevent the negative and lasting effects of poor childhood experiences and to offer opportunities for healthier

and better adulthood (Lee, 2010). The integrated services, which comprise of health care, academic tutoring, parenting education, and various other extracurricular opportunities, are provided throughout case managements (Lee, 2010). Although the Dream Start Program has been expanding throughout the years, there has been criticisms arguing that it lacks budget, labour, and relevant support to be completely effective (Lee, 2017). Therefore, there should be more research and support to enhance the effectiveness of the preventive interventions for children who are experiencing or at the risk of experiencing stressful life events.

Thirdly, there is a need to devise intervention measures to aid adults with childhood stressful life events. The study's results revealed that adults with childhood stressful life events display lower levels of internal and external resources, as well as subjective well-being. As the study's findings discovered that self-esteem and social support are one's essential resources, the findings imply that not only the preventive interventions during childhood are necessary, but also the continuous interventions during adulthood are required in order to improve their levels of resources and subjective well-being.

Among various intervention measures, trauma-focused therapy can be particularly effective as the stressful life events from childhood can become a source of trauma as its effects persist until adulthood. Boterhoven de Haan et al. (2021) found that trauma-focused therapies for adults with childhood trauma brought about changes in participants' sense of self and empowerment. Through these processes, adults with childhood trauma would be able to adopt

better self-concept, and thus be able to empower their self-esteem. In particular, the trauma-focused cognitive behavioural therapy within groups can be effective in not only enhancing one's self-esteem, but also one's social support by altering one's self-concept and by interacting with other participants within the group (Lowe & Murray, 2014). With these interventions to tackle childhood trauma, adults would be able to boost one's internal and external resources, and thus enhance levels of subjective well-being in adulthood. As a result, similar approaches are required in Korea as well. For instance, when intervening for mental health problems, comprehensive evaluation of various life events throughout the life cycle should be carried out and psychological counselling based on the inclusive assessment should be given rather than to focus on the symptoms and cross-sectional factors.

6.4. Limitations

The following are the limitations of this study and several suggestions for future studies. Firstly, there is a fundamental limitation in understanding the causal relationship between variables. Based on stress process model and life course perspective, this study assumed that childhood stressful life events, self-esteem and social support would affect subjective well-being in adulthood. Nevertheless, the direction of causal relationship may differ from the one that this study assesses. For instance, self-esteem and social support could be lowered due to low levels of subjective well-being. Although literature review was conducted to complement this limitation, futures studies should examine the variables using other methodologies, such as longitudinal analysis.

In addition, the responses to childhood experiences utilized in the study were measured retrospectively, and therefore has the possibility of recollection bias. Although studies have revealed that recollection on social conditions in childhood have useful degree of accuracy and can be valuable information in life course studies (Berney & Blane, 1997), there is a possibility for a recollection bias. Therefore, future studies may employ panel data without retrospective measures.

Thirdly, despite the broad conceptualization of the variables in the study, the operationalizations of the variables were restricted due to the limitation of data. For instance, the study was unable to consider various childhood

stressful life events, such as child neglect, abuse, and other traumatic experiences. Although the literature review identified diverse stressful life events in childhood, the data only measured five childhood stressful life events, which only considered family-related and financial-related stressful life events. As a result, there is a need to further investigate the effects of other childhood negative experiences on subjective well-being in adulthood.

Moreover, subjective well-being was only measured with a single-item scale and could not reflect broader concept of subjective well-being, such as positive affect and negative affect. Additionally, social support was measured by adding satisfaction in family relations and social relations as the data did not provide information regarding affective, instrumental, appraisal and informational support were unavailable. Thus, future studies should consider broader concept of subjective well-being and social support in the analysis.

Lastly, the independent variable of the study was produced by adding responses to five different childhood stressful life events to explore the accumulated effects of childhood experiences on outcomes in adulthood. However, each of the five childhood stressful life events, which are perceived family poverty, parental death, parental divorce, dropping out of school due to financial difficulties and living at relative's home due to financial difficulties, may have different weights of effects on subjective well-being. In other words, the study could not consider the hierarchy and the depth of each experience's effects on subjective well-being in adulthood. Hence, it is

suggested to further examine effects of each childhood stressful life events on outcomes in adulthood individually.

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국문초록

아동기 스트레스 생활사건이 성인기 주관적 안녕감에 미치는 영향 - 자아존중감과 사회적지지의 역할을 중심으로 -

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안재은

본 연구의 목적은 스트레스 과정 모델에 기반하여 아동기의 스트레스 생활사건 경험이 성인기 주관적 안녕감에 미치는 영향을 살펴보는 것이다. 나아가 아동기 스트레스 생활사건과 성인기 주관적 안녕감의 관계에서 개인의 내적 자원인 자아존중감과 외적 자원인 사회적 지지의 역할도 살펴보았다.

주관적 안녕감(subjective well-being)은 삶에 대한 주관적인 긍정적 혹은 부정적 판단으로 정신건강에 중요한 요소 중 하나이다. 그러나 2022년 세계 행복보고서에 따르면 한국의 주관적 안녕감은 38개의 경제협력개발기구(OECD) 국가 중 36위를 차지하며 하위권에 속하였다. 국가의 경제

성장은 꾸준히 이루어지고 있는 반면 주관적 안녕감은 지속해서 하락세를 보이고 있다. 이를 극복하기 위해서 정부는 다양한 생애주기별 정신건강 정책 및 서비스를 제공하고 있지만 생애주기의 연속성을 고려한 정책과 서비스는 부족한 것으로 인식된다. 그러나 생애주기 관점에 따르면 아동기의 경험은 성인기까지 이어질 수 있다고 주장한다. 따라서 본 연구는 아동기 경험에 집중하여 아동기에 경험한 스트레스 생활사건이 성인기 주관적 안녕감에 미치는 영향을 탐색해보았다. 나아가, 아동기 스트레스 생활사건과 성인기 주관적 안녕감의 관계에서 개인의 내적 및 외적 자원인 자아존중감과 사회적 지지가 매개 혹은 조절하는지를 살펴보았다.

본 연구의 연구질문은 다음과 같다. 첫째, 아동기 스트레스 생활사건이 성인기 주관적 안녕감에 부적 영향을 미치는가? 둘째, 개인의 내적 자원인 자아존중감은 아동기 스트레스 생활사건과 성인기 주관적 안녕감의 관계를 매개하는가? 셋째, 개인의 외적 자원인 사회적 지지는 아동기 스트레스 생활사건과 성인기 주관적 안녕감의 관계를 매개하는가? 넷째, 자아존중감은 아동기 스트레스 생활사건과 성인기 주관적 안녕감의 관계를 조절하는가? 다섯째, 사회적 지지는 아동기 스트레스 생활사건과 성인기 주관적 안녕감의 관계를 조절하는가?

본 연구에서는 한국복지패널의 1차부터 16차까지의 데이터를 결합한 데이터를 활용하여 조사에 참여한 10,059명을 분석하였다. 먼저, 아동기 스트레스 생활사건이 성인기 주관적 안녕감에 미치는 영향을 살펴보기 위해서 OLS(Ordinary Least Squares) 추정방법을 이용한 다중회귀분석을 실

시하였다. 또한, 아동기 스트레스 생활사건과 성인기 주관적 안녕감의 관계에서 자아존중감과 사회적 지지의 매개효과를 확인하기 위해서는 Baron & Kenny(1986)의 매개효과 검증방법을 적용하여 OLS 추정방법을 이용한 다중회귀분석을 실시하였다. 매개효과의 유의성을 검증하기 위해서는 SPSS Process Macro의 model 4번을 활용하였다. 마지막으로 아동기 스트레스 생활사건과 성인기 주관적 안녕감의 관계에서 자아존중감과 사회적 지지의 조절효과를 검증하기 위해 위계적 회귀분석을 실시하였다.

분석 결과는 다음과 같다. 첫째, 아동기 스트레스 경험이 성인기 주관적 안녕감에 통계적으로 유의한 부적 영향을 미치는 것으로 나타났다. 둘째, 자아존중감과 사회적 지지는 아동기 스트레스 생활사건이 성인기 주관적 안녕감에 미치는 영향을 매개하였다. 그러나, 자아존중감과 사회적 지지의 조절효과는 통계적으로 유의하지 않은 것으로 드러났다.

이러한 분석 결과를 토대로 도출할 수 있는 이론적 함의는 다음과 같다. 첫째, 스트레스 과정 모델을 기반으로 아동기 스트레스 생활사건이 스트레스원(stressor)으로 작동하여 성인기 주관적 안녕감이란 결과에 영향을 미치는 영향을 밝히고, 그 영향을 개인의 내적 및 외적 자원인 자아존중감과 사회적 지지가 매개하는 것을 입증하였다. 나아가, 아동기의 스트레스 생활사건 경험이 성인기 주관적 안녕감까지 이어지는 부적 영향을 포착하여 생애주기 관점이 타당하다는 것을 실증적으로 뒷받침하였다.

본 연구결과는 다음과 같은 정책적·실천적 함의를 가진다. 첫째, 아동기 경험이 성인기 정신건강까지 이어질 수 있다는 것을 확인함으로써 정신

건강 정책 및 서비스 제공 과정에서 아동기 경험을 고려해야 함을 시사하였다. 둘째, 아동기 경험이 성인기까지 부정적으로 이어지지 않도록 하는 예방적 조기 개입의 필요성과 중요성을 강조하였다. 현재의 아동복지 프로그램 중 취약계층 아동이 겪을 수 있는 불평등을 줄이고 다양한 기회를 제공하는 것을 목적으로 한 드림스타트(Dream Start) 프로그램을 통해 예방적 개입이 이루어지고 있다. 그러나 정책 목표 달성을 위해서는 재정 확대와 더욱 적극적인 정책지원이 필요하다는 의견이 제시되고 있다. 마지막으로, 트라우마 초점의 인지행동치료 등과 같이 아동기 스트레스 생활사건을 경험한 성인을 위한 정신건강 서비스를 확대하는 노력이 필요하다.

마지막으로 본 연구의 한계는 다음과 같다. 첫째, 본 연구는 변수 간 인과관계를 명확히 포착하는 것에는 근본적인 한계가 있다. 둘째, 아동기 스트레스 생활사건에 대한 응답은 회상을 통해 측정된 것으로 회상 편향(recollection bias)의 가능성이 존재한다. 셋째, 본 연구에서는 2차 자료를 활용하였기에 변수들의 개념적 조작적 정의를 한정할 수밖에 없었다는 한계를 지닌다. 마지막으로, 본 연구에서는 아동기 스트레스 생활사건을 합산하여 분석하였기에 아동기 스트레스 생활사건의 누적 효과만 확인할 수 있었다는 한계를 지닌다.

주요어: 아동기 스트레스 생활사건, 성인기 주관적 안녕감, 자아존중감, 사회적 지지

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