

The Mediating Role of Self-Esteem, Perceived Social Support, and Loneliness in the Relationship between Shyness and Subjective Well-Being of University Students¹

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Abstract

In this study, the relationship between university students' subjective well-being and shyness, self-esteem, loneliness and perceived social support was examined. The research was conducted a total of 821 participants, 454 female (55.3%) and 367 male (44.7%) of different faculties of Anadolu University. In the course of data collection, the Positive-Negative Affect Scale (PANAS), Life Satisfaction Scale, Shyness Scale, Rosenberg Self-Esteem Scale, UCLA Loneliness Scale and Multidimensional Perceived Social Support Scale were used. The data were analyzed by structural equation modeling. Bootstrapping analysis was also conducted to test the significance of the indirect effects. According to the results of the study the model which revealed fully mediating role of self-esteem and perceived social support between shyness and subjective well-being (model 4) were the best fit. This model also indicated that self-esteem and perceived social support mediated between university students' loneliness and subjective well-being. Result of the bootstrapping analysis, the indirect effects were found to be significant. Findings of the study were discussed in the context of the related literature and the suggestions were offered.

- 1 This study was based on Muhammet Fatih YILMAZ's (2018) doctoral thesis entitled "Examining structural model on university students' subjective well-being: The effects of shyness, self esteem, loneliness and perceived social support" under Ayse Sibel TURKUM's supervision at Graduate School of Educational Sciences, Anadolu University, Turkey
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1. Introduction

The definition of health has been revised by the World Health Organization to be described as a comprehensive state of well-being encompassing physical, mental, and social dimensions that accompany the absence of illness (Ryff & Singer, 2008). Positive psychology posits that the absence of psychological disorders, while significant, is not sufficient in itself to explain mental health. In other words, the absence of any psychological illness in an individual does not necessarily imply their mental health. It can be argued that the field of psychology gained a new dimension with the publication of the article titled “Positive Psychology” by Seligman and Csikszentmihalyi in the year 2000. It is observed that the positive concepts related to mental health have been increasingly examined since the 2000s. The proposition that the absence of negative affect, which is the fundamental basis of the positive psychology movement, is not the sole determinant of an individual’s happiness has been accepted in the psychology literature. Alongside this acceptance, concepts such as psychological resilience, psychological well-being, hope, optimism, and life satisfaction, which positively influence mental health, have been more frequently scrutinized in studies aimed at explaining individuals’ mental health. One of the concepts that has been explored in explaining individuals’ positive psychological health is subjective well-being.

1.1. Subjective Well-Being

According to Diener (2000), in the field of psychology, happiness is synonymous with subjective well-being. The concept of subjective well-being enables a more systematic and scientific explanation of happiness. Diener (1984) posited that subjective well-being consists of three distinct components: positive affect, negative affect, and life satisfaction. Positive affect and negative affect constitute the affective dimension of subjective well-being (Park, 2004). Affect refers to individuals’ subjective emotional evaluations of events in their lives at a given moment (Tuzgöl-Dost, 2004). Emotions such as joy, enthusiasm, kindness, trust, hope, and pride are categorized as positive affect, while emotions like sadness, anxiety, anger, guilt, regret, fear, and envy are considered negative affect. These two types of affect are actually different dimensions that can be measured independently of each other. Positive affect refers to a person’s level of activity, contentment, willingness and feeling comfortable, whereas negative affect reflects a distressed and unpleasant state and includes a range of unpleasant emotions such as anger, guilt and fear (Watson, Clark, & Tellegen, 1988).

Positive affect and negative affect are independent of each other, not mutually exclusive, and an individual can experience both simultaneously (Myers & Diener, 1995). In this context, it can be said that it is common for individuals to simultaneously experience both joy and anxiety. What is crucial in assessing the affective dimension of subjective well-being is which affect an individual perceives as more dominant. If an individual perceives positive emotions more dominantly than negative emotions in a given moment, it can be said that the individual has a higher level of positive affect and a lower level of negative affect. Conversely, if an individual perceives negative emotions more dominantly than positive emotions in a given moment, it can be said that the individual has a higher level of negative affect and a lower level of positive affect. Individuals with higher positive affect tend to feel more cheerful and peaceful, whereas individuals with higher negative affect tend to feel more anxious and irritable (Diener, 2000).

When examining individuals' subjective well-being, focusing solely on the affective components of positive affect and negative affect is insufficient. Additionally, there is a consideration of a general life satisfaction evaluation encompassing all aspects of an individual's life. In this context, the third component of subjective well-being is identified as life satisfaction. Life satisfaction, as a frequently used concept in the literature, is a different structure from positive and negative affect (Lucas, Diener, & Suh, 1996). When explaining subjective well-being, addressing only affect and not addressing the cognitive processes of individuals about their lives, in other words, not addressing their evaluations, leads to an incomplete explanation of the individual's subjective well-being (Diener, 1984). Life satisfaction, which is considered as the cognitive dimension of subjective well-being, refers to the process of evaluating one's life by considering one's own criteria. The individual compares life events depending on a set of personal criteria that he/she has created. As long as the individual's life conditions and experiences meet these standards, the individual will have a high life satisfaction (Pavot & Diener, 1993). In other words, life satisfaction can be expressed as the individual's evaluation of the quality of life according to self-determined criteria.

Cognitive in nature, life satisfaction is defined as a cognitive process in which individuals assess the quality of their lives within the framework of their self-determined satisfaction domains and criteria (Diener, Lucas, and Oishi, 2002). In this regard, indicators of high life satisfaction for an individual include achieving or believing they can achieve goals set in their chosen satisfaction domains, enjoying daily activities, and having an optimistic perception of oneself. Conversely, if an individual holds a negative

cognitive evaluation regarding their chosen satisfaction domains, it can be said that the individual has low life satisfaction.

When considering the components of subjective well-being, it has been suggested that three assumptions can be put forth (Diener, 1984). Firstly, subjective well-being is a structure that is individual-specific and associated with an individual's internal processes. Secondly, subjective well-being is not merely an experience that occurs in the absence of negative factors but also necessitates the presence of positive affect. Thirdly, subjective well-being is a function of an individual's entire life. Therefore, research examining subjective well-being should be conducted within a framework that assesses various aspects such as positive affect, negative affect, and cognitive processes in an individual's life comprehensively (Diener, 1984).

Warner Wilson (1967), one of the individuals who initially conceptualized happiness as subjective well-being, in his work titled "Correlates of Avowed Happiness," described a happy individual as "young, healthy, well-educated, affluent, extraverted, optimistic, worry-free, religious, self-esteeming, married, and intelligent." The initial research on the concept of subjective well-being appears to have been conducted in the 1960s. As a result of these early investigations, it was suggested that happy individuals were young, healthy, well-educated, financially prosperous, extroverted, optimistic, low in anxiety, religious, married, possessed high self-esteem, had a strong work ethic, moderate ambitions, and were intellectual beings.. From this statement, important point about subjective well-being that remains current today is that the variables affecting subjective well-being do not depend on a single dimension. Moreover, it has been subsequently demonstrated through numerous studies conducted in later years that demographic variables such as education level, income, age, and gender are either not associated with individuals' subjective well-being or have a weak relationship (Diener, 2009). However, in subsequent studies examining subjective well-being, it was concluded that some of these characteristics either had no influence or had very limited influence on an individual's subjective well-being (Diener, 1984). For example, according to Wilson's findings, it was stated that there was a decrease in the subjective well-being levels of individuals in parallel with ageing, while no relationship was found between subjective well-being and ageing in later studies (Horley & Lavery, 1995; Shmotkin, 1990). In studies examining whether subjective well-being differs according to gender, no significant difference was found (Myers & Diener, 1995). As a result of a meta-analysis study in which 146 studies examining the relationship between gender and subjective well-being were included, it was concluded that the explanatory power of gender on well-being was 1% (Haring, Stock,

& Okun, 1984). In addition, as a result of the researches examining the relationship between financial income and subjective well-being, it was found that there was no significant relationship between them and that even if there is a negative effect on the well-being levels of individuals who have a goal of earning income, this effect is not a continuous and strong effect (Nickerson, Schwarz, Diener, & Kahneman, 2003).

In subjective well-being studies, which are considered in terms of demographic variables, it has been realised as a result of various studies that these variables do not exceed a variance of 10-15% in explaining subjective well-being (Diener, 1984). In this context, researchers have wondered whether there is a relationship between personality traits and subjective well-being based on the idea that there may be different factors. When the effect of personality traits on subjective well-being was examined, it was realised that there was a stronger structure in explaining subjective well-being than demographic variables. Personality traits are seen as one of the strong predictors of subjective well-being (DeNeve & Cooper, 1998). While the variance of demographic variables explaining subjective well-being remains at 15%, it is stated that personality traits predict nearly half of subjective well-being (Eryılmaz, 2009; Steel, Schmidt, & Shultz, 2008).

1.2. Shyness

Especially since the 1990s, it is seen that the variables related to personality traits are the most emphasised and examined variables in explaining subjective well-being. When the literature is examined, it is seen that various personality traits and various situations depending on these traits affect individuals' subjective well-being (Steel, Schmidt, & Schult, 2008). Shyness is considered as a personality trait that combines social anxiety and timid behaviour (Hoffman & Moscovitch, 2004) and is a concept discussed in personality psychology (Scott, 2006). Zimbardo (1990) defines shyness as a person's difficulty in being in social spaces due to timidity and insecurity and mentions that shyness has a wide range from moderate abstention to social phobia. In another definition, shyness is expressed as the tendency to avoid social interaction and failure to participate in social environments (Carducci & Zimbardo, 1995). In another definition, it is expressed as the inability to feel comfortable around others (Stevens, 1997). In another definition, it is expressed as the individual's avoidance of new situations and behavioural withdrawal (Crozier & Birdsday, 2003). Shyness is defined as a common social problem for both children, women and men (Crozier, 2005).

Shyness, which expresses more than the anxiety of speaking in front of the public, emerges with a mixture of excessive attention to oneself and negative judgements about oneself (Kashef, 2001). Shyness is a factor that makes it difficult for individuals to meet new people, develop friendships, prevent them from defending or demanding their rights, prevent them from expressing their thoughts and make communication difficult (Zimbardo, 1990). Shyness is considered as a personality trait by many researchers (Antony & Swinson, 2000; Crozier & Birdsey, 2003; Zimbardo, 1990).

Although shyness is not defined with the same expressions in every culture or transformed into behaviour in the same way, it is seen as a universal situation (Carducci & Zimbardo, 1995). Since shyness is a phenomenon that restricts or hinders the lives of individuals and causes the person to experience uneasiness and restlessness, it is generally considered as a negative characteristic.

In the definitions related to the concept of shyness, it can be said that shyness is a condition that negatively affects the interpersonal and social relations of the individual, causes the individual to experience negative emotions, is undesirable, disturbing, affects emotions, thoughts and behaviours and is considered as a personality trait. Considering the effects of shyness on the individual, it can be said that it negatively affects the individual's life in various aspects such as psychologically feeling anxiety, behaviourally avoiding and cognitively evaluating oneself negatively.

One of the factors seen as the source of shyness is genetic factors. In many studies (Kagan, 1998; Kagan & Snidman, 1999; Kagan et al., 1991), it is mentioned that shyness is an inherited trait. It is mentioned that parents who have shy children are shy individuals and their own parents are also shy individuals (Rosenbaum et al., 1991). It is also stated that individuals who are shy in early childhood have a higher risk of developing anxiety disorders in later years of their lives (Rosenbaum et al., 1993). In addition, it is stated that the shy behaviours of identical twins are more similar than the shy behaviours of fraternal twins (Fyer, 1993). In this context, according to researchers who support genetic transmission, shyness is an inherited trait. Although shyness is a characteristic that can emerge in individuals from the first years of life, there are many researchers who state that genetic factors may not be the only cause of shyness. These researchers state that shyness is shaped by the behavioural patterns of the family as a result of observing the family structure at an early age (Crozier, 2001).

In studies investigating whether shyness is an environmental characteristic (Carducci and Zimbardo, 1995; Gard, 2000), it is mentioned

that environmental factors are the source of shyness. In other words, it is stated that the family and the social and cultural environment in which the individual lives are seen as the source of shyness. For example, it can be said that the behaviour patterns of the family are important in shaping the behaviours of the individual. Zimbardo (1990) states that shyness is a learnt reaction. Behaviourist theorists, who state that shyness is an acquired phobic reaction, state that shyness is an acquired trait as a reason for the increase in the number of shy individuals with advancing age (Carducci & Zimbardo, 1995). In a retrospective study conducted in adults, it was found that the families of individuals diagnosed with social phobia generally exhibited overprotective or rejecting parental attitudes (Öztürk et al., 2005).

When considering both perspectives, it is evident that it is not sufficient to claim that shyness solely arises from either genetic factors or environmental factors. Studies on shyness, when examined collectively, lead to the conclusion that shyness emerges through the interaction of genetic factors and environmental influences. This is because strong genetic predispositions towards shyness have been found in some newborns, while in some adolescents and adults, shyness is attributed to environmental factors (Henderson & Zimbardo, 1998). Even if an individual possesses genetic shyness tendencies, if environmental factors do not nurture this shyness, it tends to be effective only for a short period in their life. In other words, even if an individual has an inherent shyness disposition, it is noted that they can develop their social skills and reduce their level of shyness in conjunction with a democratic parenting attitude and a supportive social and cultural environment (Aksoy, 2012).

It can be observed that explaining the source of shyness solely through genetic factors or environmental factors is not feasible. Researchers who argue for the presence of genetic factors in the origin of shyness acknowledge that environmental factors can either exacerbate or mitigate shyness. Conversely, researchers who emphasize environmental factors as the source of shyness do not completely disregard the influence of genetic factors. Furthermore, although different approaches have offered varying explanations for shyness, all of these approaches have highlighted that shyness can be experienced by virtually everyone, at any stage of life, and that it is a characteristic that can adversely affect an individual's interpersonal communication and various aspects of their life.

Shyness is a multifaceted personal characteristic that causes individuals to experience anxiety when displaying their social and individual communication skills, demonstrating initiative, and establishing

relationships with individuals of their own gender or the opposite gender, particularly in their current social environment or in new social contexts and large gatherings (Zimbardo, 1990). Furthermore, it can be stated that shy individuals experience behavioral difficulties such as difficulty initiating conversations, struggling to make requests, inability to say no to something they do not want, difficulty in giving criticism, struggling to express their feelings, whether positive or negative, difficulty in making eye contact, and an inability to provide spontaneous responses (Gard, 2000).

It can be noted from the literature that there is a common consensus regarding shy individuals often experiencing negative emotions or experiencing negative emotions more frequently than positive ones. Shy individuals frequently experience negative emotions such as shame, sadness, suffering, anxiety, apprehension, self-anger, fear, insecurity, and anger (Zimbardo, 1990). Alongside these accompanying emotions, shy individuals may also encounter conditions such as low self-esteem, resulting in loneliness, and ultimately leading to depression (Henderson & Zimbardo, 1998; Kemple, 1995).

1.3. Loneliness

Prominent figures in loneliness research, Perlman and Peplau (1984), have described loneliness as a subjective emotional state that causes pain and discomfort, stemming from the difference between an individual's current social relationships and their desired social relationships. Young (1982), on the other hand, explained it as the absence of satisfying social relationships or the perceived absence of such relationships, accompanied by psychological distress. Geçtan (1998) defined loneliness as a painful and undesirable condition for the individual. Yalom (1999) characterized it more in terms of interpersonal barriers and communication breakdown, where the individual perceives others in their environment as threats, experiences high anxiety, and consequently distances themselves from people. Researchers examining commonalities in loneliness definitions, such as Jones and Hebb (2003), assert that loneliness is related to a lack of social relationships, is a subjective and dependent process based on individual expectations and perceptions, represents an unwanted experience, and requires individual efforts to cope with it.

It is stated that lonely individuals have a more shy personality structure, have lower self-esteem, are more introverted, have a more pessimistic structure, are more self-centred and have more irrational beliefs than non-lonely individuals (Wiseman, Maysless, & Shabany, 2005). It is also stated

that they lack social skills (Deniz, Hamarta, & Arı, 2005). In addition, it has been stated that they are also related to pathological disorders such as depression, anxiety, neuroticism and substance addiction (Çeçen, 2008).

Lonely individuals may tend to perceive the behaviors or intentions of others more negatively, hold more negative opinions about others, and attribute the reasons for their interpersonal failures more to external factors rather than themselves (İmamoğlu, 2008). Also lonely individuals are reported to experience feelings such as abandonment, emptiness, and hopelessness (Pektekin, 1993), as well as shame and a sense of not being loved (Ünlü, 2015). From a cognitive perspective, they may have thoughts of self-blame, negative judgments about others, and the belief that others will evaluate them negatively (Ünlü, 2015). Behaviorally, they may exhibit preferences for individual activities over group activities, avoid taking on responsibilities, have difficulty opening up, remain unresponsive to events, and maintain superficial relationships with others (Danış, 2009). In this context, it can be said that loneliness is an unwanted and distressing emotion for an individual, can result from various reasons, and negatively affects a mental health.

1.4. Self-Esteem

Self-esteem is defined as the level of satisfaction and self-perceived value that an individual has about themselves (Adams, 1995). In another definition, self-esteem is described as the state of satisfaction resulting from the approval of self-perceptions that emerge as a result of an individual's personal evaluations (Özer, 2013). In a different perspective, it is articulated as the assessment of the differences between a person's self-image and ideal self (Pişkin, 2003). In other words, it is the satisfaction or dissatisfaction that arises from evaluating the difference between one's real self and ideal self. The narrower the gap between the real self and the ideal self, the higher an individual's self-esteem tends to be, while a wider gap leads to lower self-esteem (Geçtan, 2016). According to Rosenberg, a prominent theorist in the field of self-esteem, individuals have an attitude not only towards the objects in their environment but also towards their own self (Aydemir, 2014). Rosenberg states that self-esteem is related to the level of satisfaction a person has with their perceptions of themselves (Kadioğlu, 2014).

Low self-esteem refers to the negative feelings and thoughts an individual has about themselves (Taşpınar, 2015). Individuals with low self-esteem often feel worthless and may believe that they lack coping abilities, are easily influenced by others, and can easily change their thoughts and

attitudes (Gençal-Yazıcı, 2015). As the gap between an individual's real self and ideal self widens, their self-esteem decreases. This increasing gap leads individuals to perceive themselves as inadequate and negatively. Low self-esteem is characterized by a dominant sense of worthlessness in individuals. It significantly impacts various aspects of an individual's daily life. In cases of low self-esteem, individuals may struggle with self-expression, exhibit shyness in social relationships, and develop harmful habits such as alcohol and tobacco use (Taşpınar, 2015). Low self-esteem can contribute to both internal issues like depression and anxiety disorders and external problems like substance abuse, antisocial behaviors, violence, and academic underachievement (Güloğlu & Kararımak, 2010).

Individuals with high self-esteem have a positive perception of themselves, and they hold a high level of self-respect (Taşpınar, 2015). When facing a difficulty, they tend to focus on finding a solution rather than becoming anxious (Işın, 2015). Those with high self-esteem are aware of their strengths and weaknesses, which enables them to have confidence in themselves. They possess a realistic and positive judgment about themselves and their capabilities (Gençal-Yazıcı, 2015). Individuals with high self-esteem are better equipped to tolerate stress, are less prone to depression, experience better sleep quality, and suffer from fewer psychological issues (Aydemir, 2014). In this context, it can be stated that individuals with high self-esteem are generally healthier in terms of psychological health.

1.5. Perceived Social Support

Social support plays a significant role in an individual's ability to cope with life's challenges throughout their lifespan. However, it is emphasized that how individuals perceive the social support they receive from their environment is even more critical (Hupcey, 1998). In other words, it becomes increasingly important to consider not the social support provided to a person but rather how that social support is interpreted or perceived by the individual. This is because it is suggested that each person may have different ways of perceiving events that occur in their environment (Ünüvar, 2003).

In the definitions of perceived social support, it is seen that there are definitions such as the belief that individuals have people around them whom they can consult in difficult times and that they have established satisfactory relationships in which they will receive care, respect, attention and value from these people (Baştürk, 2002) or cognitive evaluations of the existence and quality of interpersonal relationships (Altay, 2007). In addition, it is

also seen that it is explained as the belief that people will get help from their family or social environment when they need it (Damran, 2017) and that people have a belief that they are valued and cared for by their environment, that there are people they can apply to when they need and that they are satisfied in their relationships (Karadağ, 2007).

Perceived social support involves an individual's assessment of the adequacy of the social support they have received in the past, allowing them to form an opinion about whether they can receive the necessary social support when needed in the future (Taysi, 2000). It is emphasized that what affects an individual's mental health more than social support itself is perceived social support (Çeçen, 2008). In other words, what makes an individual feel good in terms of social support is not so much the quantity of social support received but rather their personal perception of whether the support they receive from their social environment is sufficient. In terms of psychological health, it is considered more important whether an individual perceives the support they receive from their environment as adequate or not, regardless of the actual quantity of social support they receive (Dülger, 2009).

Individuals with high perceived social support level feel that they are accepted, valued, loved, cared and supported by social support sources (Dülger, 2009). In addition, they have beliefs that there are people around them who will support them when they face a problem. In this context, in terms of perceived social support, individuals have a perception of the existence of people from whom they can get support when they need it. In addition, they find the social support they receive from their environment sufficient and are satisfied with this support (Bayraktar, 2011).

1.6. Present Study

In explaining subjective well-being, demographic variables such as income, age, and gender play a limited role (Diener, 1984). Additionally, in terms of mental health, it is known that the absence of psychological distress is necessary but not sufficient to explain psychological well-being. In the positive psychology approach, it is also suggested that the absence of negative affect alone is not the sole predictor of an individual's happiness. In this context, this study aims to examine the factors influencing individuals' subjective well-being, considering not only positive concepts but also negative ones. Concepts related to an individual's positive and negative affect and cognitive processes are explored to understand subjective well-being.

In explaining the subjective well-being of university students who have developmental tasks such as having a social environment, forming close friendships, and engaging in romantic relationships, it can be stated that shyness, self-esteem, loneliness, and perceived social support concepts will play a significant role. When reviewing the existing literature, no research was found that examined these variables together. Therefore, it is believed that the inclusion of these variables in the scope of the study will contribute to the understanding of the nature of subjective well-being. In conclusion, this research, which aims to examine the nature of university students' subjective well-being, is important in several aspects. Factors that predict individuals' subjective well-being are seen to be more related to personal characteristics than demographic variables. In this study, models regarding the relationship patterns between individuals' personal characteristics such as self-esteem, shyness, loneliness, and perceived social support levels and their subjective well-being are tested.

In this study, based on the theoretical explanations and findings in the literature, the aim is to examine the mediating role of self-esteem, perceived social support, and loneliness in the relationship between shyness and subjective well-being of university students. Within this context, a hypothetical model proposed in the relevant literature is presented in Figure 1.1 to investigate the indirect effect of shyness on the subjective well-being of university students through self-esteem, loneliness, and perceived social support.

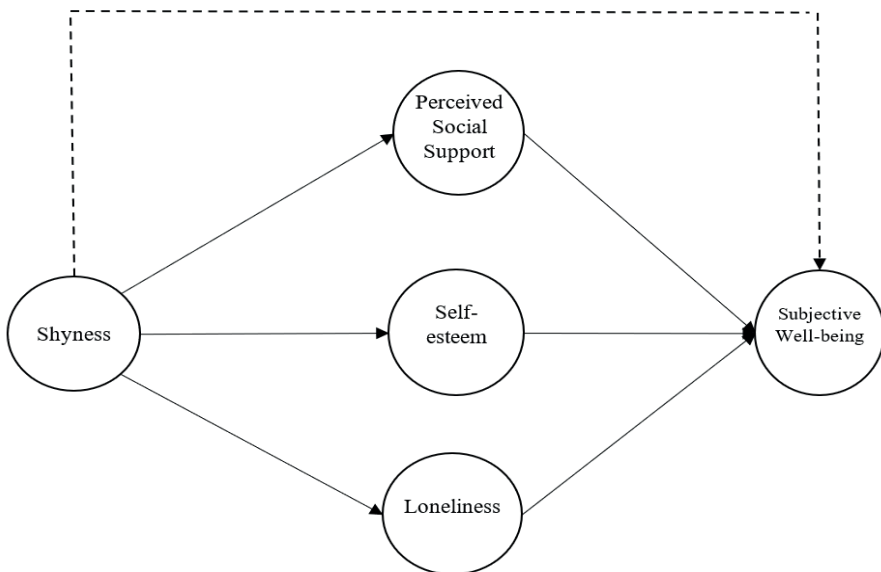


Figure 1.1. Hypothetical model of subjective well-being

2. Method

In this section, information about the research model, study group, data collection tools, data collection process and data analysis are given.

2.1. Research Model

This research is a descriptive study aiming to reveal the mediating role of self-esteem, perceived social support and loneliness in the relationship between university students' subjective well-being and shyness.

2.2. Study Group

The study group of the research consists of 821 university students studying at various faculties of Anadolu University in the 2015-2016 academic year. Of the participants, 454 (55.3%) were female and 367 (44.7%) were male. Considering the class level distribution of the participants, 189 (23.0%) were first year students, 202 (24.6%) were second year students, 227 (27.6%) were third year students and 203 (24.7%) were fourth year students. In addition, the ages of the participants ranged between 17 and 30, with a mean age of 21.14 and a standard deviation of 1.60.

2.3. Data Collection Tools

2.3.1. Positive Affect and Negative Affect Scales (PANAS)

PANAS, developed by Watson, Clark and Tellegen (1988), consists of 20 items. PANAS, which has a 5-point Likert scale (1 = very little or none, 5 = very much), consists of two dimensions: positive affect (10 items) and negative affect (10 items). The possible scores that can be obtained from the scale vary between 10 and 50 for each sub-dimension, and increasing scores indicate that the participants' levels of the relevant sub-dimension also increase. The scale was adapted into Turkish by Gençöz (2000). As a result of the factor analysis, a two-dimensional structure was obtained similar to the original study and it was stated that the two dimensions explained 44% of the total variance. Cronbach alpha internal consistency coefficient was reported as .83 for positive affect and .86 for negative affect. The test-retest coefficients were .40 and .54, respectively. According to the results of the concurrent validity of the Turkish version of PANAS with Beck Depression Inventory, depression was found to have a significant negative relationship with positive affect ($r = -.48$) and a significant positive relationship with negative affect ($r = .51$) (Gençöz, 2000). In this study, Cronbach's alpha internal consistency coefficient was calculated as .83 for the positive affect dimension and .78 for the negative affect dimension.

2.3.2. The Satisfaction with Life Scale

The scale developed by Diener et al. (1985) consists of five items in a unidimensional structure. The possible scores that can be obtained from the scale, which has a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree), vary between 5 and 35. The increase in the scores obtained from the scale indicates that the life satisfaction levels of the individuals also increase. In the scale development study, a unidimensional structure explaining 66% of the total variance was revealed. The internal consistency coefficient of the scale was reported as .87 and the test-retest coefficient as .83 (Diener et al., 1985). The scale was adapted into Turkish by Durak, Durak, and Gençöz (2010). In the study conducted with university students, the unidimensional structure of the Turkish form of the scale ($\chi^2/df=2.026$, $IFI=.994$, $TLI=.987$, $CFI=.994$, $SRMR=.020$, $RMSEA=.043$) was confirmed. It was reported that the Cronbach alpha internal consistency coefficient of the scale was .81 (Durak et al., 2010). In this study, the Cronbach alpha internal consistency coefficient of the scale was calculated as .84.

2.3.3. The Shyness Scale

The Shyness Scale developed by Güngör (2001) consists of 20 items. The scale is a five-point Likert-type scale. The lowest score that can be obtained from the scale is 20 and the highest score is 100. The increase in the scores obtained from the scale indicates that the shyness levels of the individuals also increase. The scale was developed in two stages. In the first stage, the Shyness Scale developed by Cheek and Buss (1981), consisting of 13 items, with an acceptable level of validity (.96) and reliability (.88), was translated into Turkish by an expert who knows both English and Turkish well and an academician who is an expert in the field of psychological counselling and guidance. In the second stage, the participants were asked a question about “in which situation they feel shy” and the answers received from the participants were listed. Thus, seven items obtained from the participants were included in Cheek’s thirteen-item scale and a twenty-item scale was created. The reliability of the scale was examined by test-retest and internal consistency coefficient calculation methods. The scale was administered to a group of 78 participants at three-week intervals and a correlation coefficient of .83 was obtained. The internal consistency coefficient of the scale was .91. When the construct validity was analysed, it was seen that it had a single dimension structure. The validity study of the scale was carried out with the similar scales method. Inventory of Self-Evaluation in Social Situations was used for similar scales validity. According to the results, the correlation between the Shyness Scale and the total sub-dimension scores

of the Inventory of Self-Evaluation in Social Situations was .71 (Güngör, 2001). In this study, the Cronbach alpha internal consistency coefficient of the Shyness Scale was calculated as .92.

2.3.4. Rosenberg Self-esteem Scale

Rosenberg Self-Esteem Scale (Rosenberg, 1963) is a 4-point Likert-type scale consisting of 10 items. Items 1,2,4,6 and 7 in the scale are reverse scored and the scores that can be obtained from the scale vary between 10 and 40. Increasing scores obtained from the scale means that self-esteem will also increase. In the Turkish adaptation studies conducted by Çuhadaroğlu (1986), in order to test the validity of the self-esteem category, the participants' statements about their self-esteem were divided into three groups as low, medium and high. The correlation coefficient between the participants' evaluations about their self-esteem and the scores obtained from the scale was .71 (Çuhadaroğlu, 1986). In addition, the test-retest reliability coefficient was found to be .75. In another domestic study (Karancı, Dirik, & Yorulmaz, 2007), the internal consistency coefficient of the scale was found to be 0.86. In the construct validity study conducted by exploratory and confirmatory factor analysis (Karairmak, 2007), a structure explaining 56% of the total variance was observed as a result of the exploratory factor analysis. In the same study, it was reported that the internal consistency coefficient of the scale was .85. In this study, Cronbach's alpha internal consistency coefficient of Rosenberg Self-Esteem Scale was calculated as .89.

2.3.5. UCLA Loneliness Scale

The scale developed by Russell, Peplau and Ferguson (1978) was organised as a total of 20 statements, 10 of which were positive and 10 of which were negative. The scale was adapted into Turkish by Demir (1989). As in the original form of the scale adapted into Turkish, it is a 20-item scale with a 4-point Likert-type rating scale. Of these 20 items, 10 consist of positive statements and 10 consist of negative statements. Within the scope of the reliability studies conducted within the scope of the adaptation of the scale into Turkish, the scale was applied to the participants at five-week intervals in order to test the test-retest reliability and a correlation of 0.94 was found between the scores obtained from the two applications. In the study conducted with the Turkish version of the scale, Demir (1989) reported that the Cronbach alpha internal consistency coefficient was .96. In terms of scale reliability, it was reported that the correlation level was .82 with the social introversion sub-dimension of the Multidimensional Depression Scale (Aydın & Demir, 1988) and .77 with the Beck Depression Inventory

(Yüksel, 2005). In this study, the Cronbach's alpha internal consistency coefficient of the UCLA Loneliness Scale was calculated as .93.

2.3.6. The Multidimensional Scale of Perceived Social Support

The scale was developed by Zimet, Dahlem and Farley (1988) to assess the adequacy of subjectively perceived social support from three different sources: family, friends and a special person. Consisting of 12 items and 3 sub-dimensions, the scale has a 7-point Likert-type rating. Each dimension consists of four items. The sub-dimensions of the scale are divided into three as family, friends and significant others. A separate score can be obtained for each dimension or a total score can be obtained from the scale. As the scores obtained from the scale increase, the perceived social support level of the individual will increase. The adaptation study of the scale into Turkish was conducted by Eker and Arkar (1995). As in the original version, the Turkish version of the scale consists of three sub-dimensions, namely family, friends and significant others, and a total of twelve items. As a result of the analyses conducted for reliability, it is stated that the consistency level of the scale is between .80 and .95. In this study, Cronbach's alpha internal consistency coefficient was calculated as .88 for the family subscale, .91 for the friends subscale, .95 for significant others, and .90 for the whole scale.

2.3.7. Personal Information Form

The personal information form prepared by the researcher includes information about the age, gender, department and grade level of the participants.

2.4. Data Analysis

In this study, the relationships between university students' subjective well-being and their levels of shyness, self-esteem, loneliness and perceived social support were analysed using structural equation modeling (SEM). The structural equation modelling was conducted in two stages in line with the recommendations of Anderson and Gerbing (1988). In the two-stage SEM, the measurement model is first tested and then the hypothetical structural model is tested. In this study, the parcellation method was used to create the latent variables of shyness, loneliness and self-esteem. Parcellation method is used to reduce measurement errors in unidimensional measurement tools (Little et al., 2002). In addition, it is recommended to use parcellation in concepts related to personality traits to increase both normality and reliability of measurements (Nasser-Abu Alhija & Wisenbaker, 2006). In this study, four parcels for shyness and loneliness and two parcels for self-esteem were

formed by using item-total correlations in proportion to the number of items for shyness, loneliness and self-esteem concepts.

After the measurement model is verified, it is tested whether the hypothetical model proposed in the study is verified or not. All path coefficients specified in SEM should be significant, and this significance is considered as the overall fit of the model. In the assessment of the results in SEM, attention is paid to the significance of the paths and then to the Goodness of Fit Indices. The covariance matrix and maximum likelihood estimation method were used to test the measurement and hypothetical structural model. Chi-square value, GFI, CFI, NFI, TLI, SRMR and RMSEA fit indices were used to determine whether the tested structural models were confirmed or not. GFI, CFI, NFI, and TLI values above .90 mean that these fit indices are at acceptable values (Bentler, 1990). In contrast to GFI, CFI, and NFI values, low SRMR and RMSEA values mean that the goodness of fit of the proposed model is strengthened. SRMR and RMSEA indices below 0.080 are generally considered acceptable (Hu & Bentler, 1999; Schreiber et al., 2006). Multiple model tests are performed to determine the best model. Akaike Information Criterion (AIC) and Expected Cross-Validation Index (ECVI) are used for model comparison. It is decided that the model with smaller AIC and ECVI values than the values calculated separately for each model gives better fit (Akaike, 1987; Kline, 2015).

In order to determine whether self-esteem, loneliness and perceived social support have a mediating role in the relationship between shyness and subjective well-being of university students, Baron and Kenny's (1986) suggestions will be followed. These suggestions are as follows; (1) independent variables and dependent variable have a significant relationship, (2) independent variables and mediator variable have a significant relationship, (3) mediator variable and dependent variable have a significant relationship, (4) when the mediator variable is included in the model, the effect of independent variable on dependent variable decreases. When these four suggestions are fulfilled, it will be decided whether the mediator variables partially or fully mediate in the mediation model. At the decision stage, the model to be preferred is determined by considering the chi-square difference test (Akaike, 1987; Browne & Cudeck 1993). Bootstrapping was used to test whether the indirect effect was significant. Bootstrapping process explains whether the indirect effect is significant by resampling to increase the representativeness of the sample by specifying a confidence interval (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008). In this process, bootstrapping value and confidence intervals are calculated. The absence of zero between the lower limit and

the upper limit of the confidence interval indicates that the indirect effect is also significant (Hayes, 2013). Bootstrapping analysis provides additional evidence on whether the indirect effects between variables are significant. Basic statistics (frequency analysis, mean, standard deviation, skewness, kurtosis, correlation and reliability) were analysed with IBM SPSS Statistic 22 and structural equation modelling and bootstrapping were analysed with AMOS Graphics.

3. Findings

Before analysing the structural models, correlation analysis and descriptive statistics were performed to examine the relationships between the variables. Then, the measurement model was tested and different structural models were analysed to find the best structural model.

3.1. Descriptive Statistics and Relationships between Variables

In the structural equation models, positive affect, negative affect and life satisfaction, which are the components of subjective well-being, and the three sub-dimensions of perceived social support, which are family, friends and significant other, and self-esteem as two plots created by the researcher, and loneliness and shyness as four plots created by the researcher constituted the observed variables. Before proceeding to structural equation modelling, descriptive statistics and relationships of the observed variables are given in Table 3.1.

Table 3.1. Descriptive statistics and relationships between variables (N = 821)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. PA	-															
2. NA	-.20**	-														
3. LS	.41**	-.44**	-													
4. Pssig	.37**	-.23**	.42**	-												
5. PSfam	.32**	-.38**	.60**	.32**	-											
6. PSfri	.34**	-.39**	.56**	.37**	.56**	-										
7. Shy1	-.46**	.37**	-.43**	-.42**	-.43**	-.45**	-									
8. Shy2	-.46**	.37**	-.43**	-.48**	-.39**	-.44**	.76**	-								
9. Shy3	-.42**	.40**	-.43**	-.40**	-.45**	-.49**	.72**	.74**	-							
10. Shy4	-.43**	.37**	-.43**	-.41**	-.45**	-.44**	.77**	.75**	.76**	-						
11. SE1	.50**	-.51**	.58**	.42**	.49**	.48**	-.57**	-.54**	-.51**	-.59**	-					
12. SE2	.52**	-.47**	.62**	.42**	.50**	.49**	-.55**	-.54**	-.52**	-.57**	.85**	-				
13. Lon ¹	-.42**	.49**	-.55**	-.37**	-.49**	-.64**	.53**	.48**	.52**	.54**	-.62**	-.62**	-			
14. Lon ²	-.41**	.46**	-.58**	-.40**	-.55**	-.74**	.52**	.47**	.56**	.53**	-.56**	-.57**	.77**	-		
15. Lon ³	-.48**	.44**	-.57**	-.42**	-.55**	-.67**	.55**	.52**	.59**	.55**	-.56**	-.60**	.73**	.80**	-	
16. Lon ⁴	-.40**	.47**	-.56**	-.41**	-.55**	-.72**	.51**	.48**	.53**	.52**	-.54**	-.57**	.78**	.83**	.79**	-
MEAN	34.58	21.68	20.70	17.65	22.36	21.33	12.95	12.61	12.59	12.97	14.62	15.60	9.48	9.39	8.52	9.35
SD	6.77	6.08	6.19	8.98	5.59	5.83	3.96	3.98	3.99	4.04	3.15	2.91	3.38	3.33	2.98	3.16
Min	10	10	5	4	4	4	5	5	5	5	5	5	5	5	5	5
Max	50	45	35	28	28	28	25	25	25	25	20	20	20	20	19	20

Note. ** p < .001; PA positive affect; NA negative affect; LS life satisfaction; Pssig perceived social support from significant other; PSfam perceived social support from family; PSfri perceived social support from friends; Shy Shyness parcels; SE Self-esteem parcels; Lon loneliness parcels

3.2. Testing the Measurement Model

In the measurement model, which constitutes the first stage of the structural model examining the relationships between subjective well-being, self-esteem, shyness, perceived social support and loneliness levels of university students, there are five latent variables (subjective well-being, self-esteem, shyness, perceived social support and loneliness) and 16 observed variables that constitute these latent variables. Subjective well-being latent variable consists of positive affect, negative affect and life satisfaction. Perceived social support latent variable is represented by family, friends and significant other. Since shyness, self-esteem and loneliness variables are unidimensional, four parcels represent shyness and loneliness latent variables and two parcels represent self-esteem latent variable. Confirmatory factor analysis results of the measurement model are presented in Figure 3.1.

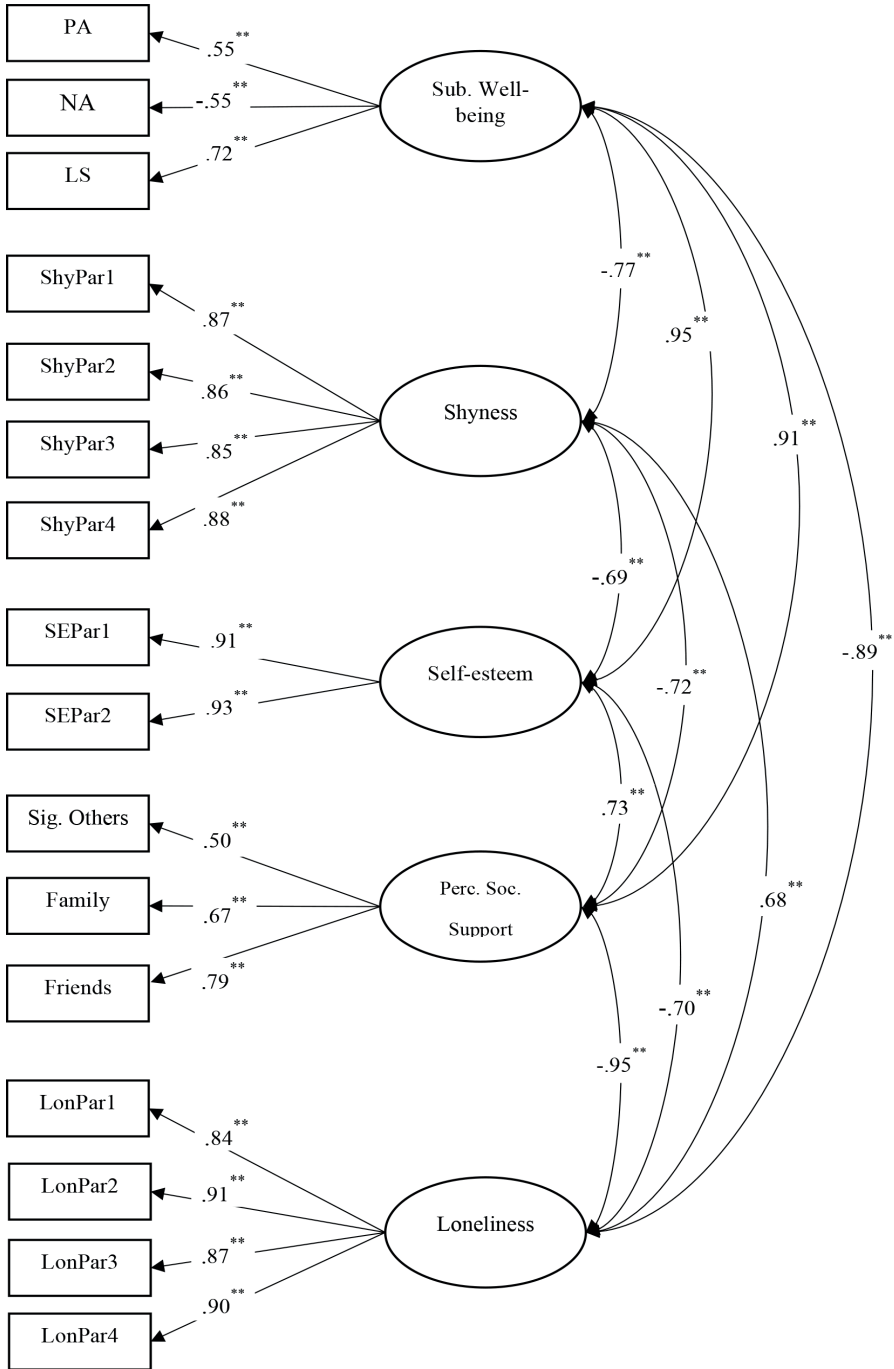


Figure 3.1. Measurement Model, $N = 821$; ** $p < .001$; PA positive affect; NA negative affect; LS life satisfaction; Shy shyness parcels; SE self-esteem parcels; Lon loneliness parcels

In the measurement model, the significance of the standardised regression coefficients was examined first. As seen in Figure 3.1, the standardised regression coefficients ranged between .50 and .93 ($p < .001$). The fit indices were analysed to see whether the measurement model was validated or not. It is seen that the fit indices of the model are at an acceptable level: $\chi^2 (94, N = 821) = 481.114, p < .001$; GFI = 0.93; CFI = 0.96; NFI = 0.95; TLI = 0.95; SRMR = 0.042; RMSEA = 0.071. Standardised regression coefficient, explanatory variances, skewness and kurtosis values of the measurement model are also given in Table 3.2.

Table 3.2. Standardised regression coefficients, explained variances, skewness and kurtosis values of the measurement model

Variable	<i>f</i>	<i>R</i> ²	Skewness	Kurtosis
<i>Subjective Well-being</i>				
Positive affect	.55	.30	-.50	.04
Negative affect	-.55	.30	.61	.16
Life satisfaction	.72	.51	-.19	-.44
<i>Shyness</i>				
Shyness parcel 1	.87	.75	.30	-.16
Shyness parcel 2	.86	.74	.26	-.39
Shyness parcel 3	.85	.72	.29	-.30
Shyness parcel 4	.88	.78	.13	-.24
<i>Self-esteem</i>				
Self-esteem parcel 1	.91	.83	-.30	-.31
Self-esteem parcel 2	.93	.86	-.34	-.50
<i>Perceived Social Support</i>				
Significant others	.50	.25	-.26	-1.47
Family	.67	.45	-.98	.17
Friends	.79	.63	-.76	-.23
<i>Loneliness</i>				
Loneliness parcel 1	.84	.71	.53	-.45
Loneliness parcel 2	.91	.83	.68	-.31
Loneliness parcel 3	.87	.76	.80	.01
Loneliness parcel 4	.90	.82	.68	-.23

When it is examined in Table 3.2, it is seen that the variances of explaining the latent variables represented by the observed variables in the measurement model are also high ($R^2 =$ between .25 and .86). In addition, it is seen in

Table 3.2 that skewness values are between $-.98$ and $.80$ and kurtosis values are between -1.47 and $.17$.

As a result, since all standardised path coefficients of the measurement model are significant, the goodness of fit indexes are within the previously mentioned acceptable values, Kline's (2015) emphasis on the existence of relationships less than $.85$ in terms of singularity is fulfilled, and Bachman's (2004) emphasis on the need for skewness and kurtosis values to take values between -2 and $+2$ for normality is provided, it is understood that the measurement model provides sufficient conditions for the structural models to be used later.

3.3. Testing the Structural Models

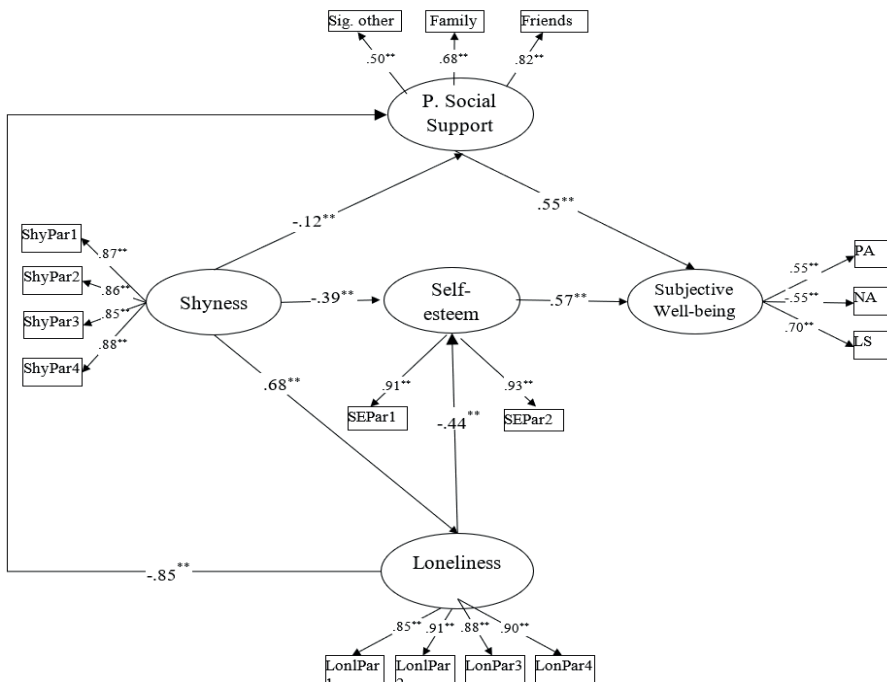
The effect of shyness on subjective well-being of university students through loneliness, self-esteem and perceived social support was tested. In line with the recommendations of Baron and Kenny (1995), more than one structural model was tested in order to investigate the mediating role of loneliness, self-esteem and perceived social support and to determine the best model. In this context, firstly, the full mediating roles of perceived social support, self-esteem and loneliness between shyness and subjective well-being of university students were examined.

In Model 1, it is seen that all path coefficients in the effect of university students' shyness on subjective well-being through the full mediation of perceived social support, self-esteem and loneliness are significant. However Considering the goodness of fit indices of Model 1, it can be said that the goodness of fit indices are not at an acceptable level. The goodness of fit indices of Model 1 are as follows: χ^2 (98 N = 821) = 1004.02, $p < .001$; GFI = $.86$; CFI = $.91$; NFI = $.90$; TLI = $.89$; SRMR = $.090$; RMSEA = $.106$. After Model 1 was tested and the goodness of fit indexes were not found to be acceptable, Model 2, which was established for the effect of university students' shyness on subjective well-being through the partial mediation of perceived social support, self-esteem and loneliness, was tested.

In Model 2, it is seen that the path coefficients from shyness ($\lambda = .48$, $p > .01$) and loneliness ($\beta = .65$, $p > .01$) to subjective well-being in the structural equation model in the partial mediation of university students' shyness on subjective well-being through perceived social support, self-esteem and loneliness are not significant. When the goodness of fit indices of Model 2 are considered, it is seen that the goodness of fit indices are at acceptable levels, but there are insignificant paths. The goodness of fit indices of Model 2 are as follows: χ^2 (94 N = 821) = 481.11, $p < .001$; GFI = $.93$; CFI = $.96$; NFI = $.95$; TLI = $.95$; SRMR = $.042$; RMSEA = $.071$.

After eliminating the insignificant paths in Model 2, Model 3 was tested. In this model, the direct prediction of loneliness by shyness through the mediation of perceived social support and self-esteem between shyness and subjective well-being was examined. In Model 3, it is seen that all path coefficients are significant in the effect of university students' shyness on subjective well-being through the full mediation of perceived social support and self-esteem. When the goodness of fit indices of Model 3 are considered, it is seen that the goodness of fit indices are not at an acceptable level. The goodness of fit indices of Model 3 are as follows: χ^2 (99 N = 821) = 1024.63, $p < .001$; GFI = .86; CFI = .91; NFI = .90; TLI = .89; SRMR = .095; RMSEA = .107.

Considering that the goodness of fit indices of Model 3 were not at an acceptable level, Model 4 was tested. In this model, the structural model (Model 4), which was established for university students' shyness to affect subjective well-being through perceived social support and self-esteem, and loneliness to affect subjective well-being through self-esteem and perceived social support, was tested. The results of path analysis with latent variables for Model 4 are given in Figure 3.2.



*Figure 3.2. Structural model of university students' shyness predicting subjective well-being through perceived social support and self-esteem Note. N = 821; ** p < .01; PA positive affect; NA negative affect; LS life satisfaction; Sig. other perceived social support from significant other; Family perceived social support from family; Friends perceived social support from friends; Shy Shyness parcels; SE Self-esteem parcels; Lon loneliness parcels*

In Model 4, which is presented in Figure 3.2., it is seen that all path coefficients are significant, which was established for university students' shyness to affect subjective well-being through perceived social support and self-esteem, and loneliness to affect subjective well-being through self-esteem and perceived social support. When the direct effects were analysed, shyness predicted perceived social support ($\lambda = -.12, p < .01$) and self-esteem ($\lambda = -.39, p < .01$) negatively, while shyness predicted loneliness positively ($\lambda = .68, p < .01$). On the other hand, loneliness predicts self-esteem ($\lambda = -.44, p < .01$) and perceived social support ($\lambda = -.85, p < .01$) negatively. On the other hand, perceived social support ($\beta = .55, p < .01$) and self-esteem ($\beta = .57, p < .01$) positively predict subjective well-being. When the indirect effects were examined, it was found that the standardised indirect effect coefficient of shyness affecting subjective well-being through perceived social support and self-esteem was $-.87$ and the standardised indirect effect coefficient of loneliness affecting subjective well-being through self-esteem and perceived social support was $-.26$.

When the goodness of fit indices of Model 4 are considered, it is seen that all of the goodness of fit indices are at an acceptable level. The goodness of fit indices of Model 4 are as follows: $\chi^2 (97 N = 821) = 492.25, p < .001$; GFI = .93; CFI = .96; NFI = .95; TLI = .95; SRMR = .044; RMSEA = .070.

Above, potential models regarding the indirect effects of shyness on university students' subjective well-being mediated by perceived social support, self-esteem and loneliness were tested. As a result of these models, it is understood that Model 4 is the most preferable model in terms of both all path coefficients being significant and goodness of fit indices being acceptable. Table 3.3 shows the goodness of fit indices and AIC and ECVI values of the tested models.

Table 3.3. Goodness of fit indices for alternative structural models

	χ^2 (sd)	GFI	CFI	NFI	TLI	SRMR	RMSEA	AIC	ECVI
Model 1	1004.0 (98)	.86	.91	.90	.89	.090	.106	1080.02	1.317
Model 2	481.11 (94)	.93	.96	.95	.95	.042	.071	565.11	.689
Model 3	1024.6 (99)	.86	.91	.90	.89	.095	.107	1098.63	1.340
Model 4**	492.25 (97)	.93	.96	.95	.95	.044	.070	570.24	.695

Note. ** preferred model

Table 3.4. presents the bootstrapping coefficient and the lower and upper limits of 95% confidence intervals as a result of the bootstrapping process performed through 10,000 resampling to provide additional evidence for the significance of the direct and indirect effects of this model.

Table 3.4. Bootstrapping results of the preferred model

Model paths	Coefficient	% 95 C.I.	
		Lower limit	Upper limit
Direct effect			
Shyness → Self-esteem	-.389	-.467	-.311
Shyness → Perceived social support	-.124	-.202	-.044
Shyness → Loneliness	.680	.638	.718
Loneliness → Self-esteem	-.442	-.517	-.362
Loneliness → Perceived social support	-.849	-.909	-.785
Perceived social support → Sub. Well-being	.551	.462	.635
Self-esteem → Sub. Well-being	.572	.487	.657
Indirect effect			
Shyness → Perceived social support - Self-esteem → Sub. Well-being	-.781	-.828	-.730
Loneliness → Perceived social support - Self-esteem → Sub. Well-being	-.721	-.788	-.649

When Table 3.4. is analysed, it can be concluded that all of the effects in the model are significant. The bootstrapping confidence intervals of the indirect effect do not include zero at the lower and upper limits. Therefore, it can be said that the bootstrapping process affects the subjective well-being of university students through the mediation of perceived social support and self-esteem.

4. Discussion

In this section, the findings of the models established and accepted for the relationships between the variables of shyness, self-esteem, perceived social support and loneliness and subjective well-being are discussed within the framework of the theoretical framework and the studies in the literature. A discussion of model 4, which was determined to be the best model as a result

of the analysis, is included in the discussion on the effect of shyness on the subjective well-being of university students through self-esteem, loneliness and perceived social support. According to the structural equation modeling analyses conducted, the best-fitting structural equation model, Model 4, reveals that university students' subjective well-being is predicted by shyness through the full mediation of self-esteem and perceived social support. The discussions regarding the direct and indirect paths of this model are presented below as subheadings.

4.1. Discussion of the Direct Effects in the Model 4

In this model, it was found that shyness directly predicted self-esteem, loneliness and perceived social support at a significant level. It was also found that subjective well-being was directly predicted by self-esteem and perceived social support at a significant level, but loneliness did not directly predict subjective well-being. Discussions on direct relationships are discussed below respectively.

4.1.1. Discussion on the Direct Prediction of Loneliness by Shyness

When examining the pathways from shyness to other variables in the model, the strongest direct effect was observed between shyness and loneliness. A positive and significant relationship was found between shyness and loneliness, indicating that shyness significantly predicts loneliness. This suggests that individuals who exhibit higher levels of shyness are more likely to experience greater feelings of loneliness. In the literature, several studies (Erözkan, 2009; Fitts, Sebbby, & Zlokovich, 2009; Zhao, Kong, & Wang, 2012) have been encountered that demonstrate positive and significant relationships between shyness and loneliness.

It is noted that shy individuals have a longer and more challenging adjustment process to new environments compared to non-shy individuals (Carducci, 2000). Furthermore, it is stated that one of the most significant skill deficiencies observed in shy individuals is their inability to initiate new relationships (Carducci & Zimbardo, 1995). Individuals who come to university not only for education but also to meet their daily needs such as accommodation, nutrition, and establishing a social circle must rely on their own efforts. During university life, individuals are required to interact more with their surroundings than in their previous stages of life as they strive to both continue their education and manage their daily lives. For shy individuals, this process may be more challenging, and they may have a harder time adapting to university life compared to non-shy individuals. In

this context, it can be assumed that shy university students, in comparison to their non-shy counterparts, exhibit fewer social skills such as initiating and maintaining relationships, expressing their emotions, and giving and receiving feedback, leading to less satisfying relationships with their social environments and experiencing more loneliness.

4.1.2. Discussion on the Direct Prediction of Self-Esteem by Shyness

Another finding of the model is that shyness directly predicts university students' self-esteem. According to the finding, a significant negative relationship was found between shyness and self-esteem of university students and it was determined that shyness significantly predicted self-esteem. According to the findings, it can be suggested that as individuals' shyness increases, their self-esteem decreases, or as their shyness decreases, their self-esteem increases. When examining the studies in the literature (Cheek & Buss, 1981; Wadman, Durkin, & Ramsden, 2008; Zhao, Kong, & Wang, 2012), research findings demonstrating significant negative relationships between shyness and self-esteem can also be observed.

Taking into account the claim and findings regarding shy individuals having negative self-perceptions (Henderson & Zimbardo, 1998), it can be stated that the finding in this research, where shyness directly negatively predicts self-esteem in university students, is an expected result. In light of the findings, it can be suggested that shy individuals may not perceive and evaluate their own selves objectively. Instead, they may have unrealistic negative thoughts about themselves and assess their own self-esteem more negatively than they actually are. Considering the tendency of shy individuals to explain their successes with external factors instead of explaining them with factors related to themselves, and their tendency to associate their failures caused by external factors with factors related to themselves (Henderson & Zimbardo, 1998), it can be argued that this situation negatively affects their self-esteem. For example, it can be said that when a shy person, after delivering a presentation in a classroom setting, receives both positive and negative feedback from the audience, focusing solely on the negative feedback while disregarding the positive feedback can lead to self-perceived failure. This, in turn, can negatively impact the individual's self-esteem. When shy individuals tend to dwell on their perceived shortcomings and negative feedback, it can contribute to a diminished sense of self-worth and further erode their self-esteem. Also when considering the developmental stage that university students are in, it can be said that this period is characterized by social comparisons. A shy university student, when comparing themselves to

an outgoing classmate or a socially active peer group, may perceive themselves as socially unsuccessful, and passive. As a result of these comparisons with others, the shy individual may find themselves socially inadequate or passive, which can negatively impact their self-esteem.

4.1.3. Discussion on the Direct Prediction of Perceived Social Support by Shyness

Another finding emerging from the model is that shyness directly predict the perceived social support of university students. According to the findings, there is a significant negative relationship between the shyness of university students and their perceived social support, indicating that shyness significantly predicts perceived social support. It can be stated that as individuals' shyness increases, their perceived social support decreases, or as their shyness decreases, their perceived social support increases. When examining studies in the university student sample regarding the relationships between shyness and perceived social support (Jackson, Fritch, Nagasaka, & Gunderson, 2002; Zhao, Kong, & Wang, 2013a; Zhao, Kong, & Wang, 2013b), findings supporting the negative prediction of perceived social support by shyness can be observed.

Shy individuals are known to struggle with making requests or requests, initiating and maintaining communication, expressing their emotions and thoughts, and providing spontaneous responses (Gard, 2000). In this context, it can be said that shy individuals engage in less social interaction compared to non-shy individuals. Due to their reduced interaction with others, it can be assumed that they have fewer social support resources. Additionally, it is known that shy individuals tend to ignore or downplay the positive feedback they receive from their environment. Therefore, they may perceive only a portion of the actual social support from their limited social support sources, as they subjectively evaluate the support they receive from their environment.

Considering the developmental stage that university students are in, it is expressed that the most important source of social support for individuals during this period is their friends (Zimbardo, 1990). University students generally leave behind their families and familiar social environments, encountering a new social environment at university. In this new social environment, they are required to form new friendships. Developmentally, it is also expected of individuals in this age group to establish new friendships and close relationships as part of their developmental tasks (Aydın, 2005). In this context, it can be said that friend support emerges as a prominent

perceived source of social support for individuals. However, due to the limited communication skills of shy individuals, it can be argued that the social support they perceive from their friends' circle is low.

4.1.4. Discussion on the Lack of Direct Prediction of Subjective Well-Being by Shyness

In the model, shyness was found to have no direct effect on subjective well-being. This result indicates that individuals' subjective well-being levels are not directly related to individuals' shyness. As a matter of fact, in a study (Nasrin & D'Souza, 2013), it was found that the subjective well-being levels of individuals did not differ according to their shyness levels. However, in other studies (Findlay & Coplan, 2008; Findlay, Coplan, & Bowker, 2009; Gross & John, 2003; Rowsell & Coplan, 2013) in which the relationship between shyness and subjective well-being was examined, it was stated that there was a low level and negative significant relationship between the two concepts.

It can be noted that the findings of Nasrin and D'Souza (2013) and the limited number of other studies that have examined the relationship between these two concepts (Findlay & Coplan, 2008; Findlay, Coplan, & Bowker, 2009; Gross & John, 2003; Rowsell & Coplan, 2013) do not align. This difference in research findings may be attributed to the cultural context in which the studies were conducted. It is observed that the study with findings consistent with this research (Nasrin & D'Souza, 2013) was conducted in cultures with a collectivist orientation, while the other studies were conducted in individualistic cultures.

In this context, it can be suggested that the relationship between shyness and subjective well-being may vary from culture to culture. It is possible that in individualistic cultures, there is a direct relationship between the two concepts, whereas in collectivist cultures, there may be other mediating factors influencing the relationship between the two concepts. Therefore, there is a need for new research findings that investigate both direct and indirect pathways to better understand the relationship between shyness and subjective well-being within the Turkish cultural context. Indeed, several studies conducted with participants from collectivist cultures (Wang, Zhao, & Wang, 2014; Zhao, Kong, & Wang, 2013) have examined different mediating factors in the relationship between shyness and subjective well-being. In this research as well, it was found that shyness influences subjective well-being through self-esteem and perceived social support. The roles of self-esteem and perceived social support as mediators in the relationship

between shyness and subjective well-being have been discussed under the heading of indirect effects.

4.1.5. Discussion on the Direct Prediction of Subjective Well-Being by Self-Esteem

Another significant finding emerging from the model is the direct influence of self-esteem on the subjective well-being of university students. According to the findings, there is a significant positive relationship between the self-esteem of university students and their subjective well-being, indicating that self-esteem significantly predicts subjective well-being. According to the findings, it can be said that as the self-esteem of university students increases, their subjective well-being also increases, or as their self-esteem decreases, their subjective well-being also decreases. The literature supports these findings, as studies (Diener & Diener, 1995; Doğan & Eryılmaz, 2013; Kwan et al., 1999; Oishi et al., 1999; Schimmack & Diener, 2003; Türkmen, 2012) have consistently shown significant positive relationships between self-esteem and subjective well-being.

It can be said that self-esteem is an important concept for university students because individuals in this phase of life have various developmental tasks, such as establishing close relationships with their social environment, achieving professional development, and personal growth. When individuals have high self-esteem, they are believed to possess assertive behavior skills, strong communication skills, and enjoy social interactions. Therefore, they are more likely to successfully fulfill their developmental tasks and experience satisfaction in their lives, in other words, they have high subjective well-being.

On the other hand, individuals with low self-esteem are suggested to experience adjustment difficulties and are at risk of mental health issues (Kılıç, 2015). In this context, it can be expected that individuals who perceive themselves as worthless and have negative self-evaluations would have low levels of subjective well-being. When considering university students, it can be argued that due to their low self-esteem, they may experience difficulties in establishing close friendships and socializing. This may lead to interpersonal conflicts and social withdrawal, ultimately resulting in lower levels of subjective well-being.

4.1.6. Discussion on the Direct Prediction of Subjective Well-Being by Perceived Social Support

Another significant direct effect observed in the model is the direct effect of perceived social support on the subjective well-being of university students.

According to the findings, there is a significant positive relationship between the perceived social support of university students and their subjective well-being, indicating that perceived social support significantly predicts subjective well-being. Therefore, it can be said that as university students' perceived social support increases, their subjective well-being also increases, or as the levels of perceived social support decrease, the levels of subjective well-being also decrease. When examining the findings of studies that investigate the relationship between perceived social support and subjective well-being (Chalise, Saito, Takahashi, & Kai, 2007; Chu, Saucier, & Hafner, 2010; Kirhalli, 2015; Pugliesi & Shook, 1998; Saygın, 2008; Yağın, 2015), results consistently demonstrate significant positive relationships between the two concepts.

It can be said that perceived social support is an important concept for university students (Kozaklı, 2006). During this phase of life, especially for those who are mostly living away from their families, the support from friends becomes more crucial. Many university students spend most of their time with peer groups such as classmates, roommates, and social circle friends. For a university student who cannot perceive the necessary social support from their social network, life conditions may become challenging, which can negatively affect their subjective well-being. On the other hand, for a university student who perceives an adequate level of social support from their social network, life conditions are facilitated by their social environment, leading to an increase in their subjective well-being.

4.1.7. Discussion on the Direct Prediction of Self-Esteem by Loneliness

Another finding of the model is that loneliness directly predicts university students' self-esteem. According to the finding, a significant negative relationship was found between loneliness and self-esteem of university students and it was determined that loneliness significantly predicted self-esteem. According to the finding, it can be said that self-esteem decreases with an increase in loneliness or self-esteem increases with a decrease in loneliness. In the literature (Erözkan, 2009; Güloğlu & Kararmak, 2010; Kemple, 1995; McWhirter, Besett-Alesch, Horibata, & Gat, 2002), there are research findings showing that there are significant negative relationships between loneliness and self-esteem.

It is known that lonely individuals tend to engage in cognitive processes involving self-blame, negative thoughts about themselves and others, and judgments that others will evaluate them negatively (Ünlü, 2015). In other

words, lonely individuals may not be at peace with themselves or with others. On the other hand, self-esteem involves an individual's sense of being at peace both with themselves and their social environment.

It is often noted that lonely individuals tend to have an introverted personality structure (Wiseman, Mayseless, & Shabany, 2005). In contrast, self-esteem is considered to be associated with extraversion (Aslan, 2012). Additionally, lonely individuals often experience a lack of social skills and struggle with initiating and maintaining communication (Deniz, Hamarta, & Ari, 2005). Conversely, individuals with high self-esteem are thought to have higher levels of social skills and may find it easier to initiate communication. In this context, it can be suggested that the behavioral patterns of individuals with high levels of loneliness and individuals with high self-esteem may not align with each other.

4.1.8. Discussion on the Direct Prediction of Perceived Social Support by Loneliness

Another finding in the model is that loneliness directly affects the perceived social support of university students. According to the finding, a significant negative relationship was found between university students' loneliness and their perceived social support and it was determined that loneliness significantly predicted perceived social support. According to the finding, it can be said that individuals' perceived social support decreases with the increase in their loneliness or their perceived social support increases with the decrease in their loneliness. In the research findings in the literature (Jackson et al., 2002; Kozaklı, 2006; Yılmaz et al., 2008; Zhao et al., 2013a), results showing that there are significant negative relationships between loneliness and perceived social support are found.

Needs such as caring, being liked and belonging can be met from the social environment. Individuals experiencing loneliness, on the other hand, have dominant feelings of abandonment, emptiness, hopelessness and unlovedness (Pektekin, 1993). Social support helps individuals to fulfil their needs for care, attention, value and belonging. However, considering that lonely individuals have limited relations with their social environment, it can be said that they cannot perceive sufficient social support from their relations with their social environment.

Loneliness is one of the significant challenges for university students (Kozaklı, 2006). During the university years, individuals tend to take on more responsibilities compared to earlier stages of their lives. It can be argued that university students often live away from their families within the context

of their developmental period. Additionally, another difficulty commonly associated with lonely individuals is the lack of social skills (Deniz, Hamarta, & Ari, 2005). In this regard, university students, who are expected to demonstrate self-sufficiency while living away from their families, typically find potential sources of social support within their environment, such as their classrooms or student clubs. However, due to the social skill deficiencies, such as initiating and maintaining communication and displaying assertive behavior, lonely individuals might struggle to establish connections with their social environment. Consequently, individuals experiencing loneliness may not receive the needed social support from their surroundings.

4.1.9. Discussion on the Lack of Direct Prediction of Subjective Well-Being by Loneliness

The model has concluded that loneliness does not have a direct impact on subjective well-being. This finding suggests that the subjective well-being of university students is not directly related to their loneliness. However, research findings on the relationship between loneliness and subjective well-being have shown a low-level negative correlation between the two concepts (Chalise et al., 2007; Hsieh & Hawkey, 2017; Saygin et al., 2015). Nevertheless, in this study, it was found that loneliness indirectly predicts subjective well-being through self-esteem and perceived social support. In fact, in a study (Tu & Zhang, 2015), the indirect effect between loneliness and subjective well-being was examined, revealing that loneliness has an impact on subjective well-being through self-efficacy.

In this context, the finding in this study that there is an indirect effect between loneliness and subjective well-being through self-esteem and perceived social support can be considered an enlightening result regarding the indirect effects between these two concepts. In the case of university students, the mediating roles of self-esteem and perceived social support in the relationship between shyness and subjective well-being were discussed under the heading of indirect effects.

4.2. Discussion of the Indirect Effects in the Model 4

In Model 4, it was found that indirect effects were also significant in addition to direct effects. It was understood that the effect of shyness on subjective well-being was indirect. According to the model, self-esteem and perceived social support fully mediate the relationship between shyness and subjective well-being in university students. In other words, as university students' shyness increases, their self-esteem and perceived social support

decrease, and as their self-esteem and perceived social support levels decrease, their subjective well-being decreases.

Considering the characteristics observed in shy individuals, it can be said that they have difficulty in establishing close relationships with the individuals around them and have trust problems. In the shaping of self-esteem, it can be said that the feedback received from important others in the individual's life is important. As shy individuals are unable to socialise to the extent they want, they cannot receive feedback from their environment. In this context, it can be said that it is an expected result that shy individuals who have a limited relationship with their social environment have low levels of social support perceived from their environment. It is also stated that shy individuals are not satisfied with their own situation and blame themselves when they compare themselves with non-shy individuals (Henderson & Zimbardo, 1998). In this context, it can be stated that it is an expected result that shy individuals who are not satisfied with their own selves have low self-esteem. In this context, it can be said that as the level of shyness of individuals increases, their self-esteem and perceived social support decrease and as a result of the decrease in their self-esteem and perceived social support, their subjective well-being also decreases.

It can be said that university students often have to be together with other people in their daily lives. In this context, it can be thought that daily life is difficult for shy university students. Because it is stated that shy individuals tend to avoid social interaction and fail to participate in social environments (Crozier, 2005). However, it can be said that the nature of university life leads the individual to social interaction and being in a social environment. In this context, shy individuals who find themselves in a social environment again and again every new day may find themselves more hopeless and pessimistic in coping with shyness over time. It can be said that shy individuals who are not able to benefit from social support resources because they do not interact with their environment and who have a negative judgement about their own self will be more disconnected from their environment as the level of shyness increases and will have an increasing negative judgement about their own self and as a result, their subjective well-being will decrease.

Another indirect effect identified in the model is the relationship between loneliness and subjective well-being. According to the model, self-esteem and perceived social support fully mediate the relationship between loneliness and subjective well-being in university students. In other words, as the level of loneliness increases among university students, their self-esteem and

perceived social support decrease. Consequently, as self-esteem and perceived social support decrease, their subjective well-being also decreases.

In the existing literature (Geçtan, 1998; Perlman & Peplau, 1984; Young, 1982), the negative aspects and distressing effects of perceived loneliness on individuals have been emphasized. Individuals who perceive themselves as lonely may not perceive sufficient social support from their social environments, and they may feel discomfort due to this situation. Furthermore, individuals who perceive themselves as lonely may not be satisfied with their circumstances. In this context, it can be argued that individuals who perceive themselves as lonely have lower subjective well-being because they are not at peace with themselves and because they cannot feel the social support they need from their social environments. Indeed, findings from studies conducted with university students (Güloğlu & Karairmak, 2010; Kozaklı, 2006; Yalçın, 2015; Zhao et al., 2013a) support the idea that loneliness negatively predicts self-esteem and perceived social support, consistent with this interpretation.

University students, due to the nature of their daily lives, are typically involved in social activities. It can be assumed that university students who experience loneliness perceive limited social support from their social environments. University students who have difficulty communicating with their social environment may experience a significant deficiency in terms of utilizing friend support for their developmental tasks. It can be argued that lonely university students who do not receive attention and value from their social environment, do not feel like a part of the social network, and experience feelings of abandonment, may have their self-esteem negatively affected due to not perceiving themselves as valuable. In this context, it can be said that university students who feel lonely in places where they spend their daily lives, such as classrooms, dormitories, and campus areas, who cannot feel the social support they need from their surroundings, and who are not at peace with their own identity, may experience a decrease in their levels of subjective well-being.

Lastly, in the overall model, it can be observed that negative concepts such as shyness and loneliness do not directly predict subjective well-being. Instead, they have an indirect impact, fully mediated by positive concepts, namely self-esteem and perceived social support. However, it is evident that positive concepts such as self-esteem and perceived social support directly predict subjective well-being. In this context, it can be stated that positive concepts have a direct impact on subjective well-being, while negative concepts indirectly impact it through positive concepts, highlighting

the complex interplay between positive and negative aspects of human experiences.

4.3. Suggestions

In light of the findings from this investigation, several recommendations can be put forth for prospective research endeavors:

- As evident in the research findings, it can be observed that positive concepts related to human nature, such as self-esteem and perceived social support, directly predict subjective well-being, while shyness and loneliness indirectly predict it. In this context, future studies examining the relationship between negative concepts related to human nature and subjective well-being may consider the presence of mediating variables to gain a more comprehensive understanding of these complex relationships.
- In this study, the terms “direct effect” and “indirect effect” have been used due to the terminology of structural equation modeling. Therefore, it should be noted that the direct and indirect effects in the research should not be evaluated in a strict causal context. To establish a causal relationship among the variables in the research, experimental studies can be conducted.
- Longitudinal studies can be conducted to observe the development of the relationship between subjective well-being and shyness, self-esteem, loneliness and perceived social support of university students from freshman to senior year.
- In this study, self-report Likert-type scales were utilized to assess participants’ subjective well-being, shyness, self-esteem, loneliness, and perceived social support. In future research that aims to explore the relationships among these variables, qualitative studies may be conducted using various techniques to comprehend the patterns between the variables.

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