Ph.D. Dissertation of Sport Management

Extending vicarious achievement

- How vicarious achievement affects sport fan's personal strengths -

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ABSTRACT

Due to the expansion of the social network, we are living a life connected to others more than ever. As a result of social change, we now require greater research on how we are influenced by others. Vicarious achievement, a phenomenon in which one experiences achievement through connection with others, has received a lot of attention practically and theoretically in the field of sport management. However, a literature review shows that there is still room for growing up. First, a conceptual discussion of vicarious achievement is needed. In the previous studies, almost all studies have focused on phenomena rather than concepts. Second, the vicarious achievement was simply regarded as an emotional state that was experienced momentarily. However, there is a limit to conceptually reflecting only emotional experiences caused by specific stimuli in the cognitive process. Third, all the results of vicarious achievement were related to spectating motivation. The vicarious achievement has been used as a sub-domain explaining sports fans' motivation to watch the game. As a result, it has a shortcoming in that it was utilized solely from an industrial point of view rather than representing a positive sense of achievement.

This study reviewed literature in various fields such as the theory of mind (Doherty, 2009), moral development theory (Hoffman, 2000), empathy (Wonra & Ellsworth, 2015; Zaki, 2014), and control-value theory

(Pekrun et al., 2006). It was verified as a result of this that achievement is not simply a present experience but also one that encompasses both the past and the future. It was confirmed that vicarious achievement can be utilized as a broad concept to explain a variety of subjects. Finally, the study looked into how the sub-domain of vicarious achievement affects the sport fan's personal strengths. It was assumed that achievement emotion, achievement memory, and achievement simulation of vicarious achievement could have a positive effect on personal strengths based on the Broaden and build theory (Fredrickson, 1998). Personal strengths were defined as capabilities, attitudes, and states that contribute to a person's overall quality of life. This was conceptualized as a term encompassing ego-based strengths, activity-based strengths, and future-oriented strengths. Each strength was thought to be an umbrella term that contained all sub-strengths. Finally, in this study, vicarious achievement positively affects ego-based strengths (Self-esteem, Self-efficiency, and Resilience), activity-based strengths (Flow, Vitality, and Commitment), and future-oriented strengths (Self-control, Hope, and Optimism).

The study was conducted with the approval of the Seoul National University Institutional Review Board (#2107/003-011). Item selection and modification, expert review, and a pilot study were all milestones in the development of the survey instrument. The validity of the measurement

model was verified using structural equation modeling. At this point, the invalid question was removed from the total of 98 questions, and the main study was carried out. This survey was conducted on a total of 634 sports fans through Macromill Embrain, a survey company. This study utilized both CB-SEM (Covariance-Based Structural Equation Modeling) and PLS-SEM (Partial Least Square-Structural Equation Modeling). As a result, it was judged that both analysis methods had a suitable model fit, internal consistency, convergent validity, and discriminant validity. Hypotheses testing revealed that all of the proposed hypotheses were statistically significant.

This study is noteworthy because it organized and expanded on the concept of vicarious achievement, which has gotten a lot of attention in the field of sport management but has yet to be adequately defined. In addition, this was explained in the relationship between the vicarious achievement and personal strengths that help individuals achieve their goals. The limits of vicarious achievement research have been largely supplemented by the research findings. These results contributed theoretically and practically by presenting specific grounds for the positive effects of sports viewing and follow-up studies on vicarious achievement.

CHAPTER 1
INTRODUCTION

Study Background

Due to technological advancements and the proliferation of communication services, experience sharing has become a common phenomenon. As a result, people are constantly influenced by others. The development of online social platforms has offered many opportunities for its users by nullifying physical constraints and broadening its users' social networks to a global scale. As such, many offline communities have been replaced by online communities (Kraut et al., 1998; Nie, 2001). However, the flip side of this coin is that this change is also partially responsible for the increased isolation experienced by the very same users. It can be argued that although social networking services increased the number of social connections in terms of quantity, the quality of each social connection is a different story. This is because digital communications tend to be more superficial in nature compared to face-to-face communications and lack strong emotional bonds between the interacting individuals (Kraut et al., 1998).

SNS users often experience symptoms of depression because online personas tend to represent people's desired self or 'highlight reel' and viewers will often compare their lives with others' glorified online personas

(Verduyn et al., 2015). Repeated negative experiences with others causes individuals to naturally shy away from interpersonal contact. At a time when social convergence and cooperation are needed more than ever, ironically, humans have come to prefer isolation. There is a growing social interest and focus on the negative aspects of vicarious experience. But vicarious experience is not necessarily negative. If negative vicarious experience has caused many social problems, the positive vicarious experience will be the key to solving them.

This study focus on vicarious achievement, one of the positive vicarious experiences. Vicarious achievement has been of great interest to both sport management scholars and practitioners. Achievement is a positive experience. however, it takes a lot of time and effort for an individual to experience achievement. Studies that suggest that achievement can be experienced through others through high team identification have been published in past sports management studies (e.g Trail et al.; Fink et al., 2002). People will be more interested and motivated to approach others if this study figures out how to have a positive experience through others. Therefore, to focus on being positively influenced rather than focusing on the negative effects of others, it is most necessary to define vicarious achievement and understand the mechanism for this. In this respect,

understanding and identifying the mechanism of vicarious achievement will be the starting point for solving various social problems.

However, surprisingly, there has been a dearth of theoretical discussion on the construct and the extant literature lack a robust theoretical foundation of vicarious achievement. Previous research has focused on the role of vicarious achievement and its practical implications than more accurately understanding the nature of the construct. Sport fans with high connectivity to the team consider the team's achievement to be their own (Fink et al., 2002). No further development has been made. Therefore, more in-depth theoretical discussions must precede to conduct research consistent with the social background in which vicarious experience is gradually increasing. This research will address social demands by defining vicarious achievement and elucidating the systems that allow it to happen.

Significance of the Study

The current study started with the question, “how can we motivate people to interact with others?” The obvious answer is that when individuals experience more positive states and less negative states after interacting with others, they would naturally seek to increase the frequency of these interactions. The current study focuses on the concept of vicarious achievement, which is a cornerstone of sport consumption. If people can experience a sense of achievement vicariously through witnessing others, the

individual would be inclined to seek affiliation with others. Past research on vicarious experiences has been limited to the fields of education (vicarious learning), medicine (vicarious trauma), and sport management (vicarious achievement).

Considering the frequency and gravity of social problems such as social isolation, antagonism, and apathy towards others, more research on vicarious and indirect experiences can provide an avenue to address these problems. Witnessing others experience a particular emotion allows the observer to simultaneously experience the same or similar emotions (Harré & Parrot, 1996). Numerous previous studies have found that vicarious experiences affect human behavior in the same manner as direct experiences (e.g., Decety & Lamm, 2006; Hein & Singer, 2008). For example, people feel certain emotions by observing others even if they did not personally live through the same experience themselves, they wince in pain when witnessing others in pain (Bavelas, et al., 1986), feel shame after witnessing the disgraceful behavior of others (Goldstein & Hays, 2011), and display similar behavioral tendencies after vicariously witnessing others' daily lives (Mazzocco et al., 2012). Furthermore, self-perceptions are also influenced by observing the behavior of close others (Goldstein & Cialdini, 2007). These studies uniformly indicate that emotions and behaviors can change due to the mere observation of others. Although vicarious experiences can be negative

(e.g., vicarious trauma; Schauben & Frazier, 1995), and positive (e.g., vicarious learning; Manz & Sims Jr, 1981), in sports management, the concept of vicarious achievement is a positive aspect of sport consumption that tends to be used as a motivational factor for sport spectators (Robinson et al., 2004; Trail & James, 2001; Wann, 1995; Woo et al, 2009). Although these studies have provided valuable insights on how vicarious achievement functions as a motivational factor for sport consumption, there has been a lack of research on the mechanisms through which sports fans increase their psychological resource through sport spectating.

Until now, research on well-being has rarely been conducted in the field of sports management. Hallman et al. (2013) found that watching sports games can increase spectators' self-esteem and happiness. Similarly, Stieger et al. (2015) confirmed that the well-being of sport spectators improved when the team they supported achieved victory. Jang et al. (2017) found that from an energy perspective, spectating sports can have a positive impact on sports fans' well-being. Kim et al. (2017) investigated the improvement of sports spectators' well-being from a need-fulfillment perspective and found that well-being is increased by fulfilling their hedonic, eudaimonic, and social needs. These previous studies have analyzed the various positive factors of sport spectating and investigated its effects on sports fans' well-being. However, knowledge of the specific structure of vicarious

achievement and the mechanisms through which it affects well-being is lacking. In particular, understanding how vicarious experiences affect sports fans' well-being is meaningful in that it connects sports spectating motivation with personal well-being.

The concept of achievement is a special kind of vicarious experience that has not been thoroughly addressed in other fields. Although achievement is a pleasant experience in and of itself, achievement at the level that is acceptable to oneself and draws praise from others, requires a significant investment of time and effort. However, vicariously experiencing achievement does not involve such substantial amounts of time and effort while at least partially experiencing the positive affective states associated with personal achievement. Thus, people have a desire to associate with others who have acquired high levels of achievement (Anderson, 1999; Cialdini et al., 1976).

However, the process of internalizing others' achievements as one's own is not a simple process. People do not internalize others' achievements solely based on the quality or level of achievement attained, nor do they blindly internalize the achievements of those that are psychologically close to them. Within sports contexts, people often experience vicarious achievement not only when witnessing the success of their long-time favorite

sport team, but also when viewing the success of an athlete that they have seen compete for the first time, in a sport that they rarely view.

Identifying the complex mechanisms through which vicarious achievement is experienced and accepted as one's own, can be the first step towards increasing people's interest in others in an increasingly segmented and isolated society. Recognizing and accepting others' achievements can be helpful spurring individuals to take interest in others and seek involvement in communities that offer quality emotional ties. Furthermore, no other form of entertainment has highly identified communities with the potential to elicit strong emotional ties. As a result, understanding the mechanisms of vicarious achievement in a sport spectating context can be foundational in restoring social relations. Thus, it is expected that the current study will contribute to alleviating social isolation problems by broadening our theoretical understanding of sport consumption's influence on well-being through vicarious achievement.

Purpose of the Study

Although several studies have investigated vicarious achievement within the field of sport management, there still exist areas of research that requires further attention. First, many past studies that have utilized vicarious achievement are lacking in terms of their contemplation of the theoretical roots of vicarious achievement, and/or do not discuss them in depth. In other

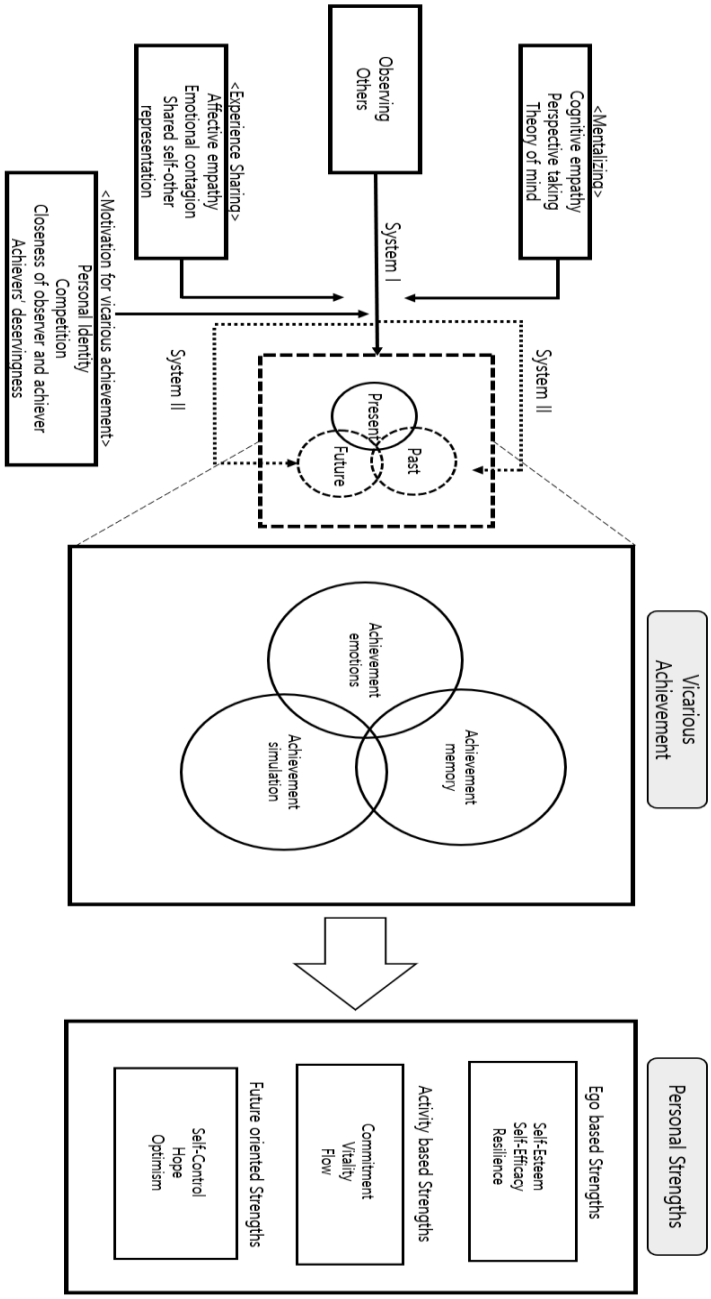
words, previous studies have focused on the role of vicarious achievement rather than clarifying conceptual understanding of the concept. Therefore, the operationalization and conceptualization of vicarious achievement varies among studies. The current study intends to fill this gap by suggesting a more theoretically based understanding of vicarious achievement. Secondly, other studies have simply utilized vicarious achievement as one of many motivation factors that positively influence sport consumption. Although these studies provide valuable knowledge in terms of predicting fan behavior and the appeal of sports, they are limited in the sense that they explore the effects of vicarious achievement solely as a temporary hedonic experience. Furthermore, they do not offer insights as to how to harness the positive aspects of vicarious achievement to impact the lives of sport fans positively on a higher-order level or through more long-term benefits. Thus, investigating whether sport fans' personal strengths can be improved through a team or player's achievement may add to the value of sport consumption (Figure 1).

To fill the aforementioned gaps in the literature, the current study involves a two-part approach. First, this study intends to provide a thorough theoretical exploration into the concept of vicarious achievement to lay the foundations for future research. Second, this study has attempted to explain

the process through which a sport team's achievement connects to sport fans and subsequently how this improves the personal strengths of these fans.

Figure 1

A conceptual framework of vicarious achievement and its effect on personal strengths



CHAPTER 2
LITERATURE REVIEW

This chapter review vicarious achievement studies conducted in Sport Management. The review allows identifying not only how far the vicarious achievement research has been conducted and where there has been insufficient emphasis. Subsequently, to identify the mechanisms and characteristics of vicarious achievement, I review how we are affected by others and how this process appears when achievement characteristic is dominant.

Vicarious Achievement Research in Sport Management

Most studies of vicarious achievement have been used to explain why sports consumers consume sports spectating products (Bernthal et al., 2015; Fink et al., 2002; Funk & James, 2006; Gau & James, 2014; Kim et al., 2019; Kwon et al., 2008; Lock et al., 2011; Mahony et al., 2002; Pizzo et al., 2018; Ridinger & Funk, 2006; Snelgrove et al., 2008; Spinda et al., 2012; Trail & James, 2001; Trail et al., 2012; Uhlman & Trail, 2012; Won & Kitamura, 2007; Wu et al., 2012). Therefore, rather than exploring the consumer experience of the vicarious achievement, the study focused on why consumers want to experience the vicarious achievement and how it affects team identification or viewing intentions. Also, almost all research on vicarious achievements in sports management is focused on the motivation

aspect (Fink et al., 2002; Funk et al., 2002; Trail et al, 2012). These are studies aimed at addressing the question of why sports consumers want to experience vicarious achievement. Therefore, the phenomenon of basking in reflected glory and vicarious achievement motivation were studied like the same concept. But, vicarious achievement and BIRG are distinct (Kwon et al., 2008; Trail et al., 2012). The vicarious achievement motivation can be seen as a desire to experience it through others before it occurs. Fink et al. (2002) defined the reasons why sports consumers seek vicarious achievement as follows: "the need for social prestige, self-esteem, and sense of empowerment that an individual can receive from their association with a successful team" (Fink et al., 2002, p. 198). On the other hand, basking in reflected glory is an effort to connect oneself to their status after the achievement of others occurs. The desire for vicarious achievement motivation can be seen as leading to the behavior of BIRG (Kwon et al., 2008; Trail et al., 2012).

The reasons why sports consumers seek vicarious achievement have been well explained in previous studies. However, there is a lack of research about how sport consumers experience vicarious achievement. In detail, no development has been made in the past except that sports fans with high connectivity to the team consider the team's achievement to be their own. Therefore, it has only deal with areas of momentary positive emotion or

mood that occur at the moment of achievement. Therefore, knowledge of how sports fans experience vicarious achievement is necessary. In addition, knowledge of how the sense of achievement experienced through others connects with sports fans is needed.

How is Human Affected by Others?

Cognitive and Affective Perspectives

Understanding how human beings are affected by others, we need to know how humans understand other people's inner states. In this respect, theory of mind gives us important insight. Theory of mind means understanding that other people have different intentions, desires, and beliefs than your own. The basic assumption of the theory of mind centers around belief-desire, which assumes that humans behave in a way that satisfies desires based on their beliefs (Doherty, 2009). This assumption allows individuals to explain how others behave and predict what they will do (Doherty, 2009). Theory of mind is defined as the necessary ability to reason and predict future behavior based on it, as well as the understanding of others' states of mind (Howlin et al., 1999). Therefore, theory of mind refers to explaining and predicting behavior in mental states such as belief, desire, and emotion, as a system of presenting causal explanations for understanding the mental world of others (Flavell et al., 2003). If an individual want to understand the behavior of someone walking into the bedroom, turning

around, and coming out again, they must ask themself why this person acted like this, but a mind reader could create several guesses (Baron-Cohen, 2005). The observer comes up with a plausible idea based on the observation target's state of mind. People are unable to see the minds of others with their eyes, but it is possible to explain the behavior of others based on motives and reasons for carrying out certain actions. As such, the mind is the totality of one's beliefs, desires, emotions, and intentions. Studies about theory of mind have focused on developmental psychology. Many studies assume that humans have the ability to read other people's minds and address the question of when these abilities are formed. There are three positional theories (Theory-theory, Simulation theory, Modularity of mind theory) that explain theory of mind (Doherty, 2009).

Theory-theorists study how individuals' experiences, perceptions, and beliefs interact and how they interact with behavior. Adam Morton (1980) coined the term "theory-theory" to refer to the view that the nature of naïve psychology is the same as theory. Theory-theory assumes that our state of mind is causally linked to action or perception (Doherty, 2009). It supposes that people construct informal daily theories about the mind (Wellman & Gelman, 1992). Therefore, theory-theorists believe children can understand the nature of people, things, and events. The early theory of mind explains that it continues to be modified and developed by subsequent

development and social experience. An infant's theory of mind is assumed to develop as it becomes more accurate (Perner, 1991; Wellman, 1990). Harris (1992) emphasizes a child's social experience, suggesting that theory of mind is not unborn. He considers children to use their consciousness to imitate the state of mind. In the process of directly experiencing one's state of mind, one begins to understand the characteristics of one's mind, and one learns about another's mind by confronting oneself in the situation of others (Harris, 1992). A child can infer another person's state of mind or behavior based on this pretending. Infants develop their ability to predict human behavior and become more accurate by imagining the desires and beliefs that others have. The modularity of mind theory suggests that theory of mind is accomplished through the mechanism of a brain module. The development of mind theory is not attributed to experience modifications; rather, it is due to the neurological maturity of the innate module mechanism (Fodor, 1983, 1992).

Most scholars agree that infants have a biological tendency to process information about the social objects of the surrounding world, but there is a significant discrepancy about the extent to which biological maturity and experience play a role. It is assumed that one of the above three theories are correct and the others are not. Indeed, all three types of theories have the right elements (Doherty, 2009). It is meaningful that the three

theories provide three approaches to understanding others' state of mind. Theory of mind shows that having the ability to understand others has cognitive and affective parts. This part also appears in Hoffman's theory of moral development. Hoffman (2000) provides a comprehensive understanding of empathy through the theory of moral development. He suggests five mechanisms that observers experience when observing the pain of their subjects: mimicry, classical conditioning, direct association, mediated association, and role-taking.

Adam Smith (1790/2002) provided an intuitive explanation of mimicry that was later described in more detail by Lipps (1906). According to Lipps (1906), observers initially automatically imitate and match themselves with subtle changes in emotional expression in other people's faces, voices, or postures. Hoffman (2000) categorizes this process into two categories: imitation and feedback. To begin, the observer instinctively imitates the target's emotional facial expression, posture, or voice. People imitate expressions of pain, laughter, smile, love, and others in various situations (Bavelas et al., 1987). While the majority of studies involving imitation have focused on facial expressions, some studies mimic voices, speech patterns, and rhythms (Buder, 1991). Second, other feedback from imitated representations causes the relevant emotional state of the observer. If someone witnesses a stray dog attacking someone who is frightened, the

observer automatically imitates the expression of the other's fear. Observing the other's expression of fear also makes observers feel afraid. This process of imitation and feedback is what Hatfield et al. (1994) call "primary emotional contagion."

Even if someone has never experienced them, the classical conditioning of emotions begins in settings that make them feel emotional. For example, people may feel scared when they first experience a situation in which a dog bites them. People experience emotional situations and then find out clues that signal that it is about to happen again. People learn after the experience that dogs growl before they bite. As a result, they begin to feel emotion when they recognize those clues—in this case, they start feeling scared when they hear a dog growl. In a classic version of conditioned empathy (Hoffman, 2000), people are exposed to emotional circumstances in which others are expressing their feelings. The combination of these circumstances and other people's emotional expressions indicates that comparable scenarios may arise shortly. The conditioned stimuli in the second variant of classically conditioned empathy (Humphrey, 1922) are perceptual qualities of the situation rather than emotional representations of others. In the first version, the emotional expression of the target causes empathy, while in the second version, it is the characteristics of the target's emotional situation that causes empathy.

When an observer witnesses an emotional expression or situation with a direct connection to the target, the observer recalls his or her past emotional experience (Hoffman, 2000). For example, if someone observes a stray dog attacking another person, he or she may remember when an animal attacked him or her. He or she recalls his or her original fear from memory. Through mediated associations, observers learn about the subject's emotional experience through words. Observers then envision and imitate the object's emotional expressions, recall earlier events, and experience emotions triggered by memories. Mediated associations are similar to imitation or direct associations, but observers do not directly recognize the experience of the target (Hoffman, 2000). For example, if someone claims a dog attacked him throughout the day, the listener may recall being terrified of the dog at the time.

When an observer imagines the target's circumstances or how the target feels as if it were his or her own experience, this is known as role-taking. Similar to the mediated associations, observers may feel emotions by imitating imaginary emotional representations or imagining the target's situation using their emotional memories. However, role-taking requires greater effort and motivation than mediated associations (Hoffman, 2000). Role-taking entails making deliberate efforts to comprehend the item by bringing emotional memories or imagined emotional representations into the

mind, whereas mediated associations entail more automatic activations of emotional memories or imagery.

As mechanisms of empathy, Hoffman (2000) discusses mimicry, direct association, mediated association, and role-taking. In his discussion, the observer's experience of vicarious emotions comes from imitating emotional representations or recalling emotional memories (Wondra & Ellsworth, 2015). According to Wondra and Ellsworth (2015), the difference is whether the observer should directly observe the target's emotions or situations (direct association and mimicry), whether it can infer indirectly (mediated associations and role-taking), and how much effort the observer has taken to empathize (role-taking) or not (the other four). Hoffman's five concepts can also be divided into affective(automatic) and cognitive (direct/mediated association and role-taking).

The discovery of Mirror Neurons provides strong evidence that humans are automatically influenced by others. Empathy research has shifted to focus on the brain since the 2000s. The exploration of mirror neurons in the 1990s was a significant impetus for sympathetic research moving into the field of neuroscience (Wondra & Ellsworth, 2015). The F5 area of the macaque monkey was the first place where these neurons were discovered. (di Pellegrino et al., 1992; Rizzolatti et al., 1996). In the ventral premotor cortex (area F5) and area PF regions of the monkey, firing was observed if

the monkey performed a target-related gesture, or simply observed another monkey or person doing so (Gallese et al., 1996; Rizzolatti et al., 1996). Although data on single-cell recording is not readily available in humans, previous research demonstrates mirror-neuron-related reactions in humans using imaging methods such as fMRI, TMS (Fadiga et al., 2005), and EEG (Obrman et al., 2007). The mirror neuron system provides a crucial perspective on how humans understand the emotions of others. When someone sees the angry facial expression of another person, the same neural circuitry that they engage in when they are angry is activated, causing the observer to act with a mental manifestation of the other person's anger (Pfeifer & Depretto, 2011). The firing of a mirror neuron while watching others conduct activities is an equivalence interpretation of one's own and others' relationships (Pfeifer & DePretto, 2011). Once this identification has taken place, understanding their own emotions and intentions can be used as information to understand the behavior of others. Therefore, the mirror neuron system not only has the ability to empathize with others from the mind (Carr et al., 2003; Leslie et al., 2004). It's also vital for social awareness and communication skill in general (Gallese et al., 2004). Mirror neurons are an important finding because they have proposed mechanisms by which perceptual systems and motor systems can be connected. Mirror neurons, according to researchers, enable people recognize and imitate other

people's behavior (Gallese, 2003; Gallese et al., 2004; Rizzolatti et al, 1996). Mirror neurons, according to some studies, affect every vicarious experiences, including those of action, sensation, and emotion (Gallese, 2003; Gallese et al., 2004; Keysers & Gazzola, 2009). When an observer recognizes an emotion in a target, the neuron involved in direct experience of the emotion is automatically discharged. As a consequence, the observer experiences empathy and feels the emotions (Wondra & Ellsworth, 2015).

Empathy studies also provide a vast basis for cognitive and affective responses experienced while observing others. Empathy is the basis and core of understanding others in interpersonal relationships (Goldman, 1995a; Goldie 1999, Decety & Ickes, 2009). Empathy has been defined in various areas (Wisp, 1986); Scholars define it differently, but it often refers to the ability to understand and accept the emotional states of others as if they were own (Dvash & Shamay-Tsoory, 2014). This refers to a person's emotional reaction to another's emotional state (Davis, 1994). That is, the concept of empathy involves caring, helping, communicating, and interacting with many people (Davis, 1983; Greenson, 1960; Stotland, 1969). Various definitions of empathy share important characteristics, including the idea that empathy is not singular but rather encompasses several sub-factors (Bernhardt & Singer, 2012; Davis et al., 1994; Decety & Jackson, 2004; Hoffman, 2001; Preston & de Waal, 2002). In this respect, many scholars

regard empathy as a higher concept, including emotional contagion, sympathy, and perspective-taking (Preston & de Waal, 2002). The definition of empathy in multidimensional concepts generally consists of two aspects: the affective and the cognitive (Eisenberg et al, 1989; Feshbach, & Feshbach, 1982; Hoffman, 1984). In other words, empathy means accepting other people's views in order to accurately understand others' thoughts or feelings (cognitive empathy), and empathy includes emotional responses (affective empathy). This is because empathy is an emotional response to others' emotions rather than being based on cognitive reasoning about other states of mind; this helps distinguish them from general mind theory abilities (Premack & Woodruff, 1978; Wellman, 1991). Jamil Zaki (2019) calls empathy an umbrella term that describes the different ways in which people react to each other, including sharing other people's feelings, thinking about them, and caring about them. In particular, he classifies empathy as both a cognitive (mentalizing) perspective and an affective (experience sharing) perspective (Zaki, 2014; Zaki & Ochsner, 2012). Experience sharing refers to the tendency of observers to take on the sensory, motor, visceral, and emotional states they encounter from their observations (Gallese, 2003b; Stotland, 1969; Zaki, 2014).

Numerous studies provide evidence that we are cognitively and affectively influenced by observing others. The vicarious achievement

experienced by observing others through watching sports will also be done through this mechanism.

Is It Possible to Control the Effects of Others?

People are cognitively and affectively influenced by others. There are several views on whether this influence can be controlled. Developmental psychologists emphasize the primitive nature of humans' vicarious experiences (Hoffman, 1982; Eisenberg, 1989; Meltzoff, 2007). For example, they explain the phenomenon of newborns responding to other babies' cries or mimicking their mothers (Haviland & Lelwica, 1987). This form of empathy is the basis for the claim that one automatically experiences another's emotional state (Hoffman, 1985). Social psychologists have also found that observers tend to be emotionally synchronized, automatically imitating other people's facial expressions, vocalizations, postures, and movements (Hartfield et al, 2013). Studies have been published on emotional contagion, showing how laughter (Provine & Young, 1991) and happiness (Ehrenreich, 2007) spread rapidly through crowds. The field of neuroscience has also provided evidence for the automaticity of empathy (di Pellegrino et al., 1992; Ferrari et al., 2003). Some researchers claim that experience sharing and brain resonance are mostly automatic (Gallese, 2003a; Gallese & Goldman, 1998; Gallese et al., 2004).

Empathy occurs automatically, and there are occasions when one chooses whether or not to accept it, with motivation (Zaki, 2014). Zaki (2014) acknowledges the automatic nature of empathy but argues that observers do not always automatically empathize with the observed target. This argument is valid in that we do not always empathize with everyone. Wonder and Ellsworth (2015) set out two premises for this argument. First, empathy occurs automatically but requires minimal conditions. There is no consensus if the observer does not notice the target or deliberately distracts their attention (Preston, 2007). The second point is that empathy is innate, but observers can control and inhibit it. There are two models about the timing of empathy regulation (de Vignemont & Singer, 2006). Early appraisal models explain that the way observers first interpret other people's situations determines whether neural congruence begins or not. An observer can naturally start to match other people's feelings yet regulate their empathy using a late appraisal model (Decety et al., 2010; Eisenberg et al., 1994). The late appraisal model helps explain why an observer feels nothing about an object, but it also has limitations in explaining why an observer feels something for an object that he or she does not seem to feel anything about (Wondra & Ellsworth, 2015).

Zaki (2014) emphasizes two situational features that change empathy. The first is competition among groups. In Greene's study (2013),

participants realized that they were cheering for the wrong team, and empathy decreased rapidly. Furthermore, studies on reduced empathy in zero-sum competition (Lanzetta & Englis, 1989) and minimum group allocation (Leyens et al., 2000) support this finding. The second situational feature is expertise. People working in the medical field usually meet others who suffer from severe physical and emotional distress. Some studies show that doctors and nurses underestimate the amount of pain that patients feel (Marquiè et al., 2003; Sloman et al., 2005). Being empathetic to a particular target is disruptive to one's professional life. Therefore, it is the basis for controlling the amount of empathy that doctors and nurses feel for their patients. Individuals reflect psychological costs and benefits in their decisions as to whether to engage in a particular action (Chartrand & Bargh, 2002; Dweck & Leggett, 1988; Higgins, 1997; Kahneman & Tversky, 1979; Miller & Prentice, 2013).

Indeed, motivation affects all sorts of phenomena. In particular, individuals may have a motivation to feel certain emotions. Zaki (2014) argues that empathy must be motivated by experience; he presents the causes of empathy motivation and discusses the mechanisms that explain it. He suggests that offspring care, in-group identification, and out-group exclusion are the ultimate sources of empathy. From an evolutionary perspective, he believes that individual social coordination for survival performs an

important function of internal states, which facilitates empathy or avoidance (Scott-Phillips, Dickins, & West, 2011).

Mammal species, including humans, have a strong instinct to nurture their offspring. Family relationships promote a strong instinct to understand and share other people's feelings. In addition to kinship, humans rely on larger social groups to survive (Brewer & Caporael, 2006). Cooperation and mutual trust are essential for the success of social groups (Brewer & Kramer, 1986). Empathy for group members would also have developed, since sharing and understanding the states of the other people facilitate interdependent cooperation between individuals (de Waal, 2008). Moreover, out-group exclusion is crucial for survival. Evolutionally, intergroup competition for limited resources is inevitable (Kurzban & Leary, 2001; Tooby & Cosmides, 2010; Van Vugt et al., 2007). In-group identification and out-group exclusion, which provide an evolutionary view of empathy, suggest that empathy for others can be regulated for one's own benefit. According to Zaki's (2014) review of the avoiding and approaching perspectives as evidence for motivated empathy, individuals can control empathy to avoid pain, cost, disturbance, and competition, and if empathy benefits them, there is a motivation to empathy.

The Control-Value Theory of Achievement Emotions

A sense of achievement is one of the most important factors in well-being that gives pleasure to individuals. A sense of achievement is defined as a subjective emotional state of an individual's achievement of a certain goal or desire (Burr, 2000). According to Neugarten (2002), a sense of accomplishment is characterized as having a positive self-image and retaining an optimistic attitude and emotion, as well as experiencing joy from everyday tasks.

Pekrun (2006) proposes combining the control-value theory of achievement emotions, where it encompasses expectancy-value approaches to emotion (Pekrun, 1992a; Turner & Schallert, 2001), attributional theories of achievement emotions (Weiner, 1985), theories of perceived control (Patrick et al., 1993; Perry, 1991), and models involving the impacts of emotions on learning performance (Patrick et al., 1993; Perry, 1991). (Fredrickson, 2001; Pekrun et al., 2002a; Zeidner, 1998). Emotions associated with achievement activities or outcomes are referred to as achievement emotions (Pekrun, 2006; Pekrun & Stephen, 2010). Because they link to activities and outcomes which are often rated according to competence-based criteria of quality, most emotions related to studying, working, or engaging in sports are viewed as achievement emotions. Not all of the feelings felt in achievement situations, however, are achievement emotions. Social feelings, such as empathy for a coworker, are typically

experienced in these similar contexts. As with feelings directed toward others' achievements—for example, contempt, envy, empathy, or adoration sparked by others' success or failure—achievement and social emotions can collide (Weiner, 2007; see also Immordino-Yang, McColl, Damasio, & Damasio, 2009).

Emotions and accomplishment studies have primarily focused on emotions connected to achievement outcomes. However, the various emotions that arise in the process, not just in the outcomes of achievement, can also be understood as achievement emotion (Pekrun, 2006). The control-value theory assumes that the individual can control the actions and outcomes associated with achievement, and it explains how valuable achievement actions and outcomes are related to achievement emotions (Eccles & Wigfield, 1995; Pekrun, 2006). According to the control-value theory, a number of antecedents, such as prospective outcome emotions, retrospective outcome emotions, and activity emotions, are used to evaluate achievement feelings (Pekrun, 2006). Prospective outcome emotions are thought to be a product of result expectancies and values. Anticipatory joy is triggered by high expectations of success due to subjective internal control and confidence in the likelihood of success. If the focus is to avoid failure, expect to feel anticipatory relief ahead of time (Pekrun, 2006). For example, someone who believes they will do well on a major exam can anticipate

succeeding. Instead, if someone concentrates on avoiding failure, they are more likely to pass the test. People experience hopelessness when it is difficult to succeed or when they are likely to fail in a circumstance over which they have no control before what is important to them is decided. People sense hope when they focus on success and anxiety when they focus on failure when there is a partial lack of control (Pekrun, 2006).

When people achieve or fail to achieve a specific goal, they feel retrospective outcome emotion. It matters whether the outcome is determined by oneself or by others when it comes to retrospective outcome emotions (Pekrun, 2006). This emotion is also influenced by the subjective value of success or failure (Pekrun, 2006). Weiner (1985) claims that people feel joy when they expect to succeed, and sadness or frustration occurs when they expect to fail. The absence of predicted success is disappointing, while the absence of expected failure is relieving. Control is linked to pride, shame, gratitude, and anger. When success and failure are the product of one's own efforts, pride and guilt might be felt. When success or failure is the consequence of others, both gratitude and wrath can be felt (Weiner, 1985). These emotions are also influenced by how much importance a person places on success or failure. If it is not vital to perform well on a certain task in physical education class, for example, pride or shame cannot be felt. According to Pekrun (2006), the contribution to the perceived achievement

outcome and the worth of the obtained result multiply control-dependent retrospective emotions. These feelings of achievement come in a variety of forms (Smith & Ellsworth, 1987). Nobel Prize winners, according to Pekrun (2006), are proud of their accomplishments but grateful to their colleagues. Similarly, many sports fans are regarded as being proud of a winning game or as supporters of a specific sports team.

The emotions of control and value in activities associated to achievement activities refer to the conduct itself. The focus of these emotions is on conduct rather than results, therefore result control and evaluation of outcome value are minimal. For example, a person who experiences enjoyment and flow while participating in an activity concentrates on the activity itself rather than the outcome of the activity (Csikszentmihalyi, 2000). When someone perceives and assesses specific positive and totally controllable activities, they feel enjoyment (Buff, 2014; Camacho-Morles et al., 2019b). When a situation is under control but achievement activities are unfavorable, anger arises (Pekrun, 2006). People become frustrated when it is difficult to maintain control over the action (Pekrun, 2006). Frustration is an unpleasant feeling with a high arousal level (Pekrun & Stephens, 2010). When people are engaged in achieving tasks and are unable to reach the intended solution or encounter difficulties that prevent them from completing the task successfully, they become frustrated (Muis et al., 2015b). People

become bored when the incentives for accomplishing tasks are low. When there is a lack of control over activities, incentive values might fluctuate based on perceived control, which can lead to boredom and a loss of value for those activities. Furthermore, too low requirements can limit the incentive's value (Pekrun et al., 2010; Vogel-Walcutt et al., 2012).

Vicarious Achievement Emotions

Emotions in Sports Spectatorship

Researches on fans' emotion in spectating sports has steadily proliferated. In general, researches examine how game outcomes influence spectator emotions (Kerr et al., 2005; Wann et al., 1994), as well as how positive outcomes like satisfaction and loyalty arise (Harrolle et al., 2010; Madrigal, 1995). According to Holt (1995), during a professional baseball game, the spectator experiences emotional reactions such as excitement, awe, anger, and disappointment. Jones et al. (2005) developed the Sport Emotion Questionnaire based on unpleasant and pleasant emotions. They categorized pleasant emotions such as happiness and excitement, and unpleasant emotions such as anger, anxiety, and dejection. Biscaia et al. (2012) identify the emotions felt by sports fans during soccer matches in the categories of anxiety (nervous, anxious, uneasy, apprehensive), dejection (unhappy, sad, disappointed, dejected), anger (irritated, furious, angry, annoyed), and joy (excited, joyful, cheerful, pleased). Lee, Kim, and Heere (2018) developed

the Sport Team Emotion Recall Scale. They identify the categories of sports fans' emotions while spectating sports as connectedness (passionate, nostalgic, supportive, connected), elation (happy, excited, pleased, proud, optimistic, entertained), competitiveness (competitive, aggressive), surprise (amazed, surprised, astonished), anger (annoyed, frustrated, enraged), unhappiness (suffering, sad, regretful, dejected), and worry (fearful, anxious).

Studies have also been conducted on changes in sports fans' emotions depending on the context. Madrigal (2008) assumes the acquisition of emotions in sports spectators from two perspectives: cognitive—based on attribution—and emotion—based on appraisal. He confirms that the four emotions (anger, shame, gratitude, and pride) differ depending on the ratio of appraisals to attributions of winning and losing. Kim et al. (2017) studied sports fans' mixed emotions after a disappointing win and in reliving loss that occur in sports events. Sports fans' happiness and sadness depend on the game's outcome, but depending on the game process, negative emotions and positive emotions can change after watching it. Their findings suggest that, while previous sports spectator emotion research has focused on game outcome, fan emotions may vary depending on the game process.

Studies have shown that sports fans can experience various emotions while watching games. Prior studies have addressed joy, anger,

dejection, anxiety, pride, and shame, which are common to sports fans' experiences of watching a game. These emotions are also included in the achievement emotions presented by Pekrun (2006; 2012). "Achievement emotions" focus on actors' own perspectives rather on observers' perspectives. So, that pride and gratitude, and shame and anger, differ whether the subject is oneself or others. However, studies in sport management claim that one can experience self-conscious emotions such as pride and shame while watching sports (Hallmann et al., 2013; Madrigal, 2008; Madrigal & Chen, 2008; Partridge et al., 2020; Sloan, 1989; Trail & James, 2001). Scholars from other fields also claim that spectators can feel vicarious pride (Tracy & Robins, 2004), vicarious shame (Welten et al., 2012), and vicarious embarrassment (Krach et al., 2011). I assume that it is in the identification with the team that these differences emerge. Several scholars have focused on the sports fans' emotional experience being dependent on identification with the team (Madrigal & Chen, 2008; Wann & Branscombe, 1992). A person with a high level of team identification takes the team's achievement as his or her own (Wann et al., 1999). According to Wann and Branscombe (1990), the higher the level of identification, the more "basking in reflected glory" (BIRG) and the less "cutting off reflected failure" (CORF). These findings are the basis for my assumption. The higher identification the fan has, the more they can experience the same emotional

and physical reactions as the players through the team's achievements and failures.

In the meantime, in sport management studies, research on vicarious achievement has focused only on the results of achievement. Thus, studies on vicarious achievement always contain only positive results. On the other hand, Pekrun's control-value theory suggests that sporting events are a process in which players and teams experience achievements. Thus, in sport management, achievement can also be seen from achievement outcomes and the activity itself. Anger, frustration, and boredom are, in a broad sense, inconsistent with the term "achievement," so they are hardly achievements.

Factor Affecting Vicarious Achievement

Observer's Personal Identity

The theoretical background of vicarious achievement in existing sports management literature is based on Social Identity Theory. It is defined by Stets and Burke (2000) as an individual's awareness that he or she belongs to a social category or group. In the formation of social identity, self-classification arises from the emphasis on perceived similarities between oneself and other members of a group and the emphasis on perceived differences between members outside the group (Stets & Burke, 2000). Turner et al. (1979) found a tendency to favor in-group members rather than out-group members in behaviors unrelated to insults or economic interests

within the group. Social identity theory is part of a self-concept based on the perception that it belongs to a social group (Tajfel & Turner, 1986). Personal identity and social identity make up an individual's self-concept (Hogg, 1996). Personal identity consists of unique characteristics that one has, such as appearance, personality, and hobby. Social identity refers to identity as a member of society, such as gender, race, or state. For example, "I am a Korean" and "I am a fan of Doosan Bears" are revealed when identifying their self-concepts to the social category. In order to maintain their identity positively, when comparing other groups to their groups, in-group bias appears because they want to be superior.

The self-categorization theory noted the phenomenon in which people evaluate others by their group categories rather than their characteristics and abilities (Turner, 1982; Turner et al., 1987). After comparing others in light of different categories, they automatically classify whether the other person belongs to the same group or not. If someone belongs to an in-group, individuals perceive that they have more similar characteristics than they do and, if others belong to an out-group, individuals think they are different from themselves. Thus, it will be easier for observers to experience vicarious achievement when they feel that the achiever belongs to the same group. There is also a possibility that the achiever's success will be highly valued due to in-group bias.

A significant correlation between vicarious achievement and team identification is presented in the sport management study (Branscombe & Wann, 1994; Fink et al., 2002; Trail & James, 2001). Cialdini et al. (1976) suggest that self-esteem is the cause of basking in reflected glory. Wann et al. (1995) stated that team identification was the reason for the basking in reflected glory. It has been found that the higher the team identification, the more basking in reflected glory, and the lower the team identification, the more cutting off reflected failure (Wann et al., 1995). This shows that the observer's identity affects the approaching/avoiding motivation for vicarious achievements.

Competition

The realistic group conflict theory assumes that conflicts between groups arise from competition for limited resources (Sherif et al., 1961). When money, power, honor, and social status are perceived to be practically scarce, hostility arises when groups compete against each other over it. If someone wins, conflicts arise when a situation is recognized that someone else is inevitably defeated. Win and loss exist together in sport. In this situation, it is impossible to witness the other team's achievement and experiencing vicarious achievement. This is because the opponent's achievements lead to sport fan's defeat. When competing for a limited promotion position, one cannot accept another's achievement as if it were

one's own. Consequently, it is hard to experience vicarious achievement when an achiever competes with an observer for limited resources.

Observer's Self-esteem

People with low self-esteem make efforts to increase their self-esteem by using the social identity they can have (Dutton et al., 1994; Tajfel, 1978). Anderson (1999) and Cialdini et al. (1976) also argued that the low self-esteem people are, the greater their intention to basking in reflected glory. Therefore, a person with low self-esteem may be highly motivated to accept others' achievements as their own.

The Closeness of Observer and Achiever

According to Tesser (1988)'s self-evaluation maintenance model, people can positively evaluate others even if others are superior under certain conditions. A certain condition is a closeness to the comparison. If the relationship with the other person is less closeness, even if the other person is superior or inferior to the observer, their self-esteem is not greatly affected. On the other hand, high relationship closeness, such as friends and colleagues, greatly affects self-esteem when the other person is superior or inferior. For this reason, people are likely to experience vicarious achievement in sports. No matter how close a sports team or player thinks they are, psychological and physical distance is quite far. Therefore, when the observer witnessing the achiever's success, the observer's self-esteem is

not diminished due to low closeness. Rather, the consensus of identity ultimately increases self-esteem.

Achiever's Deservingness

From an observer's point of view, envy is the most likely thing to feel when observing others' achievements (Smith & Kim, 2007). Envy is a negative emotional response that wishes to lack someone's superior qualities, achievements, or what others own (Parrott & Smith, 1993; Smith & Kim, 2007). There are two types of envy: benign envy and malicious envy (Van de ven et al., 2009). This distinction relates to the deservingness of the achiever. Benign envy occurs when a particular person thinks an achiever deserves success, and there is a reaction to wanting to rise to the same level as the achiever (Van de ven et al., 2011b). Malicious envies occur when a particular target's success feels undeserved, increasing its intention to bring it down (Van de ven et al., 2011b). Malicious envy is a feeling to undermine the target of achievement. Malicious envy is contrary to vicarious achievement. Therefore, the achievement of an achiever should be considered deserving of an observer's judgment.

Defining Vicarious Achievement Emotions

Wondra and Ellsworth's (2015) appraisal theory of empathy clarifies how empathy differs from vicarious emotions. Wondra and Ellsworth (2015) postulate that empathy is one possible consequence of the

general emotional appraisal process. Empathy, they believe, comes when a bystander assesses a situation in the same manner that the target does. Therefore, the difference between empathy and vicarious emotion depends on whether the observer's feelings are equivalent or not with those of the target (Wondra & Ellsworth, 2015). Differences in firsthand experience, empathy, and vicarious emotions all pertain to how one person assesses another person's or their own circumstances, and they are all part of the general emotion process (Wondra & Ellsworth, 2015). Therefore, empathy is one of the consequences of the process (Wondra & Ellsworth, 2015). From the point of view of emotion theory, empathy is a special case that occurs when the process of emotion is experienced by an observer. The major cause of empathy, according to empathy theorists, is perceptions of other people's emotional states rather than conditions (Wondra & Ellsworth, 2015). Although the empathy and vicarious emotions assessment approach emphasizes the awareness of others' problems, an emotional expression also gives information about the scenario. In practice, observers infer information about the observer's circumstances from the object's emotional representation (Parkinson, 2011; Parkinson & Simons, 2009) and how to evaluate the target's situation (De Melo et al, 2014; Scherer & Grandjean, 2008; van Kleef, 2009). As a result, empathy is a type of vicarious emotion in which

the observer evaluates the target's circumstances in the same way that the target does (Wondra & Ellsworth, 2015).

Their views provide a deep understanding of vicarious emotions, but there is a limitation that they have not taken into account: the achievement characteristics. Pekrun's (2006, 2011) control-value theory describes the various emotional states that individuals achieve. In particular, the prospective and activity perspectives allow us to extend the concept of vicarious performance in terms of vicarious performance from a single outcome of victory in sports spectatorship. However, his theory focuses on experiences arising from people's own achievement experiences. Therefore, there is a lack of explanation for observing and accepting other people's achievement processes. Pekrun also includes negative emotions in the achievement process. Sports fans feel negative emotions through vicarious experiences while watching sports. The process of direct achievement also involves a mixture of negative and positive emotions. Furthermore, sports spectators will experience mixed emotions in the process of experiencing vicarious achievement. However, at the moment of achievement, individuals' feelings are eventually positive. The vicarious achievement that we have been studying has also focused on the positive. Therefore, this study excludes negative emotions arising through the process of vicarious achievement or in anticipating the failure of achievement. This is because the

emotions and physical reactions experienced at the moment of achievement are most consistent with the vicarious achievement that has been studied in sport management.

Through various literature reviews, I identify what vicarious achievement emotion is and how it works. Various theories explaining that humans understand the minds of others and that observers are influenced accordingly have become the basis for defining vicarious achievement. In particular, vicarious achievement is seen as a part of empathy, but the wide range of the term empathy makes it difficult to properly show its characteristics. Also, vicarious pride is not entirely a term for vicarious achievement. Tracy and Robins (2004a) present three examples of experiencing vicarious pride: feeling responsible for other people's achievements; integrating self-concept between oneself and others; and understanding others' achievement through empathy. This also explains how we experience pride through others. When the self-concept matches between the team and the sports fan, the fan can experience vicarious achievement while watching sports. I define vicarious achievement emotions as observing the achievement processes and outcomes of others and having the same emotional experiences as though it were one's own achievement. This definition is consistent with the concept of vicarious achievement that has

been carried out in sport management research but includes parts that have not been explained.

Extending Vicarious Achievement

By reviewing previous studies, vicarious achievement in sport management research has been re-conceptualized as a vicarious achievement emotion. This is meaningful in that identifying mechanisms of vicarious achievement emotions by organizing previous studies. However, vicarious achievement, which has been dealt with significantly in sports management research, cannot be dismissed as a momentary emotion. People certainly get energy from watching sports (Jang et al., 2017) and fulfill their needs (Kim et al., 2017). Positive experience through watching sports includes direct factors but includes much of the vicarious experience Fulfilling energy and needs is difficult to acquire with simple momentary feelings. It is only possible when the vicarious experience is connected to oneself. Therefore, I think vicarious achievement through others is connected by triggering sport fan's achievement memory and simulation.

Hoffman (2000) argues that the experiences gained from observing others come from the observer's own memory and imagination. Thus, the process of vicarious achievement experience through others is in itself a positive activity, but it can be extended to the positive memories or future possibilities it has. Pekrun (2006) also classified in the Control value theory

as simply feeling different emotions from the moment the experience itself is acquired and from the prospective and retrospective perspectives. Vicarious achievement experience should also be viewed as a vicarious achievement, along with the momentary feelings that connect to one's memory and imagination. This theoretical extension would not only be more appropriate to the use of the term vicarious achievement but would also be characteristic of vicarious achievement being distinguished from empathy or other vicarious emotions.

Broaden and Build theory

Fredrickson (1998; 2001) proposed the broaden and build theory, revealing the principles and mechanisms that positive emotions work beneficial to individual behavior and life. According to the broaden and build theory, positive emotions, even if temporary, function to expand the repertoire of visual attention and activities by promoting cognitive activation. The expansion function of positive emotions contributes to the formation of individual physical, intellectual, social, and psychological resources by promoting flexible thinking in daily life and accumulating benefits from numerous short-term expansion experiences to establish resources. According to the broaden hypothesis, when an individual feels positive emotions compared to negative emotions, the individual can think more voluntarily, and the arrangement of desire and perception to act widens.

Build hypothesis assumes that the inclusive function of positive emotions builds personal resources by stimulating people to develop resources while putting them on a positive trajectory of growth (Fredrickson, 2001; 2013).

Fredrickson and Branigan (2005) had participants watch a brief film that aroused amusement, contentment, neutrality, anger, or anxiety, then have the control group watch a video that did not inspire emotions, and then conduct global-local processing tasks and thought-action repertoire tests. As a result, participants in positive emotional states experienced the world more broadly and named more potential behaviors in virtual circumstances than those in negative emotional states and control groups. A study by Schwarz and Clore (1983) revealed that even those who show delayed information processing patterns in the early stages of information processing pay attention to the overall shape of visual stimulation in a positive emotional state. Similarly, in an experiment comparing the visual processing process of the attention area according to emotional experience, it was confirmed that the negative and neutral emotional states pay more attention to the local elements of a given stimulus, while the positive emotional group pays more attention to the overall form of stimulus (Gasper & Clore, 2002). According to Rashid (2015), feeling positive emotions expands negatively biased attention and memory, broadening the repertory and flexibility that can be used in issue situations and eventually allowing for better problem resolution

by examining multiple options. In addition, positive emotions increase the likelihood of re-experience positive emotions again by promoting cognitive activation and promoting life satisfaction by making flexible changes in thinking methods by offsetting negative emotions (Fredrickson & Branigan, 2005; Fredrickson & Joiner, 2002). Rather than focusing on the problems and negative consequences currently faced in stressful situations, individual positive emotional experiences have been found to allow them to find alternatives, look at the overall aspects of the problem, and have a more flexible purpose in life. (Ashby & Isen, 1999; Fredrickson & Joiner, 2008).

Positive emotion experiencers are more robust (Fredrickson et al., 2003), resource-rich (Lyubomirsky et al., 2005), socially linked (Mauss et al., 2011), and more likely to function at their best (Fredrickson & Losada, 2005; Mauss et al., 2011). In addition, it was found that the daily experience of positive emotions improves resilience over time and improves life satisfaction (Cohn et al., 2009). As a result, the relationship between positive emotions and personal resources is mutually reciprocal, in that positive emotion experience predicts an increase in personal resources, and personal resources predict an increase in positive emotions over time. These mutual effects show a spiral shape that rises upward over time, leading to a higher level of well-being and function (Fredrickson, 2013; Fredrickson & Cohn, 2008).

Broaden and build theory is another basis for informing us that vicarious achievement can be expanded. The Broaden hypothesis is the basis for the positive emotion of vicarious achievement to be connected to sports fans by enabling extended thinking about new ideas. This is another evidence that proxy achievement can be linked in addition to the explanation that one can more easily express one's achievement memory and imagination through indirect experiences similar to one's achievement. Fredrickson et al. (2008) explained how positive emotions can affect personal resources. In this study, they state that positive emotions affect cognitive resources. In this case, saving the past, present, and future were included in cognitive resources. As a result of the study, positive emotions influenced what saved the past, present, and future. Taken together, it is suggested that the achievement of others can induce sports fans' own experience of achievement or imagination related to achievement.

The Basis for Extending Vicarious Achievement: The Past

Humans store and remember various information in a network (Anderson & Bower, 1974). When people are exposed to certain information, more detailed information is soon forgotten, leaving only meaningful memories of the event (Anderson & Bower, 1974). Information in long-term memory is withdrawn from the network through activation

(Collins & Loftus, 1975). Human semantic memory reminds us of the fact that, when given the stimulus, it is connected based on a given clue (Raaijmakers & Shiffrin, 1981). Therefore, semantic memory is more likely to recall, as the same relationship occurring between facts and specific information is encountered repeatedly (Schrijnemakers & Raajimakers, 1997). Just as cognitive factors such as concepts and events are remembered as nodes, emotions also exist as nodes (Bower, 1981). Emotions, like cognitive factors, can be linked to other memories through the activation process (Fiske & Pavelchak, 1986). The above studies suggest that people are more likely to withdraw memories or concepts from long-term memory that are consistent with current perceived information or emotional states.

Vicarious achievement is a sense of achievement experienced by others. This can vary depending on how much you identify yourself with others, and the height of your senses can also vary depending on how much you share other people's views. Although the experiences are gained through others, the emotions and cognitive composition caused by them are quite similar. Therefore, the mood and cognitive factors that are caused by vicarious achievement are likely to be linked to your own past achievement experience.

Also, Anderson and Libiere (1998) suggest that memory traces change with activation. Activation determines accessibility and speed of

memory. Free association techniques are used to determine the level of memory activation. For example, if you hear the Bible, animals, and floods, you might naturally think of Noah's Ark. What is interesting is that when students hear the word Bible, they usually think of Moses and Jesus, and only rarely think of Noah. When asked about animal-related words, students think of farms and zoos, but they never think of Noah. Even when asked about words having to do with floods, students think of Mississippi, but never of Noah. Anderson argues that the suggested words come to mind, and then the Bible, animals, and floods are used in primary memory, and associations with firing reactions occur.

Spreading activation is the process by which items are currently being attended to make associated memories more usable. Meyer and Schvaneveldt (1971) asked participants to determine whether the pairs of items in the given word were words or not. In this experiment, participants judged pairs of related items 85ms faster. When the first word was read from a set of related words, the activation spread from the word to the second word, which made it easier to judge by activating the spelling information of the second word. This result indicates that the associative spreading of information activation through memory accelerates the speed at which words are read. Words with strong associative cohesion can be read faster.

Spreading activation relates to how context can further enhance the availability of certain memories. The effect of practice on the retrieval of memory is regular and significant (Piroli & Anderson, 1985). As a practice, the memory trail becomes stronger, and the stronger the memory trail becomes, the greater the level of activation, so that faster withdrawal is possible (Anderson, 2010). Tulving and Pearlstone (1966) taught participants a list of 48 words. Participants better remembered the corresponding list when they received stimulus clues as memory cues for the categories. Some of the clues associated with memory came from the context in which memory is formed (Anderson, 2010). This contextual effect affects the retrieval of memory (Godden & Baddeley, 1975; Smith et al., 1978). Additionally, Bower et al. (1978) show that emotional contexts have the same effect as physical contexts. In their study, participants conducted a retrospective test after pleasant and unpleasant hypnosis-induced experiences. As a result, the more the emotions of learning and inspection match, the better the memory. Teasdale and Russell (1983) encouraged participants to learn positive, neutral, and negative word lists in a neutral state. As a result, participants recalled more words that matched moods. When certain moods are created during examinations, the mood elements ignite memories that share them.

One's achievement situation is likely encoded in a form quite similar to that of vicarious achievement. The moment that sports fans feel vicarious achievement through the team's winning is likely to maintain a physical and emotional context similar to the state they have achieved themselves. Therefore, a sports fan who witnesses a win by a team they support is more likely to recall one's own experience of achievement.

The Basis for Extending Vicarious Achievement: The Present

Watching sports events is a form of entertainment that creates a pleasant experience. Entertainment, stress relief, and excitement are cited as main motivations for watching sports events, as a basis for what is considered to be activities that provide a pleasant experience (Trail & James, 2001; Wann, 1995). Moreover, watching sports makes people forget about their daily troubles, allowing them to escape from negative psychological conditions such as pain (Sonnentag & Fritz, 2007). In particular, sports viewing activities can be considered to be a pleasure for the audience, given that the pleasurable characteristics of watching sports affect the well-being of sports fans (Kim et al., 2017).

According to sport management researchers, even though the activity is based on vicarious experience, fans might feel a sense of achievement while watching sports games (Kim et al., 2017). Previous

research on vicarious achievement demonstrates that vicarious achievement serves as a major motivation for watching sports (Robinson et al., 2004; Trail & James, 2001; Wann, 1995; Woo et al., 2009). Studies have also found that fans could experience positive psychological conditions such as pride, glory, self-esteem, achievement, and growth when they see the team they support succeed (Hallmann et al., 2013; Sloan, 1989; Trail & James, 2013). For example, Hasson et al. (2004) confirm that the neurocellular activity of the subjects watching a film was strongly consistent in certain areas. This means that, through specific observation, people can obtain the same emotions experienced by the people observed. Watching sports makes sports fans feel various forms of emotions. People can feel others' feelings through their expressions or actions (Elfenbein, 2014; Menges & Kilduff, 2015; Nummenmma et al., 2008). Watching sports is one of the few experiences where you can watch others vividly expressing various emotions. At the moment of scoring a goal or another type of achievement, the players' faces clearly show a sense of happiness and achievement, and players on a podium express their pride in a distinct form. Looking at this honest form of emotional expression, it is highly likely that the spectator will be affected by the players' emotions (Sharot, 2017).

The Basis for Extending Vicarious Achievement: The Future

People imagine what they experienced in the past as happening differently, and they also imagine what did not happen to them (Byrne, 2016; Suddendorf & Corballis, 1997; 2007). Imagination differs from expectation in that it does not involve a consideration of past performance experiences or capabilities (Oettingen & Mayer, 2002). The objects of imagination do not have to be physical—for example, you can envision yourself in a setting where you are fulfilling a goal—and recalling or imagining objects can evoke emotions and abstract concepts like money and power (Ellsworth & Scherer, 2003; Damasio & Carvalho, 2013).

Imagination has been studied in various aspects, including mental time travel (Suddendorf & Corballis, 1997; 2007), episodic future thinking (Atance et al., 2001), and mental simulation (Sanna, 2000). In this respect, people have more opportunities to imagine the future by watching sports. They sometimes imagine the team they support winning, or they can imagine a specific process of the game. Spectating sports events allows an individual to connect with others and share other people's perspectives by asking themselves, "what if I were this person?" Spectating sports events also allows sports fans to imagine the team's glorious moments and appearances, or to experience new events that they have never experienced before by imagining themselves as an athlete. A greater amount of information received from others can provide sports fans with more opportunities for

imagination. In particular, the success of the team or player connected to sports fans allows them to share a player's perspective more strongly.

Episodic Memory and Episodic Future Thinking

Episodic memory is defined as the "memory of events experienced by individuals" (Baddeley, 2001; Tulving, 1993), and it has been studied as a part of memory (Tulving & Thomson, 1973). As a retrospective memory of events that occurred at a certain time and place in the past, it consists of elements such as "when," "where," and "what" (Clayton & Dickinson, 1998; Crovitz & Schiffman, 1974; Nyberg et al., 1996; Tulving, 1972). In contrast, semantic memory is more related to general knowledge acquisition or objective fact recognition. For example, people remember that the capital of Korea is Seoul, but they do not necessarily remember when, where, and how they learned this knowledge, or the feelings and thoughts they had at the time. Some episodic memories are based on semantic memories, but, in essence, this reflects the unique views, emotions, and thoughts of the person who remembers them, allowing them to reproduce and re-experience their past as distinct from the present through a retrospective thinking process. The involvement of automatic consciousness in anecdotal memory is a unique feature of anecdotal memory that distinguishes it from purely rational semantic memory (Baddeley, 2002; Conway & Pleydell-Pearce, 2000; Griffiths et al., 1999; Wheeler & Mcmillan, 2001; Wheeler et al., 1997). In

this context, episodic memories of events or problems associated with oneself are called autobiographical memories (Kopelman et al., 1989).

The fact that episodic or autobiographical memories have retrospective properties does not mean that they are simply limited to the past. If one cannot recall one's past, it will be difficult to recognize one's current thoughts or perceptual feelings, and it will be difficult to simulate the future (Wheeler et al., 1997). In other words, episodic memory is not only a system that shapes an individual's past but is also a guide to present and future behavior (Nelson, 1993). Studies of episodic memory were collected and introduced as theoretical concepts—the theory of episodic memory or episodic memory (Wheeler et al., 1997). The important concepts that describe episodic memory include perspective and sense of subjective time (Tulving, 2002). Perspective refers to the perspective of time travelers; it is formed by themselves in episodic memory (Tulving, 2002). In order to recall the past, it must be integrated into a single perspective (Wheeler et al., 1997). In addition to anecdotal memory, the observer's perspective is taken (Nigro & Neisser, 1983). Sense of subjective time refers to the time to be subjectively understood—whether the length is long or short—which enables time travel (Tulving, 2002). The development of episodic mechanisms enables mental time travel. Mental time travel means mentally reconstructing past personal events and mentally constructing possible future events

(Suddendorf & Corballis, 1997). Mental time travel is important because it makes it possible to predict the meaning of an individual's past experiences, their current influence, and the possibility of the future. For example, if someone's team did not win a certain game, they are thinking about what to do now to win the next game. As such, episodic memories and episodic future thinking are deeply related.

Mental time travel to the past and to the future seem to develop at the same time (Busby & Suddendorf, 2005). According to Sudendorf and Corballis (1997), mental time travel to the past and to the future use similar cognitive resources. Crucially, episodic memory is related to the ability to simulate what will happen in the future. Brain regions traditionally thought to be memory-related, including the hippocampus, have also been shown to be relevant when imagining future experiences (Schacter et al., 2008). In his study of K.C., Tulving (1985) questioned him about the past and future. K.C. couldn't recall a single event from his history or picture a personal future event at the time of the study. Tulving predicted the link between episodic memory and episodic future thinking, suggesting that individuals rely on episodic memory systems to project themselves out of the current environment and into the past or future. From this, I inferred that the achievement of a sports player or team could be linked to the past, present, and future of a sports fan. Emotional and physical stimulation while

watching sports will boost sports fans' episodic memory and episodic future thinking.

Achievement Memory

Information processing theory explains humans' cognitive processes based on the computer's information process (Atkinson & Shiffrin, 1968). Atkinson and Shiffrin (1968) classified human memory into the categories of sensory memory, short-term memory, and long-term memory. According to them, sensory information is first registered in the cognitive system, and some of the sensory memories are transferred to short-term memory with limited capacity. Information that has been controlled, such as a rehearsal, is maintained in short-term memory or transferred to long-term memory. Long-term memory is stored relatively permanently. According to information processing theory, the stage of inputting new information is called encoding and the stage of recalling stored information is called retrieval. Both processes determine whether memory recall works well or not (Atkinson & Shiffrin, 1968).

Memory can be divided into two categories: declarative memory and non-declarative memory (Fivush, 2011). Nondeclarative memory is made up of several systems, including procedural knowledge, such as well-executed and virtually unconscious understanding of conduct, skills, and behavior, as well as most types of conditioning and priming. In contrast, it is

assumed that declarative memory is clear and usable for consciousness (Schacter et al. 2000, Squire 2004). Tulving distinguished semantic and episodic memory from declarative memory (Tulving 1972). Tulving (1983, 2002) describes episodic memory as a declarative memory that includes information specific to the time and place of acquisition, as opposed to semantic memory, which is concerned with knowledge unrelated to the acquisition setting. Recollection is linked to autonoetic consciousness, a subjective feeling of time and of the self as the one who experienced the incident and holds the memory. The process of knowing, on the other hand, allows one to recognize a stimulus or event as familiar without needing to situate it in a certain time or location.

Achievement memory is also a part of episodic memory. Achievement memory means something related to achievement among individual memories. I define Achievement memory as the ability to remember events related to achievements experienced in the past.

Achievement Simulation

Around the 20th century, psychology defined imagination as an activity that involves forming mental images. As a result, studies on topics including mental time travel, episodic future thinking, counterfactual thinking, and mental simulation were conducted (Atance & O'Neill, 2001; 2005; Suddendorf & Corballis, 1997; 2007). Mental time travel refers to

going back to the past, reconstructing events, and experiencing them in advance (Suddendorf et al., 1997; 2007). Episodic future thinking refers to mentally experiencing a new event that people have never experienced by projecting themselves into the future (Atance & O'Neill, 2001; 2005). Counterfactual thinking refers to a new combination of possible causal outcomes by changing the preconditions that occurred in past events (Byrne, 2016). Mental simulation is a mental reconstruction of a hypothetical event (Sanna, 2000). Various studies believe that the image of the future is constructed anew based on experience (Atance & O'Neill, 2001; 2005; Byrne, 2016; Suddendorf & Corballis, 1997; 2007)

In the study of episodic future thinking, imagination allows for someone to imagine a thing that has never been experienced by reconstructing or combining specific events of the past (Atance et al., 2001, 2005a). Elements included in imaginary resources are reported as actors, objects, actions (Suddendorf & Corballis, 1997; 2007), background, emotional response, general knowledge (Suddendorf & Corballis, 1997; 2007), sensory detail, spatial imagery, emotion, and verbal dialogue (Rubin, 2006). Familiarity or personal importance with various factors can impinge on imagination (D'Argembeau & Van der Linden, 2012). People imagine consequences different from reality, deleting or adding past events (Roese & Olson, 1993), sometimes in order to replace the cause of a real event (Byrne,

2016). The imaginary resources in the anecdote are recombined through several relational processes (D'Argembeau, et al., 2010) and integrated into a coherent narrative (Suddendorf & Corballis, 1997; 2007). The relational process allows the imagination to be more broadly constructed by triggering memory-related mnemonic reactions (Foley et al., 2006). Imagination can also be combined into causal relationships, which can be imagined through causal knowledge, even if they are not experienced (Walker & Gopnik, 2013). Imaginary resources are manipulated variously in the interaction of causal and associative combinations, transferring one anecdote to another (Duncan, 2013).

Aspects of episodic future thought include achievement simulation. However, it solely refers to views on an individual's future achievement among them. As a result, I defined achievement simulation as the capacity to pre-experience hypothetical achievement events that have to occur.

Defining Extended Vicarious Achievement

Vicarious achievement has not been fully defined, despite its widespread use in sport management research. It was simply a concept or observation in which sports fans experience achievement through connection with the successful team. Based on various theories, the study tried to explain this phenomenon better. As a result, extended vicarious achievement

explains how the achievement of others can be linked to the observer. The term "vicarious achievement" has been defined as "vicarious achievement emotion" so far. Furthermore, I offer evidence for remembering one's own achievement experience as well as a future achievement by observing others' achievements. Therefore, extended vicarious achievement means experiencing the same emotional state as one's own achievement, recollection of one's past achievement, and simulation of one's future achievement by observing the achievement process and results of others connected to oneself.

Structural Nature of Extended Vicarious Achievement

To date, all studies on vicarious achievement have looked at vicarious achievement as a single factor. As a result, it's essential to evaluate the structure of the vicarious achievement elements presented in this study. There could be a few different answers to the question. Several sorts of models will be discussed in the next section, each with its own set of restrictions. Four models were empirically tested after the discussion.

General Extended Vicarious Achievement Factor Model

Although this study assume that vicarious achievement comprises three constructs, it is possible that vicarious achievement is a single global element that encompasses all three: achievement emotions, achievement memory, and achievement simulation. Individual dimensions of vicarious

achievement, according to this argument, do not exist as different intellectual constructs. Figure 2 is a representation of this model. Although, in an exploratory approach, this model could serve as a starting point for establishing how many common components are measured by all of the indicator variables empirically. However, many research conceptually differentiates emotions and memories, therefore this theoretical assumption is invalid.

Independent Factor Model

The second idea is that the three aspects of vicarious achievement (achievement emotions, achievement memory, and achievement simulation) are independent features of vicarious achievement. Figure 3 is a representation of this model. This model and the general extended vicarious achievement factor model are on different ends of the spectrum in terms of the distinctness of individual domains of vicarious achievement. According to the first, there is no different sub-domain of vicarious achievement, and all indications are fully explained by a single global vicarious achievement factor. According to the first, there is no different sub-domain of vicarious achievement, and all indications are fully explained by a single global vicarious achievement factor. The latter, on the other hand, implies that each sub-domain of vicarious achievement represents entirely distinct characteristics of vicarious achievement. Although the independence or

orthogonality of the subcomponents is widely assumed in certain types of conventional exploratory component analysis, the model, like this independent factor model, is not logically possible. It is impossible to believe that all of the theoretical conceptions under examination in each study are wholly unrelated in social science.

Group Factor Model

The third hypothesis is that the three vicarious achievement constructs reflect different aspects of vicarious achievement and are correlated to some extent. There is no higher-order vicarious achievement concept, though. Individual sub-domains of vicarious achievement, according to this concept, constitute more of a distinct component of vicarious achievement than common aspects. Figure 4 shows this model. This type of model provides a viable explanation of factor structures when a particular form that would explain the relationship among the first order factors is uncertain (Kline, 2005; Rindskopf & Rose, 1988). Furthermore, if there is a theoretical explanation for the elements in the study being correlated with each other, this type of model is particularly convincing. As a result, the group factor model, according to which all variables are related but not reflected by a higher order factor, is a competing model for explaining the structure of the vicarious achievement components investigated in this study.

Second-Order Hierarchical Model

The vicarious achievement constructs could alternatively be indications of a higher-order or global vicarious achievement construct. This model assumes that each of the three vicarious achievement constructs can be measured using items or observed variables, and that individual constructs representing diverse kinds of vicarious achievement are indicative of a higher-order, more general vicarious achievement construct. Figure 5 illustrates this concept. This type of paradigm can be justified when people consistently make evaluative judgments on various but related conceptual domains based on a broader conceptual node. The structure of vicarious achievement has received little attention. As a result, based on past research, it's difficult to argue that vicarious achievement is comprised up of several sub-dimensional elements. However, it is plausible to suppose that vicarious achievement would be composed of several sub-factors in order to include in the idea the various paths of impact we experience through others and the mechanism through which it connects to individuals.

General-Specific model

The bifactor model (Figure 6) is a strategy that incorporates the benefits of both the total score method and the individual score method. It is also known as general-specific models or nested models (Chen et al., 2006; Chen et al., 2012). In the bifactor model, the measurement score is divided into three parts: general factor, group factor, and unique factor, and it is assumed that

the correlation between general factor, group factor, and unique factor is zero. To identify the model, the variance of general and group factors should be fixed to 1, or the factor coefficient of one measurement question for each factor should be fixed to 1, and one group factor should have at least three measurement questions (Bollen & Hoyle, 2012). The bifactor model has several advantages. First of all, the two effects of the general and collective factors of the scale can be estimated separately, and the relative size can also be compared (Rodriguez et al., 2016). In addition, although the scale is theoretically known as a single dimension, when suspected of showing a multidimensional structure, the unique explanatory score to each sub-factor can be verified with statistical control of this multidimensionality (Chen et al., 2012). For example, when the measurement tool of vicarious achievement is composed of achievement emotions, achievement memory, and achievement simulation, it is possible to check whether there is a unique influence in each area while controlling the overall influence. Based on the relative magnitude of the influence of general and collective factors, it is also possible to examine whether the scale is unidimensional or multidimensional. In addition, it has been confirmed that the bifactor model has an overall superior fit compared to other existing factor structure verification methods. This means that the bifactor model better explains the data.

Predictive Value of Extended Vicarious Achievement

Ego-Based Strengths

Self-Esteem

James (1890) defined self-esteem based on success and pretensions. High self-esteem can mean high actual achievements compared to expected achievements. However, if the expected level of achievement is low, self-esteem can be high even if the actual achievement is low. He focused on the level of achievement, or ability, and saw that self-esteem could change depending on individual abilities. Newman and Newman (1975) defined self-assessment of one's abilities and social acceptance as self-esteem, arguing that effective relationships and social interactions with others are factors that promote self-esteem (Newman & Newman, 1975). Rosenberg (1979) defined self-esteem as including self-concept, which is the individual's view of the self as the sum of the will and emotions associated with the individual. Therefore, self-esteem refers to a positive or negative judgment or assessment of oneself. According to Arce (2000), in an attitude generated by self-dignity and a sense of self-worth, self-esteem is the degree to which an individual thinks themselves to be capable, significant, successful, and valued. Self-esteem is a subjective assessment of an individual's values represented in the way he or she knows himself or herself, as well as an assessment of oneself as a positive concept (Babicki & Luke,

2007). Self-esteem is a basic human need that has a broad and profound impact on human cognition, emotion, and behavior; it is also a psychological element that has a significant impact on human well-being (Hanze & Berger, 2007).

Many scholars define self-esteem slightly differently, but what is common across the definitions is that self-esteem is deeply related to the subjective judgment or evaluation that an individual makes on himself or herself. There are also internal factors, such as individual ability or achievement, and external factors, such as attitude or treatment of others (Branden, 1995; Harter, 1983; Kernis, 2003). There have been various attempts to understand the principle of self-esteem with regard to individual internal and external factors (Bandura, 1995; Coopersmith, 1967; Rosenberg, 1979). According to Rosenberg (1979), there are four factors influencing individuals to build self-esteem: reflected appraisal, social comparison, self-attribution, and psychological centrality. First, reflected appraisal refers to how an individual accepts and understands other people's evaluations. In general, individuals tend to understand and evaluate themselves as others evaluate them. However, when an individual evaluates oneself, how the individual accepts and interprets it—rather than the evaluation made by others—has a greater impact on one's judgment.

Many society-wide evaluations play a crucial role in self-judgment (Rosenberg, 1979). The second factor, social comparison, refers to making a self-judgment by comparing oneself, others, and those belonging to shared categories. When making comparisons to others in a group, self-esteem increases when one feels more valuable and decreases when one feels less valuable. Third, the factor of attribution refers to the process of observing a phenomenon and extrapolating its causal explanation. Self-attribution involves observing an individual's behavior or outcome and deducing the cause of an individual's internal factors (motivation, propensity, characteristics, etc.) rather than attributing it to an external factor (environment). Lastly, psychological centrality is deeply related to the psychological relativity that exists within an individual's cognitive structure. The elements that make up self-esteem have hierarchical structures and contribute to the formation of self-respect, which varies from person to person. Specific factors associated with an individual's characteristics mean that their importance is different psychologically.

Bandura (1977) outlines the formation principle of self-efficacy among the components of the self-system. Self-efficacy refers to an individual's judgment of their own ability. Self-esteem and self-efficacy are significantly related in that the definition of self-esteem is a judgment of an individual's ability and value. Therefore, identifying the formation principle

of self-efficacy can enhance the understanding of self-esteem. Bandura (1977) summarizes four principles in the formation of self-efficacy: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. The principle of forming self-esteem in an individual can be largely divided into internal and external factors. For example, reflected appraisal, self-attribution, psychological centrality, performance accomplishments, vicarious experience, and emotional arousal are internal factors. On the other hand, social comparisons, verbal persuasion, and the reaction of others are external factors that arise from the individual's surroundings. An ego is formed not only through individual characteristics but also through social interactions. Therefore, both internal and external factors affect the formation of self-esteem.

Branden (1995) argues that high self-esteem is an essential requirement to feel the ultimate happiness of human life. This is because self-esteem maintains interpersonal relationships, influences human behavior and adaptation problems to daily life, and is based on mental health and personality development. Taft (1985) found that low self-esteem led to a loss of social roles, health, and independence, indicating that confidence in one's existence and nature is the basis for maintaining a quality life in terms of mental, physical, and psychological, and mental well-being. According to

Rosenberg et al. (1989) self-esteem leads individuals to maintain a better state of mind.

Self-efficacy

Bandura (1977) defined self-efficacy as an individual's confidence in motivation, cognitive resources, and ability to gather directions of action when trying to successfully execute a particular task in a given situation. According to Luthans et al. (2007), self-efficacy is an individual's belief, or the ability to inspire personal motivation, as well as the action technique required to complete a specific task in a given setting. Self-efficacy is also defined as an individual's confidence in the motivation, cognitive resources, and behavioral processes necessary to successfully execute a particular task in a particular context (Stajkovic & Luthans, 1998b; Luthans & Youssef, 2007).

Self-efficacy has a profound effect on individuals pursuing specific goals. People with high self-efficacy set goals high, challenge difficult tasks, succeed, and motivate themselves. In addition, there is a willingness to overcome difficulties and difficulties (Luthans et al., 2007). On the contrary, people with low self-efficacy tend to distrust themselves, degrade themselves and view the world pessimistically, and are heavily influenced by negative feedback, repeated failure experiences, social evaluation, barriers to work, and frustration (Bandura & Locke, 2003). Bandura et al. (1997) stated that

self-efficacy can develop through direct experience, vicarious experience, and role modeling through modeling, social persuasion, positive feedback, and opportunities to experience psychological and physiological ventilation and well-being. self-efficacy determines whether one can achieve one's goal through accumulated experience, and the experience of achievement is important to improve self-efficacy.

Resilience

Resilience is a concept that contradicts difficulties, hardships, and conflicts, and is the altruistic and positive psychological capacity of abundance to cope with positive obligations (Luthans, 2002). Luthans (2002) stated that it is a positive psychological competency to restore or return to its original state in the process of various conflicts, adversity, failures, problems and uncertainties, responsibilities and burdens, and changes. Ryff and Singer (2003) defined that despite the threatening situation of the surrounding environment, it leads to positive results, and mental and physical health status is maintained, recovered, or improved after the challenge. Block and Kremen (1996) revealed that resilience from a psychological point of view is an intrinsic tendency of a stable individual, which has the characteristic of recovering quickly from adversity or trying to overcome it. In other words, resilience in the psychological aspect can be defined as an individual's

inherent strength as the ability to recover from adversity such as failure and frustration (Masten, 2001).

Resilience in terms of positive psychology is a competency that also appears in ordinary and general people, especially a characteristic that can be learned and developed (Masten, 2001). In addition, resilience as a positive psychological capital challenges the willingness to go beyond the equilibrium point beyond the level of recovery to a normal state, and adversity and trials are also viewed positively, which is an approach to a broader perspective from the existing definition of resilience (Luthans, Youssef & Avolio, 2007). A person with high resilience sees adversity and problem situations as a positive process of creating themselves or for others (Coutu, 2002). In addition, it is said that in the process of going through adversity and problem situations, you can grow further on your own (Luthans, 2002), overcome frustration, and create a chance to have more opportunities or take a leap forward again (Bonanno, 2004).

Activity-Based Strengths

Flow

The concept and definition of flow have been developed by several researchers since it started with the early theory of Csikszentmihalyi (1975). Scholars have various definitions of flow, but the most common opinion is Csikszentmihalyi and Rathunde (1993)'s "subjective experience of reporting

when they are completely involved in something to the point of forgetting everything except the activity itself." Experiencing flow means not having time to feel bored or worry during activities, and it can be expressed as the degree of involvement or immersion in activities that use all the skills one has (Csikszentmihalyi, 1975). In addition, flow is expressed as the best emotion, the best pleasure, and a happy psychological state, which is typically called the form of optimal experience (Csikszentmihalyi, 1990). Individuals can improve their quality of life through repetitive flow experiences and feel greater happiness (Hunter & Csikszentmihalyi, 2003).

Vitality

Vitality is an attitude toward life with a strong sense of vitality and behavioral performance and is a factor with personal attributes promoted or reduced by physical and psychological factors (Ryan & Deci, 2008). Vitality promotes positive emotions and perceptions of the future, and vitality plays a major role in raising optimism and hope for future tasks (Sheldon & King, 2001). Vitality can be defined as a positive feeling of vitality and energy (Ryan & Frederick, 1997), which means a strong motivation and driving force to achieve a specific goal. This means a strong motivation and driving force to achieve a specific goal. This vitality needs to be distinguished from emotions such as pleasure and happiness that simply feel positive emotions,

and is also a different concept from negative awakening such as emotions such as tension and nervousness (Peterson & Seligman, 2004).

Previous studies related to vitality, it is mentioned that vitality is closely related to intrinsic motivation (Deci & Ryan, 1985), enjoyable activity (Laran & Janiszewski, 2011), and a stable social environment (Dutton & Heapy, 2003). According to Ryan and Frederick (1997), vitality increases mental health while also improving personal control (Laran & Janiszewski, 2011). Furthermore, it is stated that vitality promotes productivity when working on jobs that involve cognitive capacity (Choi & Fishbach, 2011) and enhances creativity (Chen & Sengupta, 2014). Previous research (Ryan & Deci, 2000; Sheldon & King, 2001) found that positive experiences or emotions derived from leisure activities had a significant impact on boosting vitality and that vitality is a result of psychological satisfaction, stability, and happiness.

Commitment

According to Becker (1960), commitment refers to people's unwillingness to change their current condition after engaging in a particular conduct for a period of time. “Continuity” and “resistance to change” should be the foundations of commitment. Buchanan (1985) defines leisure commitment as causing an individual to perform a specific behavior and conceptualizes leisure commitment as having an emotional attachment to the

behavior as a result of the commitment. In order to measure psychological commitment, it was divided into four categories by Pritchard et al. (1999) and Iwasaki and Havitz (2004): informational complexity, position participation, volitional choice, and resistance to change. Information complexity refers to the amount of data processing required to build cognitive structures, such as knowledge and concepts about a specific service provider (McQuiston, 1989).

Buchanan (1985) consists of three aspects: commitment and leisure commitment based on the theoretical perspective on leisure behavior. First, leisure commitment requires continuity and at the same time means interest in specific actions and rejection of alternative actions. This was measured by Buchanan (1985) as the amount of experience and includes frequency of participation and number of years participated. Second, commitment includes emotional attachment to specific goals, values, activities, and organizations. This is a social psychological attachment that includes the number of social relationships, opportunities for achievement, psychological centrality, and spontaneity for specific activities. Finally, commitment has a function of 'side bet'. This is an aspect of investment in specific activities. For example, participants who have leisure time to spectate sports invest time and money to spectate. It also includes social

values (e.g., losing friends who enjoy watching activities) that are lost when they stop watching sports.

Future-Oriented Strengths

Self-Control

Kanfer and Karoly (1972) defines self-control as a particular type of self-regulation that reduces competition among responses and changes behavior to pursue new goals by engaging in controlling behavior when there is competition between objectives. A study by Knfer and Karoly (1972) found that self-control behavior was not controlled by external conditions but rather by an individual managing the behavior internally. With self-control, a person controls his or her actions on his or her own under conditions without direct external influence. Mischel and Mischel (1983) called self-control the ability to immediately obtain higher satisfaction or better results that are more attractive but to delay relatively less attractive results or lower satisfaction. According to his claim, acquiring self-control strategies through education will strengthen problem-solving and decision-making skills, and provide individuals with the ability to cope independently with their lives.

Self-control is necessarily self-directed. Therefore, if an athlete is doing high-intensity training on his own to get better achievement, he is in control of himself. In contrast, if his coach implements it in training, the

player is merely abiding by the coach's authority (Eisenberg et al., 2019). Inzlicht et al. (2021) defines self-control as a process for resolving conflicts between two competing choices. Self-control is only involved in resolving conflicts between low-value choices with immediate rewards and high-value but delayed choices (Duckworth et al., 2016a; Fujita, 2011). The ability to put aside what we want to do in the short term in order to achieve something in the long term, as Frankfurt (1988) points out, is what allows us to restrict ourselves. Self-control, according to this viewpoint, is displayed when a person rejects a desire for tiny, immediate benefits in order to reap larger gains later. Self-control is used to resolve the conflict between the short-term aim of consuming good food and the long-term goal of becoming healthy, for example, while selecting between a delicious pudding and a nutritious salad for lunch.

Optimism

Seligman (1998b) stated that optimism refers to a positive belief, attitude, or mindset about the future that good things will happen in the future. Youssef and Luthans (2007) suggested that optimists with positive optimistic thinking have a belief that they can achieve results even in uncertain situations. Optimism is defined as having constant and consistent traits despite the passage of time and the changing environment, with the anticipation that many positive things will occur in the future and few bad

events will occur (Scheier & Carver, 1992). Optimists anticipate good things happening to them, whilst pessimists anticipate unpleasant things happening to them. Due to this difference in attribution, optimists build positive expectations by setting goals and synchronizing approach coping behavior to achieve goals, while pessimists are disturbed by self-doubt and negative expectations (Carver & Scheier, 2002). Ordinary people experience negative emotions such as depression, anxiety, and stress when faced with adversity, but optimistic people feel less psychological pain even in the same situation and adapt better using positive emotions such as humor and acceptance (Scheier et al., 1994). Optimistic people have a significant impact on organizational effectiveness because they can overcome and solve problems at work while being realistic and flexible (Luthans et al., 2007). Optimism in positive psychological capital should involve not only anticipating good things in the future but also considering the causes and characteristics that can help explain why something happened, whether positive or negative, in the past or in the future (Luthans et al., 2004).

Previous studies report that optimism has a positive impact on human life and has a negative relationship with depression and anxiety (Brissette, Scheier, & Carver, 2002). Optimism is also highly associated with mental and physical health (Carver et al., 2010; Rasmussen et al., 2009), and relationship satisfaction (Brissette et al., 2002). The study of optimism has

generally focused on temperamental optimism. On the other hand, it was pointed out that optimism can also be trained or changed (Segerstorm et al., 2011; Shifren & Hooker, 1995), and based on this, optimism is argued that optimism can take a dispositional or state form (Luthans, 2002a; Luthans & Youssef, 2007; Kluemper et al., 2009; Peterson, 2000). Dispositional optimism exhibits stable individual differences, while state optimism can be altered by situational factors (Kluemper et al., 2009). Kluemper et al. (2009) argued that while dispositional optimism improves general positive expectations for the future, state optimism is more likely to benefit from short-term task-related aspects.

Hope

According to Snyder (1994), hope is a positive personal state. People with high hopes try to take the lead in creating new paths to achieve their set goals even when they are in trouble and difficulties, and through this, successful results are obtained (Snyder, 2002). Snyder et al. (1991) define hope as a positive personal state, a positive personal state based on a recognition derived from the interaction of initiatives and successful paths toward goals, that is, plans for achieving goals. According to Hope Theory presented by Snyder (2002), the concept of hope includes both emotional and cognitive aspects, which are conceptualized as the goal, pathway thinking, and future-oriented thinking consisting of the components of

agency thinking necessary to use that path. It is similar to self-efficacy in that it inspires objectives and influences goal behavior; however, it differs from self-efficacy in that it focuses on the process of achieving goals (Bryant & Cvengros, 2004; Carifio & Rhodes, 2002; Snyder, 2002; Youssef & Luthans, 2007). Until now, hope has been mainly identified as a relatively stable trait, but recently a measurement tool has been developed to reflect the state-like characteristics of hope (Snyder et al., 1996), and research is underway to show that hope can be developed through systematic intervention (Luthans & Youssef, 2007).

Hope focuses on the process in which goals are achieved. It evaluates the obstacles experienced in achieving one's goals and the process of establishing alternatives to solve them. For example, it refers to setting challenging goals beyond current capabilities, efforts to achieve larger goals starting with small goals, and the ability to set goals by distinguishing unrealistic and unjust hopes (Snyder & Feldman, 2000). For this reason, people with hope may find more next-best ways to achieve their goals when they encounter obstacles compared to those who are less hopeful due to their flexible thinking and problem-solving skills. Hope in positive psychology is positive emotion for the future, which does not give up in the event of an ordeal, improves workability, and challenges new jobs (Seligman, 2006a).

Figure 2

General factor model of vicarious achievement

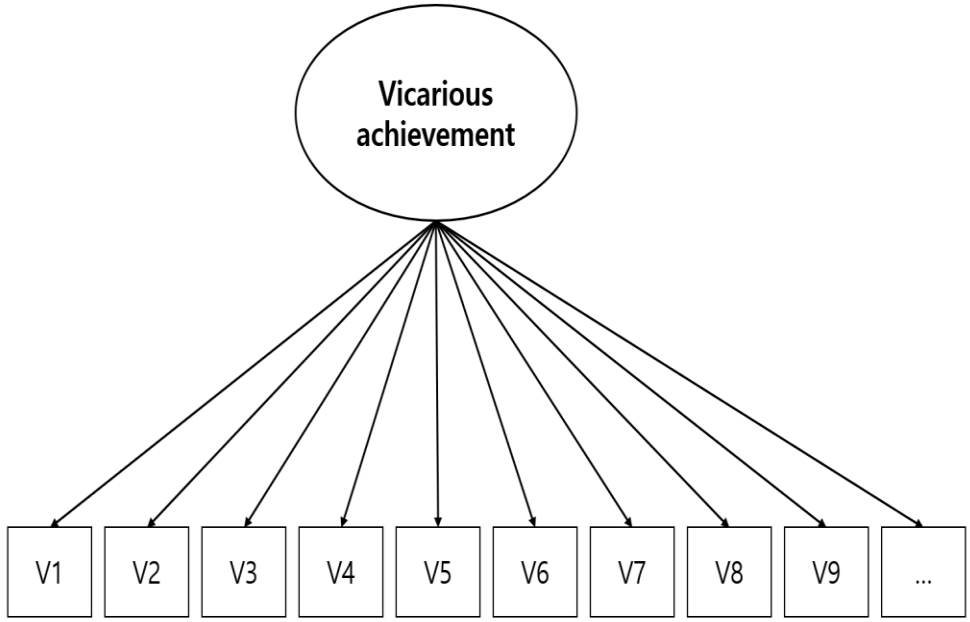


Figure 3

Independent factor model of vicarious achievement

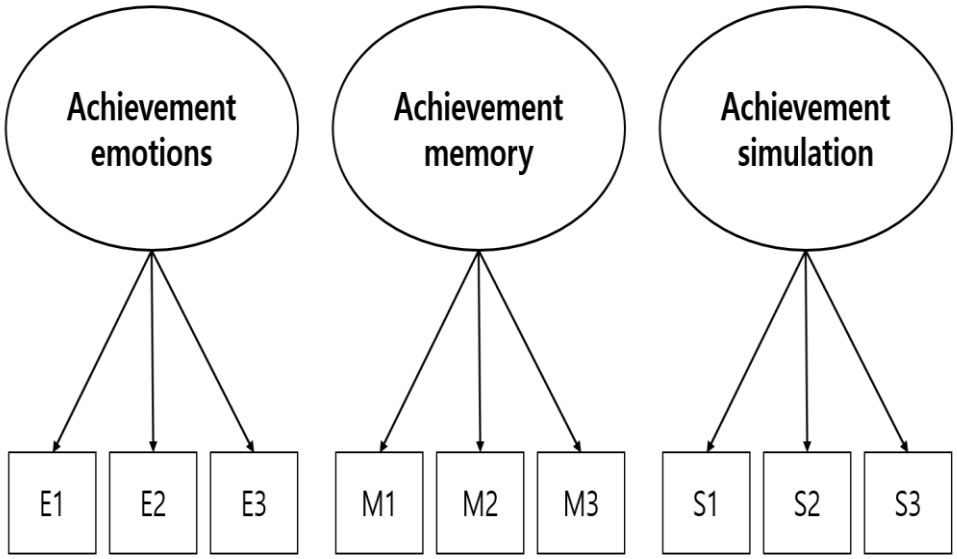


Figure 4

Group factor model of vicarious achievement

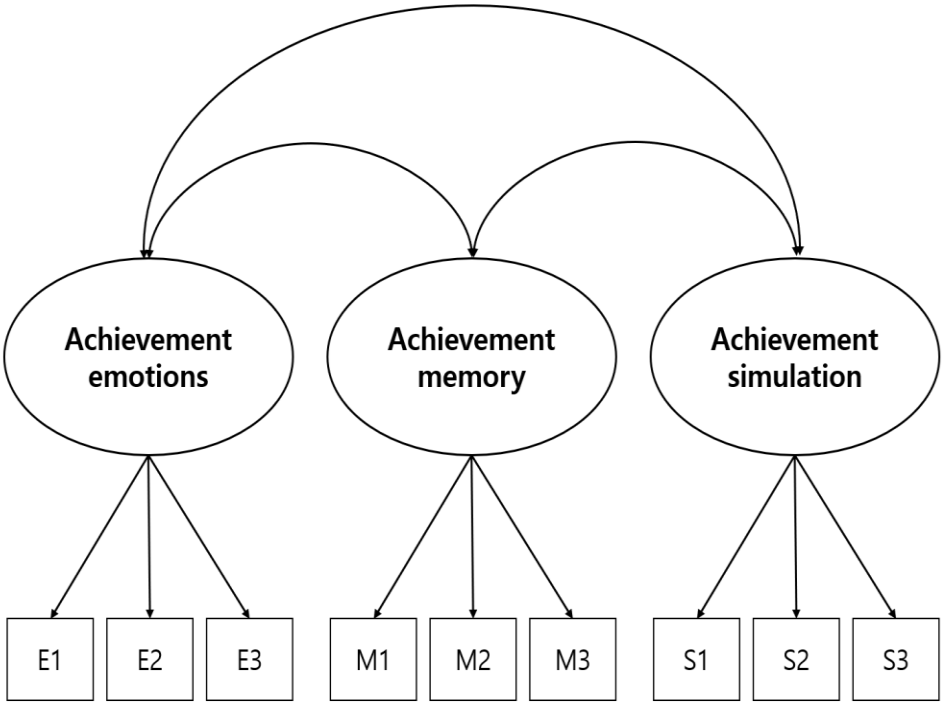


Figure 5

Second-order hierarchical model of vicarious achievement

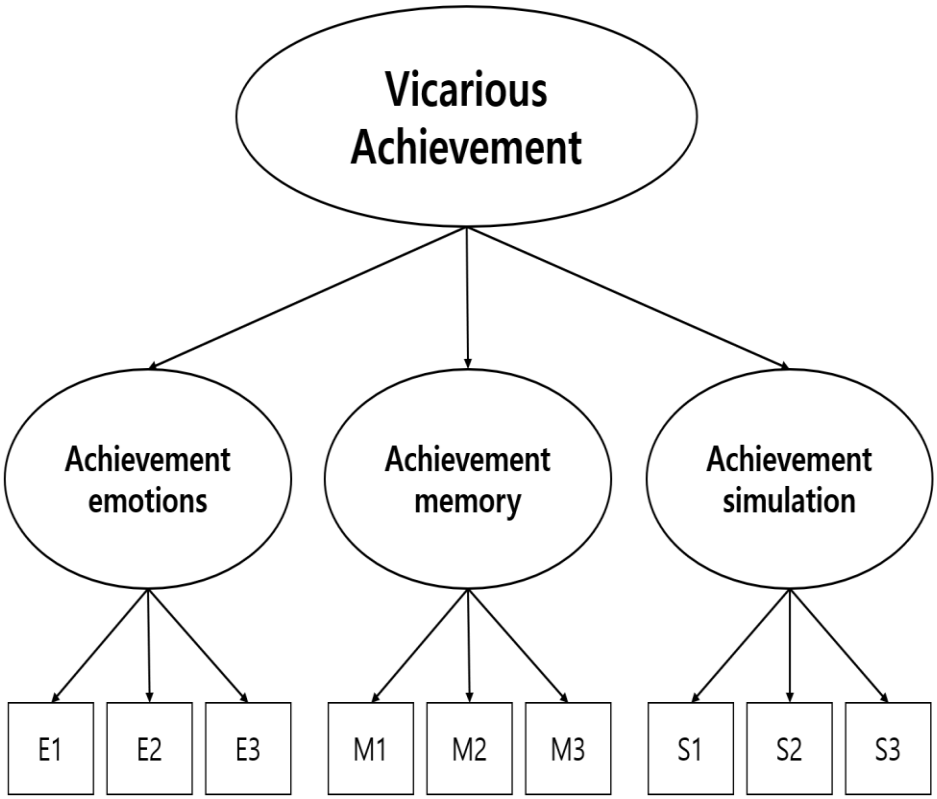
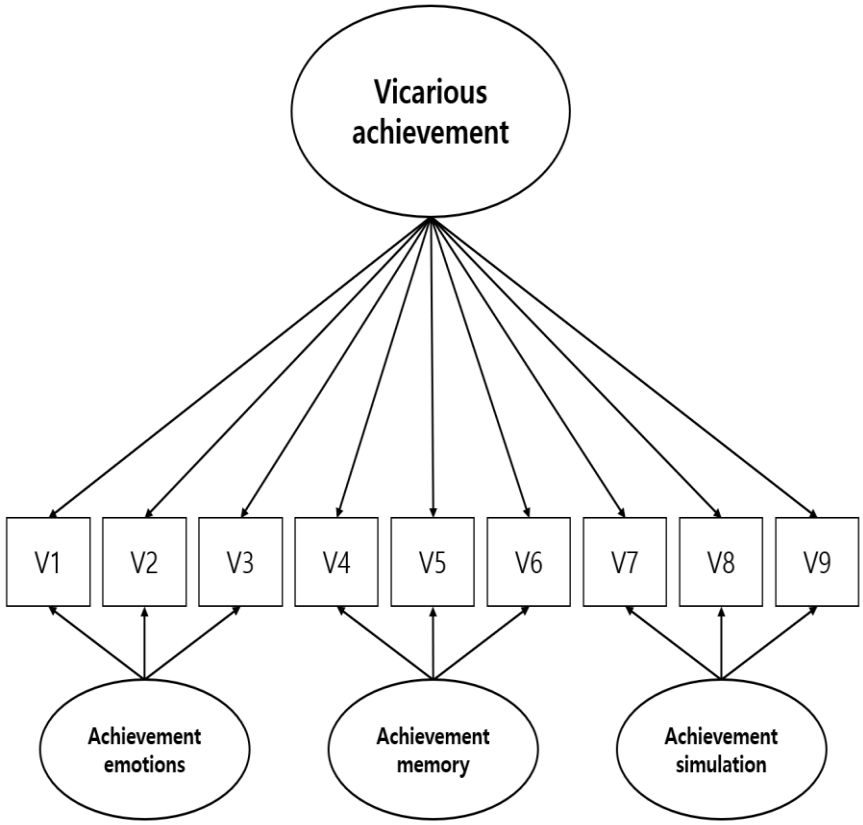


Figure 6

General specific model of vicarious achievement



CHAPTER 3
HYPOTHESES DEVELOPMENT

Vicarious Achievement and Ego-Based Strength

Ego-Based Strength

Ego-based strength consists of the following sub-dimension. Each sub-dimension is developed based on an individual's positive ego. As a result, I expected the vicarious achievement on the assumption below to affect the ego-based strength, which is the higher-order of these three first-order factors.

H1. Vicarious achievement will positively affect Ego-based strength

Self-Esteem

Achievement helps one acknowledge oneself. Bandura (1995) suggests that one of the most important factors influencing self-efficacy is the experience of achievement: individual achievement experiences have a great impact on people's self-esteem. Some researchers have used the term "self-esteem memories" to refer to special occasions in which autobiographical memories focus on self-evaluation and feeling good or bad about themselves (Pillemer et al, 2007). Self-esteem consists of two dimensions—positive and negative (Elliot & Mapes, 2005)—along with overall self-worth, and it is defined as a positive or negative attitude toward oneself (Rogenberg, 1965). Therefore, positive memories of oneself increase

one's self-esteem. Researchers have also continued to try to categorize the content of self-esteem memory. One convincing approach was to classify the content of achievement and excellence into two categories because our actions or motivations in various living situations are primarily focused on achievement goals or social goals (McAdams, 2001; Woike et al., 2003). Since pursuing achievement or completion is a fundamental human motivation and achievement is a means of becoming likable to oneself (Deci & Ryan, 2000; Elliot et al., 2002), the theme of achievement is appropriate as a positive self-esteem memory. For individuals, memories that increase self-esteem were associated with their achievements, and memories that decrease self-esteem were associated with social relationships (Woike et al., 2003). Therefore, recalling one's achievement memory can improve one's positive self-concept. Individuals will be able to increase their self-esteem by remembering their achievements.

Self-efficacy

According to Bandura (1994), self-efficacy can be formed and enhanced through appropriate environmental circumstances. He argues that individual achievement experiences such as performance composition, mastery experience, and active mastery experience can improve self-efficacy (Bandura, 1977, 1995, 1997). In particular, employees who succeeded in their work had higher confidence in performing similar tasks in the future

than those who did not succeed (Bandura, 1997). Previous success experiences form and reinforce self-efficacy, and failure experiences reduce self-efficacy (Eden & Kinnar, 1991). Therefore, the self-efficacy of one's current goal is likely to improve when one thinks of one's achievements in the past once again.

Resilience

Several scholars classified the constituent concept of Resilience in multiple dimensions. This includes the concept of oneself. According to Wangnild and Young (1993), resilience is defined by equanimity, perseverance, self-reliance, meaningfulness, and existential aloneness. Dyer and McGuinness (1996) assume that resilience is composed of rebounding and carrying on, A sense of self, determination, prosocial attitude. Several other studies have shown that resilience includes oneself (Friborg et al., 2005; Wolff, 1995). These constituent concepts serve as the basis for positive self-awareness to have a high level of resilience. In this respect, recalling one's achievement memory is helpful for positive self-awareness. Therefore, it will ultimately affect resilience.

Vicarious Achievement and Activity-Based Strength

Activity-Based Strength

Sub-dimension of activity-based strength were constructed based on previous studies. Each construct shares the characteristic that the activity

itself can develop due to the pleasure it gives. Therefore, it was assumed that the activity-based strength composed of three sub-factors could be improved due to vicarious achievement for the following reasons.

H2. Vicarious achievement will positively affect Activity-based strength

Flow

Autotelic experience is one of the characteristics of flow. This means that flow is an internally rewarded experience that includes pleasure. Therefore, many scholars included playfulness (Trevino & Webster, 1992; Hoffman & Novak, 1996) and positive emotion (Csikszentmihalyi & LeFevre, 1989; Ghani & Deshpande, 1994; Novak et al., 2000) as constituent concepts of flow. Therefore, the positive emotions arising from vicarious achievement will allow sports fans to experience more flow from the game.

Commitment

Schmidt and Stein (1991) applied the commitment model to the sports studies in Kelley's (1983) close relationship. Kelly assumes that for the commission to improve, there should be a positive emotion. The running commitment scale developed by Carmack and Martens (1979) also explained commitment by enjoyment. Scanlan and Simon (1992) stated that in order to have a sports commitment, one must experience engagement through activities. Therefore, the positive emotions gained from the experience of vicarious achievement will affect the commitment of sports fans.

Vitality

Individuals who feel positive emotions interact more actively with others (Clark & Watson, 1988). In addition, it was found that they showed pro-social behavior such as helping and making concessions to others (Hollingshead & Carnevale, 1990), adopted less competitive and more cooperative negotiation strategies during negotiations (Carnevale & Isen, 1986). Lyubomirsky (2008) reported that positive emotions have a positive effect on vitality. Lambert et al. (2011) also discovered that sharing positive experiences has an impact on vitality. They believe that sharing a positive emotion with someone else provides advantages beyond simply experiencing the positive event. Another study discovered that discussing a positive event is linked to better remembering of that event (Gable et al., 2004). These findings serve as the basis for people who feel positive emotions to have more vitality.

Vicarious Achievement and Future-Oriented Strength

Future-Oriented Strength

Future-oriented strength was composed of sub-factors with common characteristics that could be improved by simulation of achievement for the future, that is, positive future expectations. Therefore, Self-control, optimism, and hope, which are sub-factors of future-oriented

strength, will be affected by vicarious achievement for the following reasons. Therefore, the following hypothesis was established.

H3. Vicarious achievement will positively affect Future-oriented strength

Self-control

Emotional control and participation in suitable problem-solving activities are enhanced by the ability to develop concrete and detailed simulations of future events (Brown et al., 2002; Taylor & Schneider, 1989). Prospection is the ability to predict future events (Szpunar et al., 2014). Future predictions enable us to approach our goals by allowing us to have strategies for the future (Szpunar et al., 2014). Consistent and thorough simulations of positive future outcomes are linked to a higher subjective likelihood of favorable outcomes and a lower level of anxiety about future events (Brown et al., 2002). Future simulation allows individuals to enable problem-solving behavior to occur (Oettingen, 1996; Oettingen & Mayer, 2002; Taylor & Pham, 1996), and it makes individual goals configurable and synchronizes them to execute (Pham & Taylor, 1999; Szpunar, 2010). Simulation of the future also helps people anticipate potential obstacles, allowing us to plan accordingly and derive problem-solving methods (Hayes-Roth & Hayes-Roth, 1979; Taylor & Schneider, 1989). For example, participants who simulated details of stressful situations were found to have better active coping strategies compared to those who did not simulate the

situation (Taylor et al., 1998). Visualizing hypothetical outcomes and mentally rehearsing suitable behaviors can improve managing skills in the actual situation (Taylor & Schneider, 1989). Thinking in a combination of reality and virtuality plays an important role in performing real actions because it serves problem-solving and emotion-control functions (Taylor & Schneider, 1989; Pham & Taylor, 1999). The simulation of one's successful future makes one actively think about what to overcome and what efforts to make. By constructing specific and autobiographical future events, people can predict the likelihood of an imagined event, set goals for the event, and even plan step-by-step for goal achievement. Therefore, people will be able to make a more valuable choice for their purposes in the long term.

Optimism

Various studies have led participants to imagine a positive future as an intervention to improve optimism. Meevissen et al. (2011) improved optimism by encouraging study participants to positively imagine events that would happen in their future. Peters et al. (2010) confirm that Best-Possible-Self intervention affects positive expectations for the future regardless of mood. People can mentally write and carry out scenarios of the potential to achieve goals (Taylor & Pham, 1996). Positive imagination can affect positive expectations for the future by mentally carrying out one's success scenario (Rasmussen et al., 2006). These scenarios are more effective if

specific processes are used explicitly to reach the goal (Taylor et al., 1998). The vividness of the positive image of the future was significantly related to the person's level of optimism (Blackwell et al., 2013). Participants trained through positive image training in various studies have led to more positive interpretation of vaguely mixed sentences (Pictet et al., 2011; Torkan et al., 2014). Therefore, watching sports, which can observe a clear and vivid achievement scene, is suitable as a medium for imagining a positive future.

Hope

observing others' achievements can also be seen as the act of sharing the experience with socially successful people. Upward social comparisons can improve one's situation and increase motivation (Taylor & Lobel, 1989). Upward social comparisons facilitate to achieve goals by stimulating self-improvement motivation (Festinger, 1954). Self-improvement motivation will improve agency thinking to continue moving toward the goal.

The sports fan projects the athlete overcoming various environments and difficulties by watching the sports competition as if he were himself. Through this, as a result, Individuals can improve pathway thinking by imagining themselves as successful or thinking that the player is one's self.

CHAPTER 4
METHODS

This study was designed into two studies. The purpose of the first study is to identify how the winning of the supporting team is connected to sports fans. The second study aims to ensure that hypotheses based on theory are consistent with actual data.

Instrumentation

Vicarious achievement constructs, personal strengths, and demographics were the three key sections of the questionnaire. Items in each section were randomly positioned to minimize response bias due to the order effect. The following steps were included in the instrumentation process: (1) item selection and modification, (2) expert review, (3) Back translation, and (4) pilot study are the four steps in the process.

Item Development

To create a reliable and valid scale to test research hypotheses, the first step is to develop a set of items related to seven main constructs in a reduced version of the research model (i.e., vicarious achievement emotions, achievement memory, achievement imagination, experience based strengths, activity based strengths, future oriented strengths). The current study also calls for the modification of original items in previous studies in sport spectating context.

Vicarious Achievement

The first component of the test, which measured vicarious achievement, had three subdomains (Vicarious achievement emotions, Achievement memory, and Achievement simulation), total 25 items. Despite the fact that most measures of the vicarious achievement constructs analyzed are available in the existing literature, the items used to measure the components were inconsistent between research. The items chosen were thought to be the most relevant for this study and had strong psychometric qualities. The pieces were then modified to fit the spectator sport context.

Two items from Wu et al. (2012), two items from Trail and James (2001), and four items from Pekrun et al. (2011) were chosen and revised to evaluate Vicarious achievement emotions, respectively. Five items from Rubin et al. (2003), two items from Boyacioglu and Akfirat (2015), and two items from Talarico et al. (2003) were used to measure Achievement memory. The items were modified. Five items from Zabelina and Condon (2020), two items from D'Argembeau and Van der Linden (2012), one item from Vess et al. (2018) were selected and those were reworded to measure Achievement simulation.

The number of response categories can have an impact on the results (Groves, et al., 2004). When there are too few possibilities, the rating scale typically fails to distinguish between people who have differing underlying

judgments. When there are too many options, it's possible that participants won't be able to tell the difference between them. The optimal compromise, according to response theory literature, is seven scale points (Krosnick & Fabrigar, 1997). As a result, all items were graded on a 7-point Likert-type scale. On this scale, point 1 indicated strong disagreement, point 7 showed strong agreement, and point 4 expressed neither agreement nor disagreement with a statement.

Personal Strengths

The second section measuring vicarious achievement outcome variables has three sub-domains (Ego-based strengths, Activity-based strengths, and Future-oriented Strengths), with each sub-scale having three sub-scales (Ego-based strengths: Self-esteem, Self-efficacy, and Resilience; Activity-based Strengths: Flow, Vitality, and Commitment; Future-oriented Strengths: Self-control, Optimism, and Hope) with 69 items.

Four items from Tsai et al. (2014), one item from, Schwarzer and Jerusalem (1995), two items from Luszczynsk et al. (2005) were chosen and the items were modified to measure Self-efficacy. In order to measure Self-esteem, an adapted version of the Rosenberg Self-esteem (RSE; Rosenberg, 1965) is used to measure sport fans' self-esteem comprised of nine-items. Five items from Smith et al. (2008), two items from Connor and Davidson (2003) were selected and revised to measure Resilience. Four items from

Rouse et al. (2015), two items from Ryan and Fredrick (1997) were chosen and modified to measure Vitality. Three items from Bakker (2008), six items from Jackson and Marsh (1996) were chosen and revised to measure Flow. Six items from Scanlan et al. (1993), two items from Kyle and Mowen (2005), two items from Pritchard et al. (1999) were chosen and modified to measure Commitment. Six items form Tangney et al. (2004), three items from Nilsen et al. (2020), one item from Baumeister (2002) were employed and revised to measure Self-control. Two items from Coelho et al. (2018), three items from Scheier and Caver (1992), one item from Millstein et al. (2019) were chosen and modified to measure Optimism. Three items from Snyder et al. (1996), two items from Sympson (1999), were selected and reworded to measure Hope.

Despite the extensive utilization of outcome variables in academic research and practice, few appear to use multiple indicators in this study. Because single-indicator construct measures are easily influenced by measurement error, multiple-indicator construct measures are preferable. Using many indicators decreases the impact of measurement mistakes (Kline, 2005). As a result, a multi-item measure of personal strengths was created and employed in this research. All of the Vicarious achievement outcome items were measured using a seven-point Likert-type scale with responses ranging from strongly disagree (1) to strongly agree (7).

Demographics

The questionnaire will also include items that measure the demographic features of the individuals. Gender, age, education, and monthly income will be measured by the questions.

Expert Review

The items were examined by a three-judge panel of scholars with experience in both the topics being measured and the methods used in survey research. The experts were asked to look over the survey items to verify if the measurement item content was acceptable for assessing the targeted constructs and if any of the following common survey questionnaire errors were present (Grasser et al., 1999). The survey questionnaire was produced for a pilot research after adding additional topics that had previously been excluded and revising or deleting problematic items depending on the expert review's conclusions.

Back translation

In this study, the questions developed in English were translated into Korean. In this process, two bilingual graduate students and researchers went through several meetings on the content of the question. After the translation was completed, the translated questions were re-translated into English. Through the back-translation process, it was possible to minimize the difference between the survey questions of the English version and the

Korean version (Brislin, 1970). Finally, as a result of comparing the two survey questions, it was possible to determine that the two forms of questionnaires were conceptually the same.

Pilot Study

The pilot study was conducted to identify the validity of the developed items and expected potential problems in the main study. Specifically, in this stage, the validity of the stimulus to be used in the main study and the developed measurement scales was evaluated.

Methods

Stimulus development and pretest

A pretest was conducted to develop stimulus material that adequately manipulates the vicarious achievement. The winning clip of the Olympic women's volleyball team was selected as a stimulus. The Korean women's volleyball team has enhanced its image due to their excellent performance since the Tokyo Olympics in 2021. Therefore, it was expected that the study participants could feel vicarious achievement more easily. The men's baseball team's defeat video was chosen as the losing stimulus.

A total of 60 participants were collected to determine whether video give appropriate stimuli to study participants. On the internet, 60 participants were randomly assigned to the group (31 wins, 29 losses). For three minutes, participants in the winning group watched the victory clip of the Korean

national team, while those in the losing group viewed the defeat clip. The video was edited and presented in such a way that the reasons for the game's win and loss could be clearly seen. After that, the participants answered questions about their feelings after watching the video and a single question (7-point Likert type) about their memory and imagination. The questions about memory and imagination first instructed them to try memory recollection and imagination of their achievement. After that, time was given to write down the brief contents of recollection and imagination. As a result of the study, fans who watched the victory video experienced more achievement emotions than the losing group. In addition, higher results were found in achievement memory recollection and imagination (Table 1). Therefore, it was confirmed that the stimulus generated the participant's experience of vicarious achievement at an appropriate level.

Participants and Procedure

After obtaining approval from the Seoul National University Internal Review Board (IRB # 2107/003-011), a total of 135 participants were recruited via online survey mode. Participants responded to the survey after reading the instruction related to the experiment according to the IRB protocol. Participants were required to watch the stimulus material for a 3 minutes before continuing to answer questions regarding the participants' vicarious achievement (emotions, memory, simulation), personal strengths

(ego-based strengths, activity-based strengths, future-oriented strengths), and demographics (age, education, income, gender) were collected. It took approximately 15 minutes for respondents to complete a questionnaire.

Table 2 shows that the demographics of pilot study. The gender of the study participants was male (51.1%), female (48.9%). The age groups were 20s (75.6%), 30s (22.2 %), 40s (0.7 %), 50s and older (1.5 %). Education level was in the order of high school graduation (62.2%), university graduation (23.7%), and graduate school graduation (14.1 %).

Instruments

The questionnaire composed to three main parts (vicarious achievement, personal strengths, demographics) with 12 subscales and 98 items for the pilot study.

Data Analysis

To evaluate the measurement models for vicarious achievement constructs and personal strengths, two separate Confirmatory Factor Analyses (CFA) were conducted on each group of factors using AMOS 25.0.

Results and Discussion

A three-step approach was used to assess the validity of measurement models. Individual item dependability was first established by looking at the outer loadings. Items from each of the inter-dependence and independence measures that did not match the criteria were removed from

the model during the initial evaluation. The model was also deleted since the cut-off point of 7 exceeded (Hair et al., 2011). All factor loading values exceeded .70 after the items were removed.

Composite reliability ratings were used to assess internal consistency (CR; Fornell & Locker, 1981). All of the Cronbach's *a* and CR values were over the.7 criterion. The Average Variance Extracted (AVE) for each concept was examined to determine convergent validity. The proposed cut-off threshold of.5 was exceeded by all AVE values. Table 3 and 4 summarizes the findings of the model analyses. Furthermore, the construct's squared AVE values were higher than the construct's inter-correlations with other constructs in the model (Table 5 and 6). As a result, the variables were shown to have discriminant validity.

Based on the psychometric qualities and theoretical relevance of the items, a total of 41 were deleted from the pilot study. The main study's instrument included 42 items: 11 for vicarious achievement, 27 for personal strengths, and 4 for demographics.

Main Study

The main study was conducted through the same process as the pilot study. Participants in the study used data collected from panels of Embrain, a Korean data statistics company. Embrain is the only Korean data company listed on the stock market and has more than 1.48 million survey panels.

Therefore, the data collected through them can be considered a representative sample. The population was set as Korean citizens interested in sports. As a result, only those who indicated that their interest in sports was 4 points or above on a 7-point scale were allowed to participate in the survey. The main research was carried out in three stages. First, the data was evaluated using descriptive statistics, and the data's characteristics were identified. Second, the constructs validity of vicarious achievement and personal strengths were checked through the measurement model. Finally, a test was conducted on the hypothesis established through the structural model.

Data Analysis

In this study, I utilize both Covariance based SEM and Partial Least Square-based SEM. The reason is that it is important to select CB-SEM and PLS-SEM according to the characteristics of the study (Hair et al., 2012b). CB-SEM is more suitable for models that are deeply rooted in an established theory while PLS-SEM is more suitable exploratory nature. CB-SEM uses the maximum likelihood (ML) estimation method, while PLS-SEM uses the Ordinary Least Square (OLS) method. Therefore, data are used to estimate the relationship of paths for the purpose of minimizing the error term in the endogenous construction within the model. Due to these characteristics, it has strong advantage for prediction (Hair et al., 2011). Therefore, PLS-SEM is

more suitable when the explanation of theoretical development and variance is for research purposes (Hair et al., 2019).

CB-SEM has the advantage of confirming the consistency of theory and data in measuring vicarious achievement, and PLS-SEM has the advantage of estimating the relationship between them, so the analysis was conducted using both methods.

Descriptive Statistics

To summarize the essential properties of the data in this study, SPSS 25.0 was used to generate a variety of descriptive statistics. I calculated measures of central tendency (e.g., mean, median) as well as measures of variability (e.g., standard deviation, etc.).

Measurement Model

To test the measurement models using AMOS 25.0, two different confirmatory factor analyzes were performed in the proposed model. Specifically, the overall model was determined using the model fit, and the internal consistency, convergent validity, and discriminant validity were confirmed. Unlike CB-SEM, PLS-SEM does not have a standard goodness-of-fit statistic (Henseler & Sarstedt, 2013). Three step-approach were conducted to evaluate the measurement models using SmartPLS 3.3.3 (Hair, 2011). In PLS-SEM, measurement and structure are evaluated based on the nonparametric evaluation criterion (Hair et al., 2011).

Internal Consistency

Internal consistency was evaluated by Composite Reliability (CR) and Cronbach's alpha coefficient. In general, CR values and Cronbach's alpha coefficients are acceptable if they are over .7 point.

Convergent Validity

Convergent validity was confirmed by outer loadings and Average Variance Extracted (AVE). Outer loading is generally acceptable if it is .7 or more. AVE is a value obtained by dividing the square value of the factor loading amount of the constituent concept measurement indicators by the number of measurement indicators and can be used when it is .5 or more. (Fornell & Locker, 1981).

Discriminant Validity

Discriminant validity was evaluated using the criteria of Fornell and Locker (1981). If the square root of each construct AVE value is higher than the highest correlation with other constituent concepts, it is considered that the discriminant validity determined

Structural Model

CB-SEM

To examine the vicarious achievement constructs and personal strengths, a structural regression model, which incorporated the three vicarious achievement constructs (Achievement emotions, Achievement

memory, achievement, and simulation) and the nine personal strengths constructs (Self-efficacy, Self-esteem, Resilience, Flow, Commitment, Vitality, Self-control, Optimism, and Hope), was conducted using AMOS. 25.0.

PLS-SEM

To test proposed hypothesis relationship between vicarious achievement constructs and personal strengths, which incorporated the three vicarious achievement constructs (achievement emotions, achievement memory, achievement simulation), was performed using SmartPLS 3.3.3.

Multicollinearity

Normally, when the tolerance limit is 0.1 or less and the variance inflation factor is 10 or more, it is determined that there is a collinearity problem. In the PLS structural equation, in order to identify potential collinearity problems for each factor, the tolerance limit is 0.2 or more and the variance expansion factor is 5.0 or less as a standard (hair et al., 2011). If more values appear, integration into a single constituent concept should be considered to solve the problem.

Examine Size and Significance of Path Coefficients

Calculating the path coefficients enables testing the hypothesized relationships. The path coefficient is a standardized value between +1 and -1. However, it rarely approaches +1 or -1. It can be evaluated that the closer the

path coefficient value is to 0, the weaker the dependent (endogenous) variable is to be predicted, and the closer it is to the absolute value 1, the stronger the dependent variable is to be predicted (Hair et al., 2020).

Coefficient of Determinant

The most commonly used evaluation values for evaluating structural models are the same as multiple regression models. R^2 is a metric for all endogenous structure predictions made in-sample. The prediction is only a measure of the predictive power of the data sample used to produce the findings, and it should not be extrapolated to the full population (Rigdon, 2012; Sarstedt et al., 2014).

Effect Size

The effect size is a measure of the predictive capacity of each independent variable in the model. This value compares the including R^2 of the predictor with the excluding R^2. The effect size is divided into three categories: small, medium, and large. The effect size is divided into three categories: small, medium, and large. Small effects are defined as values from .02 to a maximum of .15, medium effects are defined as values from .15 to a maximum of .35, and large effects are defined as values of .35 or higher (Cohen, 1988).

Predictive Relevance Q^2

The Q^2 value is used to evaluate predictive power and is calculated

through a blindfolding procedure (Geisser, 1974; Stone, 1974). Some scholars consider this value to represent an estimate of the out-of-sample predictive power (Hair et al., 2020). When interpreting Q^2, numbers greater than 0 indicate predictive significance, while values smaller than 0 indicate no predictive relevance. In addition, if the Q^2 value is greater than .25 and .50, it indicates the middle and large prediction importance of the PLS-SEM model, respectively.

PLSpredict

The predictive validity metrics of R^2, f^2, and Q^2 are useful for evaluating the predictive capabilities of a model based on data in a sample (Sarstedt et al., 2014). Intra-sample predictions, on the other hand, estimate the model and predict using the same sample, therefore the model's predictive capacity may be inflated. This method may be restricted in its ability to predict data outside of the original sample (Hair et al., 2020). Shmueli et al. (2016) provided a method of evaluating out-of-sample predictions when using PLS-SEM. This method first estimates the model from the sample and then predicts other data from a separate hold-out sample using the output of the model.

PLSpredict first divides the entire sample into subgroups of the same size. If the entire sample is split into 10 groups, the number of subgroups is k, and k = 10. Then, using this method, nine subgroups (k-1) are chosen and

merged into a single analytic sample. Following this step, data for each respondent in the sample is predicted using an analysis sample that does not include the respondent's data for model result estimate. When interpreting PLSpredict results, the main endogenous structure of the theoretical model should be emphasized, not prediction errors for all endogenous structures. The , Q^2_{predict} statistic should be examined first once the major endogenous construct has been chosen to ensure that the predictions outperform the most naive benchmark. When the indicator means from the analysis sample are used to forecast the holdout sample, the naive value is generated (Shmueli et al., 2019). Researchers can explore the various prediction statistics if the prediction results are better than the null value (above 0).

Table 1

Manipulation check results

Descriptor	Mean Difference (win-lose)	Standard deviation	t-value
Achievement emotions	3.80	.36	10.29
Achievement memory	1.03	.37	2.67
Achievement simulation	.64	.29	2.22

Table 2

Demographic characteristics of pilot study participants

Variable	Group	n	%
Gender	Male	69	51.1
	Female	66	48.9
Age	20-29	102	75.6
	30-39	30	22.2
	40-49	1	0.7
	50+	2	1.5
Education	Highschool	84	62.2
	University	32	23.7
	Graduate School	19	14.1

Table 3

Pilot study vicarious achievement measurement model results

Factors and items	Factor Loading	CR	α	AVE
Achievement emotions		.83	.81	.61
I feel proud when the team play well	.78			
I feel a personal sense of achievement when my favorite team does well	.79			
I feel enjoyment when the team play well	.79			
Achievement memory		.93	.93	.77
As I remember the event, I feel as though I am reliving it	.89			
As I remember the event, I can feel now the emotion I felt then	.87			
While remembering the event, I feel that I travel back to the time when it happened	.89			
While remembering the event, I feel that the same particular emotions I felt at the time of the event	.88			
Achievement simulation		.90	.90	.69
While I imagine the event, I feel that I am traveling forward to the time when it will happen	.71			
I imagine the future achievement vividly	.96			
I imagine the future achievement clearly	.93			
When I imagine my future achievement, I like to plan its details	.71			

Table 4

Pilot study personal strengths measurement model results

Factors and items	Factor Loading	CR	α	AVE
Self-efficacy		.89	.89	.74
I will be able to achieve the goals that I have set for myself	.86			
Even when things are tough, I can perform quite well	.81			
I believe I can succeed at almost any endeavor to which I set my mind	.91			
Self-esteem		.91	.90	.77
I think I am doing well	.95			
I feel I have much to be proud of	.77			
On the whole, I am satisfied with myself	.91			
Resilience		.92	.91	.79
I tend to bounce back quickly after hard times	.95			
It does not take me long to recover from a stressful event	.79			
I usually come through difficult times with little trouble	.93			
Flow		.83	.83	.62
I feel happy when I am watching sports	.83			
My attention focused entirely on when I was watching sports	.76			
I think watching sports is rewarding	.77			
Vitality		.92	.92	.79

Factors and items	Factor Loading	CR	α	AVE
I feel alive and vital	.83			
I feel I have a lot of energy	.92			
I have energy and spirit	.92			
Commitment		.88	.85	.71
I want to keep watching sports	.82			
It is hard for me to quit watching sports	.77			
I dedicate to watching sports	.93			
Self-control		.83	.83	.63
I am good at resisting temptation	.82			
I never allow myself to lose control	.81			
I can concentrate even with many disturbance	.75			
Optimism		.84	.84	.64
When I think about the future, I am positive	.86			
I am always optimistic about my future	.70			
The future is looking bright to me	.84			
Hope		.85	.85	.66
I am energetically pursuing my goals	.81			
There are lots of ways to succeed	.85			
I am meeting the goals that I have set for myself	.78			

Table 5

Correlations among vicarious achievement constructs in pilot study

	1	2	3
Achievement emotion	1.00		
Achievement memory	.46	1.00	
Achievement simulation	.34	.46	1.00

Table 6

Correlations among personal strengths constructs in pilot study

	1	2	3	4	5	6	7	8	9
Self-efficacy	1								
Self-esteem	.63	1							
Resilience	.45	.58	1						
Flow	.35	.21	.14	1					
Vitality	.46	.73	.37	.49	1				
Commitment	.36	.23	.15	.87	.39	1			
Self-control	.57	.52	.41	.36	.37	.31	1		
Optimism	.61	.76	.55	.40	.76	.34	.45	1	
Hope	.69	.67	.48	.39	.62	.45	.66	.84	1

CHAPTER 5
RESULTS

The following is the order in which the study's results are presented: (1) Descriptive statistics (2) Data screening (3) Measurement models (4) Structural models.

Descriptive Statistics

Demographics

Demographic characteristics of participants (N = 634) are depicted in table 7. The gender of the participants was male 235 (37.1%) and female 399 (62.9%). The average age of the participants was 37 years old (M = 37.01, SD = 10.50). The education level of the participants was University graduation 454 (71.6 %), High school graduation 126 (19.9 %), Graduate school 53 (8.4), Under middle school 1 (0.2%).

Vicarious Achievement Variables

Table 8 shows descriptive data for vicarious achievement variables. Vicarious achievement item had a mean of 4.88 to 6.41. The standard deviations varied between 0.88 to 1.44. On the 7-point Likert type scale, the items for achievement emotions had the highest means. The lowest means were seen in the item achievement memory. The highest mean (M = 6.41, SD = 0.88) was for “I feel proud when the team plays well.” The lowest mean (M

= 4.88, SD = 1.44) was for “While remembering the event, I feel that I travel back to the time when it happened”.

Personal Strengths Variables

Ego-Based Strengths

The descriptive data for Ego based strengths variables are shown in table 9. The average score for the ego based strengths item ranged from 4.71 to 5.35 The standard deviations ranged from 1.10 to 1.44 points. The items indicating self-efficacy had the highest means on the 7-point Likert type scale. “I believe I can succeed at almost any endeavor to which I set my mind” In the item self-esteem, the lowest means were seen. “I feel I do have much to be proud of.”

Activity-Based Strengths

Table 10 presents the descriptive statistics for the activity based strengths factors. For activity based strengths item, the mean score ranged from 4.29 to 5.12. The standard deviations varied between 1.18 and 1.54 On a 7-point Likert type scale, the items showing flow had the highest mean. “I feel happy when I am watching sports.” The lowest means were found in the item commitment. “It is hard for me to quit watching sports.”

Future-Oriented Strengths

The descriptive statistics for the future oriented strengths variables are shown in Table 11. The mean score for the Future oriented strengths

category ranged from 4.74 to 5.26. The standard deviations ranged from 1.15 to 1.36 points. The items demonstrating hope earned the highest mean on a 7-point Likert scale. " There are lots of ways to succeed." In the item self-control, the lowest means were discovered. " I can concentrate even with many disturbance."

Covariance Based Structural Equation Modeling

Measurement Model

Vicarious Achievement Variables

I first set the general-specific model to the test, which included one general component of vicarious achievement and three domain-specific dimensions: achievement emotions, achievement memory, and achievement simulation (Table 12). The second-order factor model was then put to the test. After that, I compared the general-specific and second-order factor models. Second-order factor models are nested within general-specific models, according to previous research (Rindskopf & Rose, 1988; Yung et al., 1999). To statistically compare the two alternative models, an x^2 difference test was used. The data fit well with the general-specific model (S-B x^2/df = 63.79/34 = 1.87, RMSEA = .03, and CFI = .99). The second-order hierarchical model showed adequate fit (S-B x^2/df = 127.22/41 = 3.10, RMSEA = .05, and CFI = .98). The x^2 difference test for comparison of the general-specific model and the second-order factor model significant (adjusted S-B x^2difference(7) =

63.43). As a result, the general-specific model was selected for investigation (Table 14).

Structural model

Figure 7 and table 17 show the proposed model for studying the relationship between vicarious achievement and Ego-based strengths, activity-based strengths, and future-oriented strengths. The model fit the data well (S-B x^2/df = 1860.07/618 = 3.01, RMSEA = .05, and CFI = .94). Table 0 indicated that general vicarious achievement significantly affect the general ego-based strengths (γ =.16), activity-based strengths (γ =.13), and future-oriented strengths (γ =.11). sub-domains of vicarious achievement also significantly affect general ego-based strengths, activity-based strengths, and future-oriented strengths. Achievement emotions significantly affect ego-based strengths (γ =.29), activity-based strengths (γ =.32), and future-oriented strengths (γ =.35). Achievement memory have significant effect on ego-based strengths (γ =.56), activity-based strengths (γ =.57), and future-oriented strengths (γ =.57). Achievement simulation significantly affect ego-based strengths (γ =.74), activity-based strengths (γ =.60), and future-oriented strengths (γ =.57).

There are another models for sub-domains of personal strengths. Figure 8 indicated that another hypothesized model. The model fit the data was good (S-B x^2/df = 1811.63/618 = 2.93, RMSEA = .05, and CFI = .94).

the path coefficient between the bifactor-specific model of vicarious achievement and sub-domains of personal strengths is in Table 18. Specifically, general vicarious achievement significantly affects self-efficacy (γ =.25), self-esteem (γ =.11), flow (γ =.28), commitment (γ =.21), self-control (γ =.11), hope (γ =.11) but there was not significant effect on resilience (γ =.04), vitality (γ =.08), optimism (γ =.06). Achievement emotions significantly affect self-efficacy (γ =.28), self-esteem (γ =.25), resilience (γ =.22), flow (γ =.29), commitment (γ =.17), vitality (γ =.25), self-control (γ =.23), optimism (γ =.36), and hope (γ =.33). Achievement memory significantly affect self-efficacy (γ =.39), self-esteem (γ =.52), resilience (γ =.48), flow (γ =.34), commitment (γ =.29), vitality (γ =.53), self-control (γ =.49), optimism (γ =.51), and hope (γ =.54). Achievement simulation significantly affect self-efficacy (γ =.60), self-esteem (γ =.66), resilience (γ =.56), flow (γ =.32), commitment (γ =.31), vitality (γ =.55), self-control (γ =.46), optimism (γ =.64), and hope (γ =.68).

Partial Least Square Structural Equation Modeling

Vicarious Achievement

Assessment of the First-Order Items

Internal consistency, convergent validity, and discriminant validity were assessed to confirm the validity of the vicarious achievement measurement model. Composite reliability and Cronbach's alpha coefficients

were used to assess internal consistency. The CR value of vicarious achievement ranged from .93 to .95 and Cronbach's alpha coefficients value of all sub-dimension of vicarious achievement was .93. CR values and Cronbach's alpha coefficients of all constructs were shown to exceed cut-off points (Hair et al., 2011). Convergent validity was evaluated by the AVE value. AVE value of vicarious achievement ranged from .78 to .83. Therefore, the measurement of vicarious achievement is confirmed to have enough convergent validity (Table 19). To evaluate discriminants validity Fornell and Locker's (1981) method was used. The squared AVE values of the constructs were greater than the inter-correlations of the construct with other constructs within the model thus, the constructs displayed discriminant validity.

Assessment of the Higher-Order Scale.

Table 20 shows the results of the second-order evaluation. The CR and AVE of the higher-order scales are obviously more than.70 and.50, respectively, indicating that they are reliable higher-order measures.

Personal Strengths

Assessment of the First-Order Items

Composite reliability and Cronbach's alpha coefficients were used to assess the internal consistency. The Cronbach's alpha values of Personal strengths ranged from .85 to.93, while the CR value of vicarious

achievement varied from .89 to 95. All constructs had CR values and Cronbach's alpha coefficients that exceeded cut-off marks (Hair et al., 2011). The AVE value was used to determine convergent validity (Table 21). Fornell and Locker's (1981) technique was utilized to assess discriminant validity. The components' squared AVE values were bigger than their inter-correlations with other constructs in the model, indicating that they had discriminant validity.

Assessment of the Higher-Order Scale.

The results of second-order evaluation are presented in Table 22 and Figure 9. Each strength clearly indicates that the higher-order scales' CRs and AVEs are more than.70 and.50, respectively, indicating that the higher-order scales have reliable convergent validity. Third-order assessment are shown in table 23. Personal strengths show that the CR greater than .70 and AVE value was .50.

Structural Models

Structural Model Evaluation of a Third-Order Factors

The evaluation of the structural model was conducted based on the six-step evaluation criteria of the Confirmatory Composite Analysis proposed by Hair et al. (2020). First, the collinearity of the structural model was evaluated. First, the collinearity of the structural model was evaluated (Hair et al., 2011). The second step was to examine the size and significance

of path coefficients. This procedure allows the hypothesized relationships between the constructs to be tested. The path coefficients are standardized values ranging from +1 to 1, but seldom approaching +1 or 1. This is especially true in complicated models when the structural model has numerous independent components. In this model path coefficients were .61 and paths was significant (Table 24; Figure 10). Third step was to evaluate R^2 value. R^2 value in this model was .38 and it was significant. Forth step was confirm effect size of the model. f^2 values of in this model was .61. According to Cohen (1988), vicarious achievement shows a large effect size on the personal strengths. The fifth step was evaluate the Q^2 value. Q^2 values were .18 (Table 25). Finally, PLSpredict analysis were used confirm Q^2_{predict} statistics. Q^2_{predict} value ranged from .07 to .62.

Structural Model Evaluation of Three Second-Order Factors

When assessing the measurement model, the personal strengths did not show sufficient convergence validity. Therefore, the path model assuming that the personal strengths are each of the three strengths was examined. This approach was carried out in the same way as the third-order factor evaluation. path coefficients were ranged from .52 to 59 and all values were significant (Table 26; Figure 11). R^2 value ranged from .27 to 34 and all values were significant. f^2 values ranged from .37 to 53. The Q^2 value ranged from .16 to .22 (Table 27). Q^2_{predict} ranged from .06 to .54.

Structural Model Evaluation of Nine Factors of Personal strengths

The influence on each dependent variable was investigated to determine how vicarious achievement influences each component of personal strength. Path coefficients were ranged from .38 to .59 and all values were significant (Table 28; Figure 12). R^2value ranged from .15 to 35 and all values were significant. f^2 values ranged from .17 to 55. The Q^2 value ranged from .11 to .30 (Table 29). Q^2_{predict} ranged from .10 to .66.

Table 7

Demographic characteristics of participants

Variable	Group	n	%
Gender	Male	235	37.1
	Female	399	62.9
Age	20-29	186	29.3
	30-39	206	32.5
	40-49	153	24.1
	50-59	74	11.7
	60+	15	2.4
Education	Middle school	1	.2
	High school	126	19.9
	University	454	71.6
	Graduate School	53	8.4

Table 8

Descriptive statistics for vicarious achievement

Factors and items	*M*	*SD*
Achievement emotions		
I feel proud when the team play well	6.41	.87
I feel a personal sense of achievement when my favorite team does well	6.18	1.09
I feel enjoyment when the team play well	6.31	0.95
Achievement memory		
As I remember the event, I feel as though I am reliving it	5.08	1.32
As I remember the event, I can feel now the emotion I felt then	5.28	1.33
While remembering the event, I feel that I travel back to the time when it happened	4.88	1.44
While remembering the event, I feel that the same particular emotions I felt at the time of the event	5.24	1.41
Achievement simulation		
While I imagine the event, I feel that I am traveling forward to the time when it will happen	5.09	1.30
I imagine the future achievement vividly	5.03	1.36
I imagine the future achievement clearly	5.45	1.24
When I imagine my future achievement, I like to plan its details	5.14	1.33

Table 9

Descriptive statistics for ego-based strengths

Factors and items	*M*	*SD*
Self-efficacy		
I will be able to achieve the goals that I have set for myself	5.31	1.10
I believe I can succeed at almost any endeavor to which I set my mind	5.35	1.12
Even when things are tough, I can perform quite well	5.31	1.17
Self-esteem		
On the whole, I am satisfied with myself	4.89	1.33
I think I am doing well	4.87	1.38
I feel I have much to be proud of	4.71	1.36
Resilience		
I tend to bounce back quickly after hard times	4.90	1.33
It does not take me long to recover from a stressful event	4.87	1.30
I usually come through difficult times with little trouble	4.75	1.44

Table 10

Descriptive statistics for Activity-based strengths

Factors and items	*M*	*SD*
Flow		
I feel happy when I am watching sports	5.01	1.18
My attention focused entirely on when I was watching sports	5.12	1.24
I think watching sports is rewarding	4.90	1.27
Vitality		
I feel alive and vital	4.72	1.24
I have energy and spirit	4.38	1.46
I feel I have a lot of energy	4.43	1.42
Commitment		
I want to keep watching sports	5.04	1.21
It is hard for me to quit watching sports	4.29	1.54
I dedicate to watching sports	4.50	1.38

Table 11

Descriptive statistics for future-oriented strengths

Factors and items	*M*	*SD*
Self-control		
I am good at resisting temptation	4.82	1.31
I never allow myself to lose control	4.89	1.21
I can concentrate even with many disturbance	4.74	1.21
Optimism		
When I think about the future, I am positive	5.18	1.25
I am always optimistic about my future	4.83	1.33
The future is looking bright to me	5.20	1.24
Hope		
I am energetically pursuing my goals	5.23	1.17
There are lots of ways to succeed	5.26	1.15
I am meeting the goals that I have set for myself	4.92	1.27

Table 12

CB-SEM vicarious achievement measurement model results

Factors and items	Factor Loading	CR	α	AVE
Achievement emotions		.91	.91	.78
I feel proud when the team play well	.87			
I feel a personal sense of achievement when my favorite team does well	.89			
I feel enjoyment when the team play well	.90			
Achievement memory		.93	.93	.78
As I remember the event, I feel as though I am reliving it	.88			
As I remember the event, I can feel now the emotion I felt then	.89			
While remembering the event, I feel that I travel back to the time when it happened	.88			
While remembering the event, I feel that the same particular emotions I felt at the time of the event	.89			
Achievement simulation		.94	.94	.80
While I imagine the event, I feel that I am traveling forward to the time when it will happen	.88			
I imagine the future achievement vividly	.95			
I imagine the future achievement clearly	.94			
When I imagine my future achievement, I like to plan its details	.81			

Table 13

Correlations among vicarious achievement constructs

	1	2	3
Achievement emotion	1.00		
Achievement memory	.42	1.00	
Achievement simulation	.34	.55	1.00

Table 14

Model comparison results

	x^2/df	RMSEA	CFI
Second-order factor model	127.22/41 =3.10	.05	.98
General-specific model	63.79/34 =1.87	.03	.99

Table 15

CB-SEM personal strengths measurement model results

Factors and items	Factor Loading	CR	α	AVE
Self-efficacy		.92	.92	.80
I will be able to achieve the goals that I have set for myself	.90			
Even when things are tough, I can perform quite well	.84			
I believe I can succeed at almost any endeavor to which I set my mind	.94			
Self-esteem		.89	.89	.72
I think I am doing well	.89			
I feel I have much to be proud of	.81			
On the whole, I am satisfied with myself	.86			
Resilience		.92	.92	.80
I tend to bounce back quickly after hard times	.93			
It does not take me long to recover from a stressful event	.82			
I usually come through difficult times with little trouble	.93			
Flow		.89	.89	.73
I feel happy when I am watching sports	.86			
My attention focused entirely on when I was watching sports	.84			
I think watching sports is rewarding	.87			
Vitality		.90	.91	.77
I feel alive and vital	.83			
I feel I have a lot of energy	.91			
I have energy and spirit	.89			

Factors and items	Factor Loading	CR	α	AVE
Commitment		.88	.87	.71
I want to keep watching sports	.83			
It is hard for me to quit watching sports	.81			
I dedicate to watching sports	.89			
Self-control		.84	.83	.64
I am good at resisting temptation	.86			
I never allow myself to lose control	.85			
I can concentrate even with many disturbance	.69			
Optimism		.88	.88	.71
When I think about the future, I am positive	.87			
I am always optimistic about my future	.79			
The future is looking bright to me	.87			
Hope		.88	.89	.72
I am energetically pursuing my goals	.87			
There are lots of ways to succeed	.83			
I am meeting the goals that I have set for myself	.86			

Table 16

Correlations among personal strengths constructs

	1	2	3	4	5	6	7	8	9
Self-efficacy	1								
Self-esteem	.73	1							
Resilience	.59	.72	1						
Flow	.46	.43	.42	1					
Vitality	.58	.75	.65	.56	1				
Commitment	.39	.37	.34	.84	.47	1			
Self-control	.54	.61	.62	.46	.55	.38	1		
Optimism	.70	.78	.69	.47	.73	.39	.62	1	
Hope	.77	.80	.69	.49	.73	.40	.67	.88	1

Table 17

CB-SEM Hypotheses testing results for general specific model

Structural path	β	S.E	*t*	Sig.
Vicarious achievement → Ego-based strengths	.16	.04	3.57	*p*<.05
Vicarious achievement → Activity-based strengths	.13	.03	2.75	*p*<.05
Vicarious achievement → Future-oriented strengths	.11	.04	2.43	*p*<.05
Achievement emotions → Ego-based strengths	.29	.05	6.15	*p*<.05
Achievement emotions → Activity-based strengths	.32	.04	5.91	*p*<.05
Achievement emotions → Future-oriented strengths	.35	.05	6.94	*p*<.05
Achievement memory → Ego-based strengths	.56	.11	5.21	*p*<.05
Achievement memory → Activity-based strengths	.57	.09	5.19	*p*<.05
Achievement memory → Future-oriented strengths	.57	.12	5.08	*p*<.05
Achievement simulation → Ego-based strengths	.74	.06	9.99	*p*<.05
Achievement simulation → Activity-based strengths	.60	.03	2.75	*p*<.05
Achievement simulation → Future-oriented strengths	.57	.06	8.95	*p*<.05

Figure 7

Statistical model for hypotheses testing for general specific model

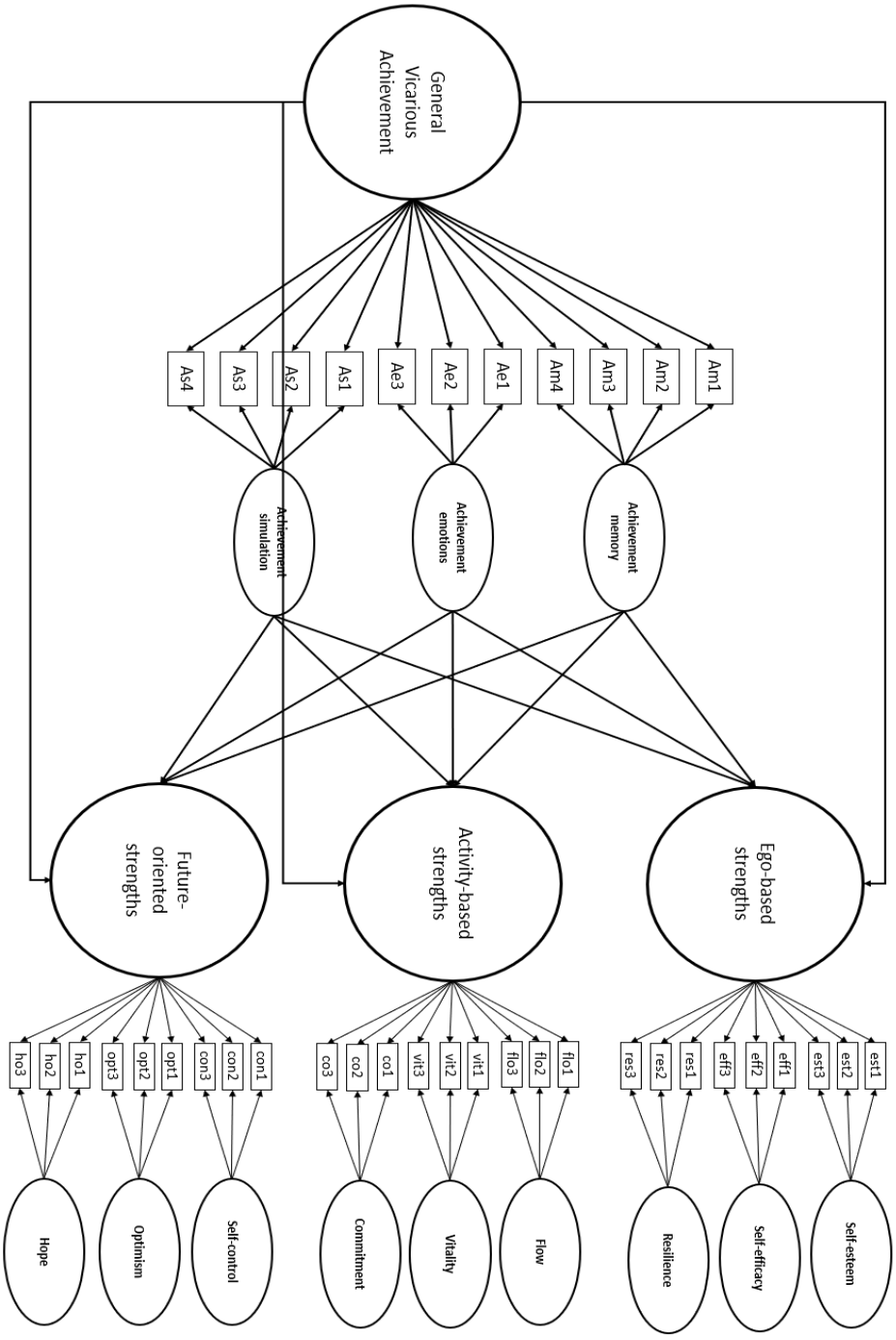


Table 18

CB-SEM Hypotheses testing results for the first-order personal strengths model

Structural path	β	S.E	*t*	Sig.
Vicarious achievement → Self-efficacy	.25	.04	6.45	*p*<.05
Vicarious achievement → Self-esteem	.11	.06	2.65	*p*<.05
Vicarious achievement → Resilience	.04	.06	.91	*P=.36*
Vicarious achievement → Flow	.28	.05	6.16	*p*<.05
Vicarious achievement → Commitment	.21	.05	4.77	*p*<.05
Vicarious achievement → Vitality	.08	.05	1.78	*P=.07*
Vicarious achievement → Self-control	.11	.06	2.46	*p*<.05
Vicarious achievement → Optimism	.06	.05	1.39	*P=*.16
Vicarious achievement → Hope	.11	.05	2.44	*p*<.05
Achievement emotions → Self-efficacy	.28	.05	6.97	*p*<.05
Achievement emotions → Self-esteem	.25	.07	5.34	*p*<.05
Achievement emotions → Resilience	.22	.07	4.68	*p*<.05
Achievement emotions → Flow	.29	.05	7.03	*p*<.05
Achievement emotions → Commitment	.17	.05	4.17	*p*<.05
Achievement emotions → Vitality	.25	.06	5.26	*p*<.05
Achievement emotions → Self-control	.23	.07	4.89	*p*<.05
Achievement emotions → Optimism	.36	.07	7.35	*p*<.05
Achievement emotions → Hope	.33	.06	6.97	*p*<.05

Achievement memory → Self-efficacy	.39	.10	5.10	$p<.05$
Achievement memory → Self-esteem	.52	.15	5.20	$p<.05$
Achievement memory → Resilience	.48	.16	5.06	$p<.05$
Achievement memory → Flow	.34	.08	5.69	$p<.05$
Achievement memory → Commitment	.29	.07	4.98	$p<.05$
Achievement memory → Vitality	.53	.14	5.46	$p<.05$
Achievement memory → Self-control	.49	.13	5.60	$p<.05$
Achievement memory → Optimism	.51	.15	4.84	$p<.05$
Achievement memory → Hope	.54	.14	5.10	$p<.05$
Achievement simulation → Self-efficacy	.60	.05	11.23	$p<.05$
Achievement simulation → Self-esteem	.66	.08	9.86	$p<.05$
Achievement simulation → Resilience	.56	.08	8.84	$p<.05$
Achievement simulation → Flow	.32	.05	6.95	$p<.05$
Achievement simulation → Commitment	.31	.04	6.69	$p<.05$
Achievement simulation → Vitality	.55	.07	8.39	$p<.05$
Achievement simulation → Self-control	.46	.07	7.58	$p<.05$
Achievement simulation → Optimism	.64	.07	9.26	$p<.05$
Achievement simulation → Hope	.68	.07	9.72	$p<.05$

Figure 8

Statistical model for hypotheses testing

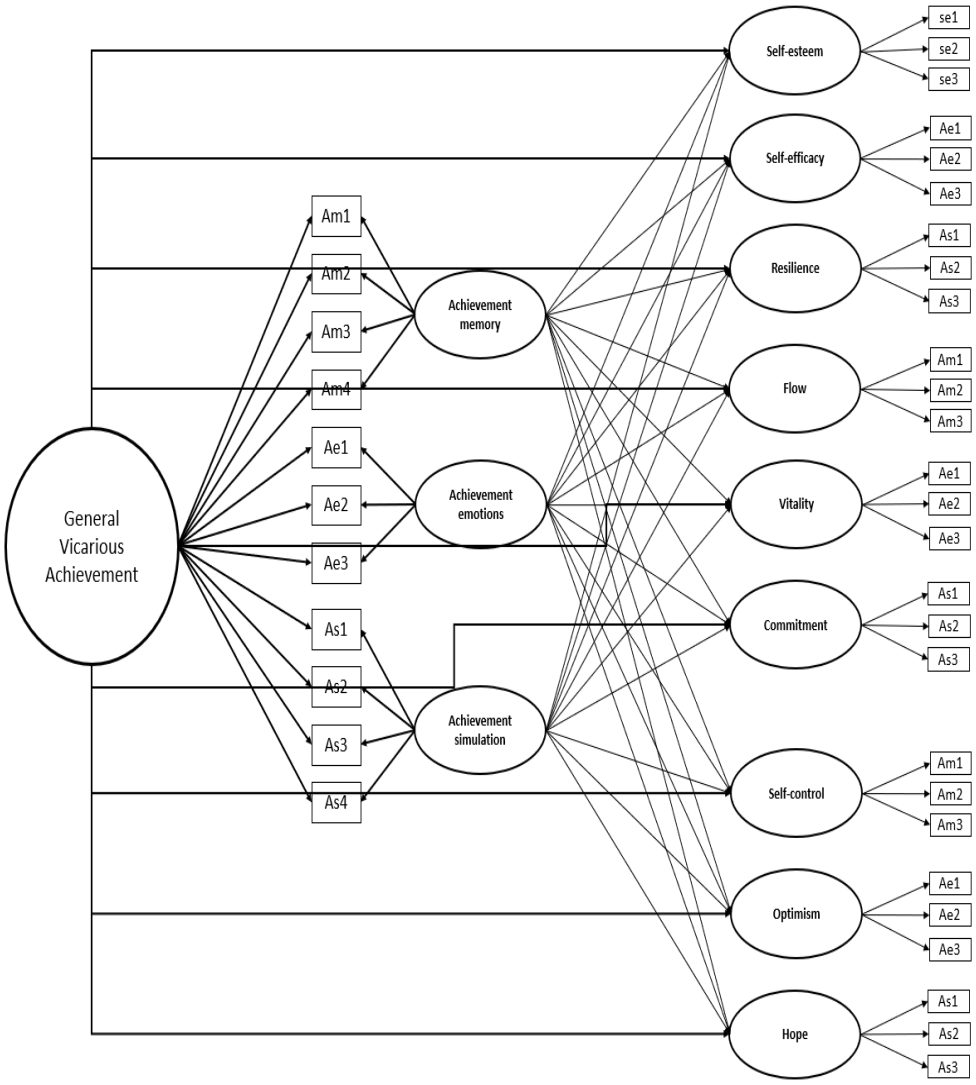


Table 19

PLS-SEM vicarious achievement measurement model result

Factors and items	outer Loading	CR	α	AVE
Achievement emotions		.95	.92	.86
I feel proud when the team play well	.92			
I feel a personal sense of achievement when my favorite team does well	.93			
I feel enjoyment when the team play well	.93			
Achievement memory		.95	.93	.84
As I remember the event, I feel as though I am reliving it	.91			
As I remember the event, I can feel now the emotion I felt then	.92			
While remembering the event, I feel that I travel back to the time when it happened	.91			
While remembering the event, I feel that the same particular emotions I felt at the time of the event	.91			
Achievement simulation		.96	.94	.85
While I imagine the event, I feel that I am traveling forward to the time when it will happen	92			
I imagine the future achievement vividly	.95			
I imagine the future achievement clearly	.94			
When I imagine my future achievement, I like to plan its details	.87			

Table 20

PLS-SEM second-order vicarious achievement measurement model result

Factors and items	Path coefficients	CR	α	AVE
Vicarious achievement		.92	.91	.53
Achievement emotions	.64			
Achievement memory	.85			
Achievement simulation	.84			

Table 21

PLS-SEM personal strengths measurement model result

Factors and items	outer Loading	CR	α	AVE
Self-efficacy		.95	.92	.86
I will be able to achieve the goals that I have set for myself	.93			
Even when things are tough, I can perform quite well	.94			
I believe I can succeed at almost any endeavor to which I set my mind	.91			
Self-esteem		.93	.89	.82
I think I am doing well	.91			
I feel I have much to be proud of	.92			
On the whole, I am satisfied with myself	.88			
Resilience		.95	.92	.86
I tend to bounce back quickly after hard times	.95			
It does not take me long to recover from a stressful event	.94			
I usually come through difficult times with little trouble	.89			
Flow		.93	.89	.83
I feel happy when I am watching sports	.91			
My attention focused entirely on when I was watching sports	.90			
I think watching sports is rewarding	.91			
Vitality		.95	.92	.86
I feel alive and vital	.91			
I feel I have a lot of energy	.93			

Factors and items	outer Loading	CR	α	AVE
I have energy and spirit	.93			
Commitment		.92	.88	.81
I want to keep watching sports	.88			
It is hard for me to quit watching sports	.88			
I dedicate to watching sports	.92			
Self-control		.90	.83	.75
I am good at resisting temptation	.89			
I never allow myself to lose control	.88			
I can concentrate even with many disturbance	.81			
Optimism		.92	.88	.81
When I think about the future, I am positive	.91			
I am always optimistic about my future	.87			
The future is looking bright to me	.91			
Hope		.93	.89	.82
I am energetically pursuing my goals	.91			
There are lots of ways to succeed	.90			
I am meeting the goals that I have set for myself	.90			

Table 22

PLS-SEM second-order personal strengths measurement model result

Factors and items	Path coefficients	CR	α	AVE
Ego-based strengths		.94	.93	.64
Self-efficacy	.87			
Self-esteem	.89			
Resilience	.84			
Activity-based strengths		.92	.91	.59
Flow	.90			
Commitment	.85			
Vitality	.76			
Future-oriented strengths		.93	.92	.61
Self-control	.80			
Optimism	.90			
Hope	.92			

Table 23

PLS-SEM third-order personal strengths measurement model result

Factors and items	Path coefficients	CR	α	AVE
Personal strengths		.96	.96	.50
Ego-based strengths	.93			
Activity-based strengths	.80			
Future-oriented strengths	.93			

Figure 9

PLS-SEM third-order model personal strengths measurement model result

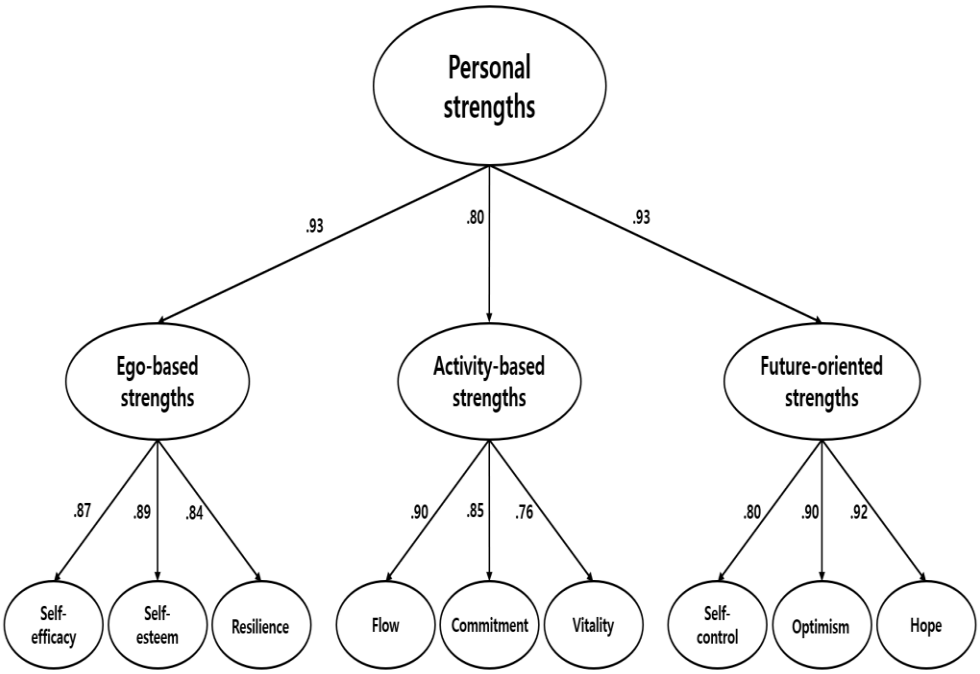


Table 24

Path coefficients for the third-order personal strengths

Structural path	β	SD	t	Sig.
Vicarious achievement → Personal strengths	.61	.03	19.10	$p<.05$

Figure 10

Path coefficients for the third-order personal strengths

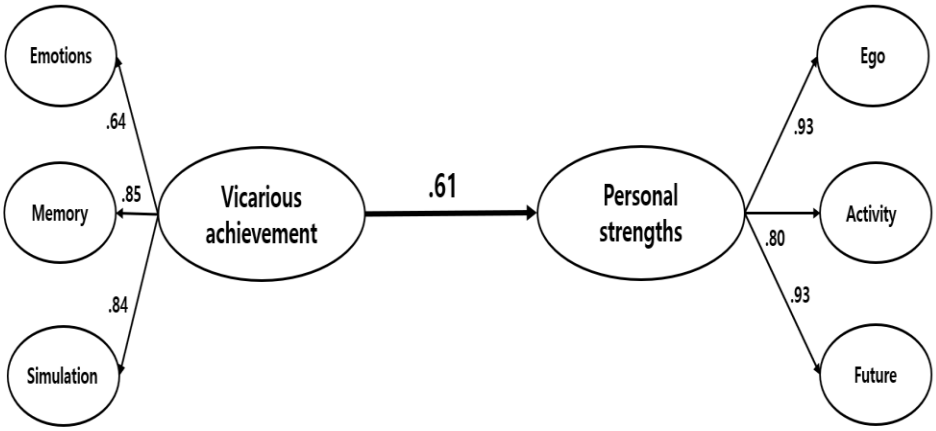


Table 25

Predictive values of the third-order personal strengths

	R^2	Adjusted R^2	f^2	Q^2
Personal strengths	.38	.37	.61	.18

Table 26

Path coefficients for second-order personal strengths

Structural path	β	SD	t	Sig.
Vicarious achievement → Ego-based strengths	.59	.03	17.49	$p<.05$
Vicarious achievement → Activity-based strengths	.52	.03	16.98	$p<.05$
Vicarious achievement → Future-oriented strengths	.55	.03	15.62	$p<.05$

Figure 11

Path coefficients for the second-order personal strengths

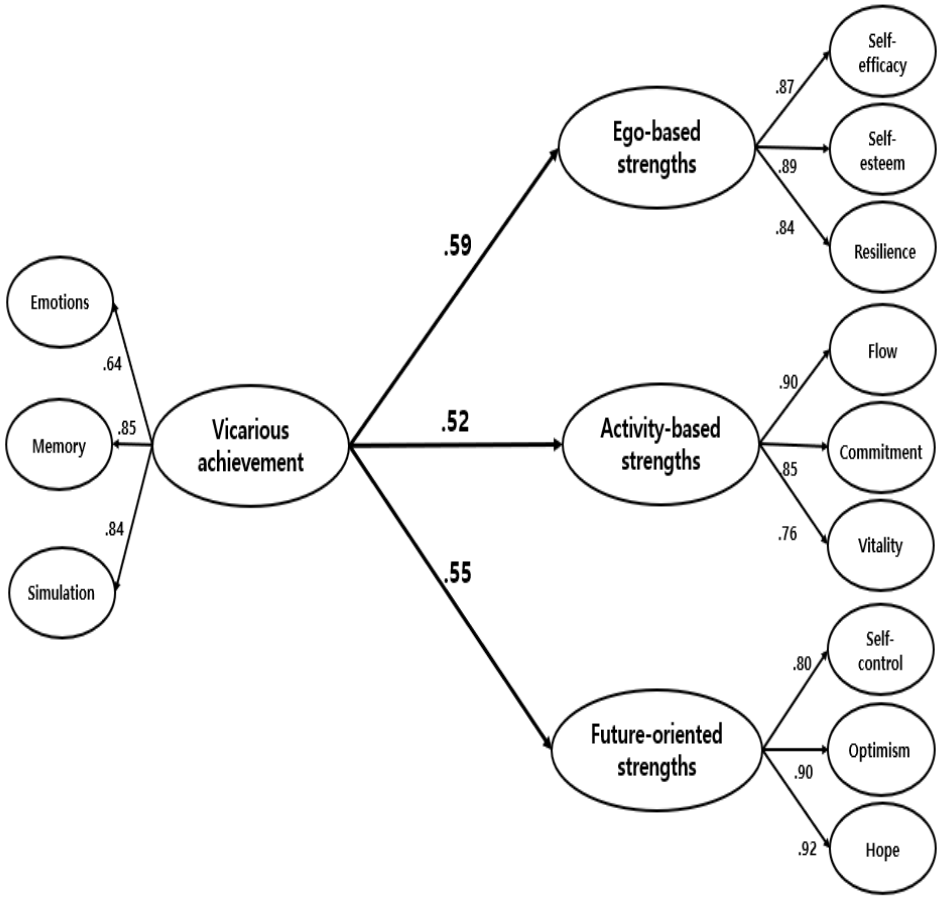


Table 27

Predictive values of the second-order personal strengths

	R^2	Adjusted R^2	f^2	Q^2
Ego-based strengths	.34	.34	.53	.22
Activity-based strengths	.27	.27	.37	.16
Future-oriented strengths	.30	.30	.43	.18

Table 28

Path coefficients for the first-order personal strengths

Structural path	β	S.E	t	Sig.
Vicarious achievement → Self-efficacy	.59	.03	18.12	$p<.05$
Vicarious achievement → Self-esteem	.51	.03	13.58	$p<.05$
Vicarious achievement → Resilience	.41	.04	9.69	$p<.05$
Vicarious achievement → Flow	.48	.03	14.02	$p<.05$
Vicarious achievement → Commitment	.38	.03	10.45	$p<.05$
Vicarious achievement → Vitality	.45	.03	12.09	$p<.05$
Vicarious achievement → Self-control	.43	.03	11.24	$p<.05$
Vicarious achievement → Optimism	.48	.04	11.97	$p<.05$
Vicarious achievement → Hope	.53	.03	13.93	$p<.05$

Figure 12

Path coefficients for the first-order personal strengths

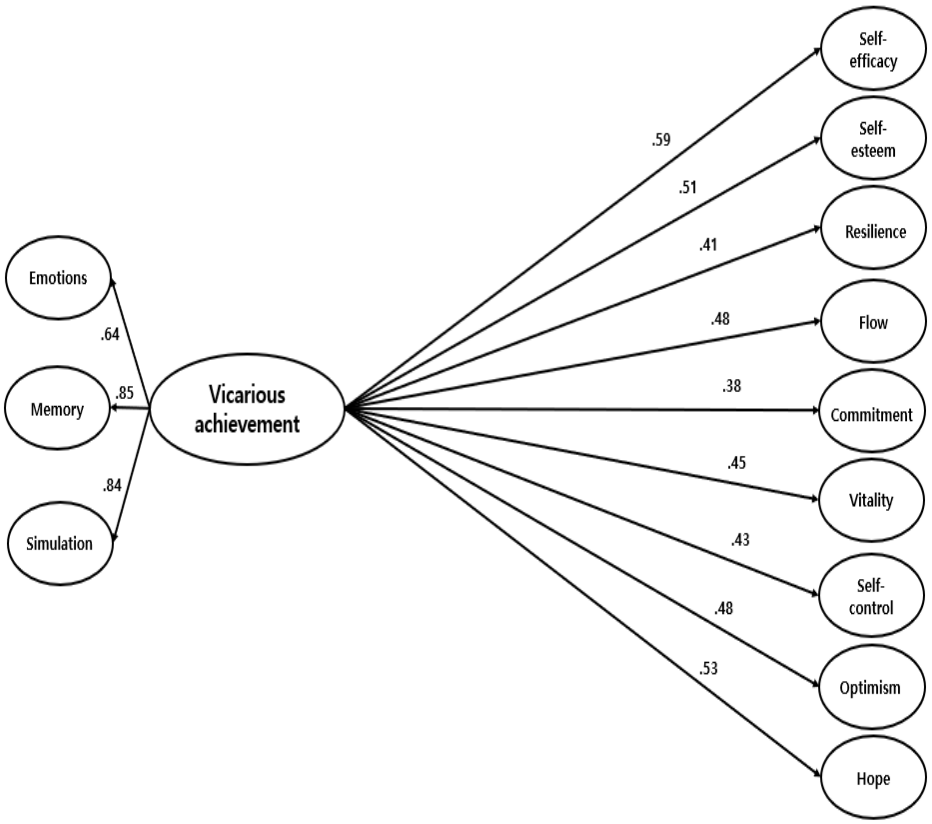


Table 29

Predictive values of the first-order personal strengths

	R^2	Adjusted R^2	f^2	Q^2
Self-efficacy	.35	.35	.55	.30
Self-esteem	.26	.26	.35	.21
Resilience	.17	.16	.20	.14
Flow	.23	.23	.30	.19
Commitment	.15	.14	.17	.11
Vitality	.20	.20	.26	.17
Self-control	.19	.19	.23	.14
Optimism	.23	.23	.30	.18
Hope	.28	.28	.39	.23

CHAPTER 6
DISCUSSION

This study was conducted for two purposes. First, it is to understand the theoretical structure of vicarious achievement and to expand the theoretical framework through how the achievement of others is felt as one's achievement. Previous research on how humans are influenced by others in domains such as psychology, neurology, and sociology has been synthesized to this aim. Furthermore, when these influences are defined by seeing other people's achievements, what precise features they possess were discussed. Sport fans extended the path to connecting others and themselves by triggering their own experiences and future imaginations by looking at others connected to them in sports viewing. Furthermore, the structural nature of vicarious achievement expanded in this research was confirmed to be congruent with empirical data. To that purpose, a new measurement instrument was developed based on the use in previous studies, and the instrument's validity was confirmed using multiple statistical analyses.

Second, the concept of vicarious achievement has only been utilized to examine the motivation of sports fans to attend sporting events. In this study, based on Broaden and build theory (Fredrickson, 1998), it was confirmed that achievement emotions, and memory and simulation of one's

achievement, even if it is the achievement of others, influence individuals' personal strengths.

Defining Vicarious Achievement

Previous vicarious achievement

In the sport management, vicarious achievement has gotten a lot of attention. Although the phenomenon of vicarious achievement has been used in quite a few studies, theoretical discussions have not been made on what it is and why it occurs. These theoretical limitations have impeded the development of the vicarious achievement concept.

In this study, various research fields related to vicarious achievement were reviewed. This confirmed which concept is comparable to and how it differs from the term vicarious achievement, which has been the subject of previous research. As a consequence, it was demonstrated that the concept of vicarious achievement, as previously examined, was only concerned with fleeting emotions. The term vicarious achievement only means that due to certain stimuli, one experiences the same emotions as one feels when experiencing achievement. Naturally, this definition explains a significant portion of the term vicarious achievement. Nonetheless, it is obvious that limiting cognitive stimulation to specific stimulation only leads to emotional experience is incorrect. Control-value-theory (pekrun et al., 2011) provided a suggestion in this investigation, and vicarious achievement

thus far was characterized as the current condition. It was also considered that this experience may be linked to the past and future, rather than merely the present. As a result, it has been proven that observing others not only makes people feel good, but it may also be linked to their previous and future achievement. This is significant because the term vicarious achievement has been extended from an uni-dimension to a multi-dimensional concept that encompasses the past, present, and future.

The field of vicarious experience will be a more important part in society. Therefore, it is thought that the arrangement and expansion of the concept of vicarious achievement will be of great help to future follow-up studies. Based on the theoretical model for vicarious achievement described in this study, a more systematic and in-depth vicarious achievement research will be able to be conducted.

Relationship Between Vicarious Achievement and Personal Strengths

One of the aims of this research was to examine if vicarious achievement has a significant impact on sports fans' personal strengths. Research instruments were developed for this aim, and its validity was confirmed in both the pilot and main studies. As a result of examining the relationship between vicarious achievement and personal strengths in a structural model, it was confirmed that vicarious achievement had a positive and significant effect on personal strengths as hypothesized.

Firstly, second-order latent vicarious achievement significantly influence second-order latent ego-based strengths, explaining 32% of its variance. These findings complemented those of research that claimed that achievement could improve sub-dimensions of ego-based strength including self-esteem (Pedersen & Seidman, 2004), self-efficacy (Bandura, 1995; 1997), and resilience (Hernández et al., 2019). Secondly, second-order latent vicarious achievement significantly affect second-order latent activity-based strengths. Vicarious achievement explains 25% of activity-based strengths' variance. These results are the same as previous research that found positive emotions have been influenced by the first-order factor of activity-based strength (Hoffman & Novak, 1996; Novak et al., 1998), commitment (Carmack & Martens, 1979; Scanlan et al., 1990), and vitality (Lyubomirsky, 2008). Finally, second-order latent vicarious achievement significantly effect on second-order future-oriented strengths, explaining 30% of its variance. This result the same previous study reported that imagination or simulation affect future-oriented strength's sub-dimensions such as self-control (Taylor & Schneider, 1989; Pham & Taylor, 1999), optimism (Blackwell et al., 2013; Holmes et al., 2009), hope (Halpin, 2002).

Validation of the Measures

Vicarious Achievement Constructs

One of the main goals of this research was to figure out how vicarious achievements have been utilized in the field of sports management and how they can be measured. Until now, vicarious achievement has been viewed as an action based on social identity theory that boosts one's self-esteem by observing the success of people who are related to oneself. These assumptions are accurate, and they play a big part in the vicarious achievement. It did not, however, explain all concepts of vicarious achievement. In particular, there was no explanation for how observing the achievements of others except social identity could be connected to oneself. In addition, there was a lack of explanation on the part that vicarious achievement was not just an act to raise self-esteem, but an experience that could pursue a better future while recalling achievement memories, imagining future achievement, and various emotional experiences.

Previous studies on vicarious achievement have measured vicarious achievement as a single concept. however, according to this study, these conceptual limitations include only emotions such as enjoyment, joy, and pride due to social/psychological connectivity from others. As a result, it was insufficient to lead to an explanation of how this could truly be an observer's achievement. This study attempted to overcome these shortcomings. Beyond the motivation for sports fans to explain their behavior of watching sports, it

was intended to present a basis for the argument that they can develop themselves to the next level through vicarious achievement experiences.

To this aim, the vicarious achievement concept was developed, as well as measurement instruments. In the meantime, the emotions at the moment of vicarious achievement have been conceptualized as achievement emotions. And while observing others, the process of connecting one's past and future was conceptualized as achievement memory and achievement simulation. The following is a summary of the findings. A review of the literature, an expert review, and a content validity test were used to establish content validity first. Second, all constructions had internal consistency values that exceeded a commonly established cutoff requirement. Third, strong AVE values for all constructs indicated construct reliability, and substantial results from assessments of the difference from unity for all pairings of constructs revealed appropriate discriminant validity.

Personal Strengths

The sub-dimensions of the personal strengths conceptualized in this study are concepts that have been used several times in various studies. However, in the field of sports management, there was a lack of research on the aspect that these variables are the basis for improving the quality of life of individuals or strengths for pursuing goals. Furthermore, these factors were not employed as single variables in this study. The three concepts of

vicarious achievement were divided into three groups, each of which can be influenced by the past, present, or future. This classification accurately depicts how humans can be motivated to achieve specific objectives. Sports management research can be furthered as a consequence of the research.

Implication of the Research

Theoretical Implications

This study was conducted to determine what vicarious achievements can be experienced by observing others and how they are structured and to determine how they relate to the personal strengths of sports fans. These studies will theoretically help to understand the behavior of sports fans composed of vicarious experiences. This study specifically contributed several things to the current literature.

First, this study explored the nature of vicarious achievement and developed a conceptual model. Existing vicarious achievement studies began with the study of Cialdini et al. (1976) and have been used in various studies as a part of MSSC (Trail & James, 2001). Vicarious achievement was a single construct in all of the studies. This is because it is considered that when sports fans watch the achievements of a team or player with whom they are linked, they feel as if they have won. Based on this, this study conceptualized the vicarious achievement presented in the existing studies with achievement emotion. The expression of memories and imaginations

related to oneself experienced through others was conceptualized into achievement memory and achievement simulation. By observing others, humans can experience various experiences other than emotions. Due to various cues, studies on memory and imagination have indicated that memories in long-term memory can be better retrieved or can be better imagined in the future. This study added a theoretical foundation for how others' achievements can have the same experience as mine, which hasn't been discussed in previous vicarious achievement research. These findings are expected to help many studies conducted in sport management based on vicarious experience through others.

Second, this study clarified one of the reasons why sports watching increases one's quality of life. Until now, many discussions have been made on whether watching sports is a positive activity. In particular, researchers have verified with empirical data that sports viewing can improve individual well-being beyond just passive activities of observing others. (Kim et al., 2017; Jang et al., 2017). This study also found that sports viewing can help people attain their goals by evoking achievement emotions, memories, and simulations. In this process, positive concepts that have existed before were predicted as the outcome of the vicarious achievement. self-esteem, self-efficacy, resilience, flow, vitality, commitment, self-control, optimism, and hope were categorized into ego-based strengths (self-esteem, self-efficacy,

resilience), activity based-strengths (flow, vitality, commitment), and future-oriented strengths (self-control, optimism, hope) that are connected to constructs of vicarious achievement. This categorization is expected to aid future research in predicting individual well-being.

Finally, this research examined the structure of vicarious achievements and its impact on personal strengths in the sport management context using empirical data. As a result, it was confirmed that the structures of vicarious achievement are critical factors predicting personal strengths. This empirical finding is thought to contribute to extending the study of vicarious experience in the context of sports viewing.

Managerial Implications

A vast number of sports management studies have blurred the line between vicarious and direct experience until now. Because the concept of vicarious achievement has been employed as a sub-element of the spectator motivation scale, yet there is no clear distinction between vicarious and direct experience, this is the case. Managers will be able to distinguish between direct and vicarious experiences and use them as strategies as a result of this research. Specifically, this study identified several conditions that could more easily accept the achievement of others through literature review. The observer should, first and foremost, share the same identity as the person being observed. The greater the level of social identification, the

more invested fans will be in their team's success. To that purpose, behaviors that make it difficult to identify fans should be avoided. Second, the team's competition structure should be minimized. In team sports, there may be players who like fans more and less. Sports spectators experience various sorts of vicarious emotions rather than achievement when a competitive structure exists within a team rather than between teams. When one's team wins despite the fact that one's favorite player isn't very good at it, for example, one can only experience a tiny experience of achievement. Players' performance is a difficult factor to control, but sports fans can be affected similarly by conflicts and disputes within the team. As a result, it's crucial to keep track of unfavorable competitiveness within the team. Third, the deservingness of the achiever should be emphasized. This should help sports fans to determine whether the player has dedicated himself to the game or made sufficient efforts to achieve success. As a result, rather than promoting athletes' talents, marketers should focus on their efforts and dedication. Specifically, it is necessary to actively promote the training scenes of the players.

The win or loss of the game and the performance of the player have been regarded as a direct experience for sports fans. However, the performance of a player felt by a sports fan is felt through vicarious experience. As a result, understanding and utilizing these mechanisms is

critical in practice. Specifically, watching sports is an environment suitable for experiencing vicarious achievement. This proves that this concept is used more in sport management than in any other field. Organizations can apply this to various environments. This study explained how an individual could feel more vicarious achievement and how this could lead to individual personal strengths. As a result, each organization can assist members in accepting the achievements of other members as their achievements. It's also feasible to use tactics that boost individual motivation by encouraging people to share group achievements.

Furthermore, it is possible to use a campaign that sincerely celebrates the achievements of others and promotes that feeling as if it were me is helpful to myself. This can be a solution to how people will be interested in others, which was the starting point of this study. As a result, it can be expected to improve corporate productivity and solve social problems.

Limitations and Future Directions

While this research provides meaningful insight to understand the underlying mechanism of vicarious achievement. There are still several limitations. First, the experimental stimulation was limited to volleyball. In this study, simulations were selected based on previous studies so that study participant could easily experience vicarious achievement. Therefore, participants of this study watched three-minute videos, a dramatic victory

scene of the Korean national team in 3 minutes. This is because I tried to capture the moment when they felt vicarious achievement and experience vicarious achievement. However, such efforts may be difficult to generalize as a stimulus limited to specific events and scenes. In addition, it was edited so that the contents of the game could appear well in the three-minute video, but it may be insufficient compared to the vicarious achievement experience experienced in the actual viewing environment. In future studies, it would be meaningful to conduct a research design that can reflect the actual environment.

Second, cross-sectional data was used in this study. The casual relationship established in this investigation was founded on theoretical evidence. Nevertheless, the cross sectional data has a limitation in that it reflects only the state at one point in time. This approach is cost-effective and efficient, but it has the drawback of being unable to track the progress or change of the phenomenon. Personal strengths are likely to be improved through continuous vicarious achievement experiences. As a result, future study aims to look into how continual vicarious achievement experiences influence personal strengths using longitudinal data.

Third, although survey participants were members of Embrian research group panel, recruited from Korea, the samples used in this dissertation do not truly represents the Korean population. Overall, the match

between the demographics of the Embrain panels and the 2021 Korean Census data is a small difference in age. It would be recommendable to employ samples that can reflect a larger number in future studies.

Finally, in this study, it was assumed that vicarious achievement could be observed as the opponent team's defeat. However, it could not be verified due to time and resource reasons. In future studies, it will be meaningful if this part is empirically verified.

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대리성취개념확장 : 대리성취가 개인강점에 미치는 영향

사회연결망 확장으로 인해 우리는 어느 때보다 타인과 연결된 삶을 살고 있다. 사회변화는 우리가 타인으로부터 어떻게 영향을 받는지에 대한 연구를 더 필요하게 만들었다. 타인과의 연결을 통해 자신이 성취를 경험하는 현상인 대리성취는 스포츠 분야에서 실무적, 이론적으로 많은 관심을 받아왔다. 그러나 체계적으로 관련 문헌을 고찰한 결과 여전히 더 연구되어야 할 부분이 있음을 확인하였다. 첫째, 대리성취의 개념적 논의가 필요하다. 기존 연구들은 거의 모든 연구가 개념에 대한 논의보다는 현상에 집중되었다. 둘째, 대리성취를 단순히 순간적으로 경험하는 감정 상태로 치부했다. 그러나 인지 과정에서 특정 자극으로 인한 감정 경험만을 개념적으로 반영하는 것은 한계가 있다. 셋째, 대리성취의 결과가 모두 산업적인 것에 연관되었다. 대리성취는 스포츠 팬의 경기 관람 동기를 설명하는 하나의 하위 변인으로 사용되어왔다. 따라서 성취라는 긍정적 개념의 반영보다는 산업적 관점에서만 활용되었다는 한계가 있다.

마음이론 (Doherty, 2009), 도덕적발달이론 (Hoffman, 2000), 공감 (Wondra & Ellsworth, 2015; Zaki, 2014), 그리고 통제-가치이론 (Pekrun et al., 2006) 등 다양한 분야의 문헌을 고찰하였다.

이를 통해, 성취는 현재의 경험만이 아닌, 과거와 미래가 모두 고려되는 경험임을 확인할 수 있었다. 대리성취가 다양한 개념을 설명하는 포괄적 개념으로 활용될 수 있음을 확인했다. 마지막으로, 대리성취의 각 개념이 이를 경험하는 스포츠 팬의 강점에 어떻게 영향을 미치는지 확인하고자 하였다. 확장구축이론 (Fredrickson, 1998)을 바탕으로 대리성취의 성취감정, 성취기억, 성취시뮬레이션이 개인의 강점에 긍정적 영향을 미칠 수 있다고 가정하였다. 구체적으로 개인강점을 개인이 목표를 추구해 나가는데 도움이 되는 능력, 태도, 상태로 정의하였다. 이를 자아기반강점, 활동기반강점, 미래지향강점을 포괄하는 용어로 개념화하였다. 그리고 각 강점이 각 하위 강점을 포함하는 포괄적 개념이라고 보았다. 최종적으로 이 연구에서는 자아기반강점 (Self-esteem, Self-efficacy, Resilience), 활동기반강점 (Flow, Vitality, Commitment), 그리고 미래지향강점 (Hope, Optimism, Self-control)이 대리성취에 영향을 받을 것으로 가설을 수립하였다.

연구는 서울대학교 연구윤리위원회의 승인을 얻어 진행되었다 (#2107/003-011). 조사 도구는 문항선정 및 수정, 전문가 회의, 사전조사의 단계를 거쳐 제작되었다. 구조방정식 모형을 활용하여 측정모델의 타당성을 검증하였다. 이 단계에서 총 98문항 중 타당성이 떨어진다고 판단되는 문항을 제거하고 본조사를 진행하였다. 본조사는

설문조사업체인 마크로밀 엠브레인을 통해 총 634명의 스포츠팬을 대상으로 진행되었다. 측정모형 분석결과 모든 수치가 일반적인 기준치를 충족하는 것으로 확인하였다. 본조사는 CB-SEM (Covariance-Based Structural Equation Modeling)과 PLS-SEM (Partial Least Square Structrual Equation Modeling)을 모두 활용하였다. 조사결과 두 분석방법에서 모두 적합한 모형적합도와 내적일관성, 구성타당도, 판별타당도를 갖춘 것으로 판단되었다. 가설검증 결과 수립한 모든 가설이 통계적으로 유의미한 결과를 보였다.

이 연구는 스포츠 경영학 분야에서 많은 관심을 받았지만, 명확하게 개념화되지 않았던 대리성취의 개념을 정리하고 확장했다는데 큰 의의가 있다. 또한, 이를 개인이 목표를 달성하는 데 도움이 되는 강점과 연결지어 설명하였다. 연구결과를 통해 그동안 대리성취 연구의 한계점을 상당 부분 보완할 수 있었다. 이러한 결과는 대리성취에 관한 후속연구와 스포츠 관람의 긍정적 효과에 대한 구체적 근거를 제시함으로써 이론적, 실무적으로 기여했다.