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THE MEDIATING ROLE OF SELF-CONSTRUALS IN THE RELATIONSHIP BETWEEN FAMILY CLIMATE AND MULTIDIMENSIONAL WELL-BEING IN UNIVERSITY STUDENTS

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Abstract

This study employs a Structural Equation Model to examine the mediating role of self-construals in the relationship between university students' family climate and well-being In line with the correlational model, the study's sample consisted of 541 university students, of whom 371 (68.6%) were female and 170 (31.4%) were male. The average of age the participants included in the sample was found to be 21.19. The PERMA-Profiler, Autonomous-Relational Self in Family Scale, and Family Climate Scale were used to collect data. Both a Pearson's Product-Moments Correlation and Structural Equation Model were used to analyze the study's data and thereby test the study's main hypotheses. The Structural Equation Model revealed that self-construals play a mediating role in the relationship between family climate and well-being. According to the model, individuals raised in families with a positive family climate were found to develop a self-construal (relational and autonomous-relational self) and this self-construals increased individuals' well-being levels. These results emphasize the importance of considering family climate characteristics and self-construals when researching well-being.

Keywords: well-being, family climate, self-construals, structural equation model, path analysis.

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Contrary to the traditional pathology-based approach to dealing with psychological problems, positive psychology seeks to improve people's lives by focusing on positive characteristics and emphasizing powerful means of coping with difficult situations (Eryılmaz, 2014; Hefferon & Boniwell, 2018). Tracing its roots to the 1970s, positive psychology experienced an increase in the number of related functional studies conducted during the 1990s (Linley et al., 2006). It is stated that the interest in the concepts of psychological well-being and subjective well-being has increased especially since the 1990s (average of 2-3 thousand studies) (Linley & Joseph, 2004; Linley et al., 2006). Positive psychology focuses primarily on creating positive institutions that will raise individuals who will be a beneficial to their societies, on the positive qualities of people, and on positive life experiences like well-being, hopefulness in life, and having optimistic outlook (Gillham & Seligman, 1999; Seligman & Csikszentmihalyi, 2000). In addition to seeking the actualization of each individual's personal skills and human potential, positive psychology emphasizes the importance of living a high-quality life (Compton & Hoffman, 2012).

Multidimensional Well-Being

Given the importance of focusing on individuals' positive and strong qualities, the centerpiece of this study is well-being. While the concept of well-being is defined in a multitude of ways in the related literature, Seligman's use of a five-dimensional model to examine well-being is considered important. PERMA is a multidimensional well-being model aimed at increasing flourishing and consists of five components. These components are as follows: P; positive emotions, E; engagement, R; positive relationships, M; meaning and A; accomplishment (Seligman, 2011). Positive emotions are the first element of the PERMA Model and is addressed as one component contributing to well-being (Seligman, 2011). Not only do positive emotions enable individuals to think and act more flexibly by increasing the depth and range of their behaviors and of their faculty of reasoning and understanding, emotions also promote life satisfaction and, by bringing together all the knowledge an individual has acquired, allows one to see life from a different perspective (Fredrickson, 2003; Nickerson, 2007). The second element of PERMA, engagement, is defined as an individual's losing track of time while performing an activity or task, being completely absorbed by the task at hand (giving full attention and interest), and experiencing a disappearance of self-awareness (Csikszentmihalyi, 1990; Seligman, 2011). The third element, positive relationships, is described as an individual's trust in, ability to share with, and, in the case of need, ability to seek help from the people in his life with whom he has a relationship (Seligman, 2011). The existence of positive relationships further indicates that an individual considers himself a member of the society in which he lives, feels socially integrated, is connected with, loves, and shares with others, and is satisfied with his social relationships (Khaw & Kern, 2015; Peterson, 2006). Meaning, the fourth element of

PERMA, is defined as belonging to and serving something or some ideal one believes to be greater than himself (Seligman, 2011). Having meaning and purpose in life indicates that the person is engaged with life (Frankl, 2018), is psychologically healthy (Ryff, 1989; Ryff & Keyes, 1995; Ryff & Singer, 1998), and has a defense mechanism against both risky behaviors and weak psychological health (Brassai et al., 2011). The last element of PERMA, accomplishments, is defined as setting explicit goals in life, striving diligently to achieve these goals, gaining mastery in a specific activity or task, experiencing a sense of accomplishment, and feeling self-efficacy (Seligman, 2011).

As mentioned above, Seligman's PERMA model allows interested parties to investigate individuals' levels of well-being by addressing five sub-dimensions of well-being, such as having positive feelings, being engaged in specific activity, forming positive relationships, and experiencing accomplishment in life (Seligman, 2011). Although the PERMA model has formed the basis for many studies on individuals' well-being in the international literature conducted in recent years (i.e., Allen, 2017; D'raven & Pasha-Zaidi, 2016; Kern et al., 2015; Lowry, 2018; Morrish et al., 2018; Wagner et al., 2019), there are only a limited number of studies in the Turkish literature on well-being in which the PERMA model is used as a base (i.e.., Altuntaş, 2018; Kılıç, 2018; Özünlü, 2018). Consequently, we believe that employing a single, holistic multifactor model that addresses a multitude of aspects related to life and humanity to examine well-being will greatly contribute to the literature and to the field as a whole.

Family Climate

One of the primary factors influencing individuals' well-being is the family of origin and its characteristics. Defined as the psychological atmosphere characterized by the quality of relationships and communication among family members, social interactions, and the thoughts, values, and beliefs passed down from previous generations, family climate offers a more comprehensive perspective than traditional approaches to families as it examines intergenerational relationship alongside communication and cultural characteristics as a whole (Björnberg & Nicholson, 2007; van Stejin et al., 2015). Family climate is discussed based on ecological systems and family systems approaches. Embracing an ecosystemic perspective involves the investigating numerous components that can influence various social systems in which the family operates. This includes the broader sociocultural environment and not just intrafamilial relationships (Goldenberg & Goldenberg, 2008; Robbins et al., 2003). Bronfenbrenner (1986) advocates exploring multilayered (societal, political, economic, social groups) social systems and the cultural norms and values that surround these systems while examining behavior types of individuals and families and the relationship patterns in families. When examining family systems approaches, we observe that (a) every intrafamily

occurrence is related to each unit in the system, (b) interactions and social climate between family members is associated with psychological and ecological systems, (c) intergenerational bonds are important in relationships and self-differentiation, and (d) it is necessary to examine family processes (e.g., roles, communication, values, norms) (Björnberg & Nicholson, 2007; Bray et al., 1984; Moos & Moos, 2002; Skinner et al., 1983; Skinner et al., 2000). Family climate involves three sub-dimensions, namely intrafamilial relatedness, intergenerational authority, and cognitive cohesion. Intrafamilial relatedness is defined as interpersonal social interaction, open communication in the family, positive family relationships, bonds of love between generations, the ability of family members to manage problems together, and interpersonal harmony (Björnberg & Nicholson, 2007). Referring to the younger generation's conformity to the senior generation's wishes, the indisputability of the senior generation's authority, and rules being defined by senior family members, the second element of family climate, intergenerational authority, is negatively associated with intrafamilial relatedness, cognitive cohesion, general family health, and adaptability (Björnberg & Nicholson, 2007; Gönül et al., 2018). The final element of family climate, cognitive cohesion, refers to family members' shared vision, beliefs, life values, and engagement with regard to most issues (Björnberg & Nicholson, 2007).

Several studies in the literature reveal that positive communication in the family, satisfaction with family bonds, emotional cohesion, and competence are influential in generating high subjective well-being (Coty & Wallston, 2010; Eryılmaz, 2010), a high quality of life (Tümer, 2018), high general self-efficacy (İkiz & Yörük, 2013), positive psychological health (Topbay, 2016), high life satisfaction (Tutal, 2015), and high psychological well-being (Kazarian, 2005; Kendall, 2018; Phillips, 2012). Therefore, given the importance of examining the family from a cultural perspective as a whole together with intergenerational relationship, communication, and their unique characteristics, our study, by focusing on family climate, aims to offer important insight to its relationship with well-being. Since family characteristics, relationships, communication levels, and context are important in individuals' identity formation (Matheis & Adams, 2004), in the development of positive self-concepts (Berkem, 1999), in the formation of positive self-perceptions (Yılmaz, 2000), and in the development of self-construals (Karakitapoğlu Aygün, 2002), examining self-construals as a concept is deemed important.

Self-Construals

Self-construal refers to the self that distinguish one individual from others and encompasses a person's emotions, thoughts, attitudes, and actions in relation to interpersonal relationships (Singelis, 1994). Self-construals provide an efficient way to investigate the context and relationship between culture and actions (Singelis &

Brown, 1995), they are influenced by the cultural characteristics, norms, values, social rules of individuals' environment, and affect person's feelings, thoughts, and actions (Matsumoto & Juang, 2016). When examining self-construals from a cultural standpoint, where cultures are considered either relationalist or individualist, we find that self-construals can be categorized as follows: (a) independent self-construals, in which an individual is independent of their family, friends, siblings, and coworkers and (b) interdependent self-construals, in which an individual is dependent on and has strong relational bonds with his family, friends, siblings, and coworkers (Markus & Kitayama, 1991a). When addressing the self in conjunction with cultural characteristics, it is vital to examine individualism and collectivism, as they are significant subjects in intercultural psychological studies (Kağıtçıbaşı & Berry, 1989). Individualism involves elements brought about by modern life, such as human rights, equality in gender roles, individuality, and freedom (Lukes, 1973). In contrast collectivism emphasizes cultural characteristics, traditions, and beliefs common in traditional life (Kim, 1994; Morris & Peng, 1994). Individualism prevails in cultures where individuals are considered independent of their community, personal goals take precedence, and relational bonds are weak. Collectivism, on the other hand, is prominent in cultures where individuals' relationship with their community are prioritized, communal goals supersede personal goals, interpersonal relationships are strong, people are connected to each other through traditional and other diverse values, and individuals often cite their membership in a family, group, and/or community when describing themselves (Gudykunst et al., 1996; Hofstede, 2003; Triandis, 2001; Triandis & Suh, 2002).

Although diverse approaches are used to examine self-construals in research within an individualist-collectivist cultural framework, this study employs Kağıtçıbaşı's individualist-relationalist cultural framework to examine the autonomous self, the relational self, and the autonomous-relational self (Kağıtçıbaşı, 1996a). The autonomous self is a self-construal dominant in individualist cultures of industrialized societies in which nuclear families and independent values are more commonly observed, in which children's psychological values are given higher precedence, in which individuals' personal strengths and inner feelings and thoughts are important, in which individuals' personal goals and given priority, and in which independent intergenerational relationships prevail (Kağıtçıbaşı, 1996b; Markus & Kitayama, 1991a). The relational self is a self-construal observed in collectivist (relationalist) cultures in which rural communities are predominant, in which functional extended families are more common, in which family/group dependency values prevail, in which belonging and adapting to a group is given precedence, in which group goals supersede personal goals, and in which dependent intergenerational relationships prevail (Kağıtçıbaşı, 2012; Markus & Kitayama, 1991b). The autonomous-relational self, however, is a self-construal is observed in collectivist (relationalist) cultures in which an urbanized (industrialized) society has emerged, in which a complicated family structure that consists mainly of nuclear

families but that also values bonds of kinship with extended family members prevails, in which both family/group and individual dependency values are common, in which children's psychological values are given precedence, in which control and autonomy exist simultaneously in child-rearing, in which emotional intergenerational bonds are not uncommon, and in which authoritative parenting is predominant (Kağıtçıbaşı, 2012).

Current Study

In this study, we considered some criteria in determining the mediator variable and establishing the structural equation model. Kazdin (2007) delineated the following seven additional recommendations for research to identify a mediator: "1) the selection of mediators must be guided by theory; 2) treatment studies must include measures of potential mediators; 3) the timeline of the proposed mediator and outcome must be established; 4) studies must assess more than one mediator; 5) studies must use designs that can evaluate mediators; 6) different types of studies must provide converging evidence; and 7) treatment studies must be complemented by experiments that manipulate the mediator to provide converging evidence". We have taken the criteria numbered one, four and five among Kazdin's (2007) criteria as the basis for determining the mediator variable. Accordingly, it was thought that the variable of self-construals could be an important mediating variable between family climate and well-being, based on the theoretical framework. In addition, the variable of self-construals and three different constructs, namely autonomous self, relational self, and autonomous-relational self, were included in the study as variables. In this way, the role of different mediator variables in the model was tested. According to another criterion, an appropriate design was used by creating a structural equation model to examine the role of mediating variables. There are some limitations in determining the mediator variable in this study. There was no intervention or treatment in this study. There is no long-term evaluation as it is not an intervention study. For this reason, the timeline was not used in the process. No application has been made that includes variables of different types in the process.

In the literature, relational and autonomous-relational self-construals have been found to influence individuals' subjective well-being (Özdemir, 2012; Yu et al., 2016), psychological robustness (Gündaş, 2013; Gündaş & Koçak, 2015), psychological resilience (Koç-Yıldırım, 2014), life satisfaction (Akutsu et al., 2011; Liang, 2011; Morsünbül, 2013; Öztan, 2014), the search for meaning in life (Datu & Salanga, 2018) and psychological well-being (Özdemir, 2016; Smith, 2009; Yeniçeri, 2013). University students, who constitute the sample of this study, are in the emerging adulthood period in terms of development. During this period of life, individuals have different experiences. They seek to discover their identity with regard to their worldview, work life and relationships (Arnett, 2000). In this period, individuals are more exposed to negative life conditions, negative emotions and

stress due to changes in life, indecisions, and identity discovery process (Schulenberg & Zarrett, 2005). Therefore, it is necessary to examine well-being, which is one of the important indicators of mental health, from a personal, social and cultural perspective. Additionally, it is important to examine well-being in the context of family climate and self-construals among university students. Accordingly, we believe that since various self-types (e.g., autonomous, relational, and autonomous-relational) related to how individuals perceive and position themselves within a specific cultural context are closely related to well-being and family climate, their inclusion in the research in a single model is worthwhile. No study investigating well-being (PERMA), self-construals, and family climate was found in the literature. We believe that proposing a new model dealing with the role of self-construals will contribute significantly to the field, as the relationship between individuals' family climate characteristics and their well-being levels is intrinsically connected to self-construals. Accordingly, this study employs a Structural Equation Model to investigate the mediating role of self-construals' in the relationship between family climate and well-being. To test the structural equation model, the following hypotheses were formulated.

Basic Hypotheses

H_1: Statistically significant relationships exist between the variables of both well-being and self-construals through the variable of family climate.

H_2: High levels of family climate are positively associated with high level of well-being.

H_3: High levels of family climate are positively associated with high level of positive self-construals.

H_4: High levels of positive self-construals are positively associated with high level of well-being.

H_5: Self-construals have a mediating role on the relationship between the variables of family climate and well-being.

Methodology

Research Design

This research is a correlational model to examine the mediating role of self-construals in the relationship between family climate and well-being in university students. A correlational model is used to explore the relationships between two or more variables, assess whether these variables mutually each other, and investigate their combined effects (Creswell, 2017). In this study, well-being is the dependent variable, while family climate and self-construals serve as the independent and

mediator variables, respectively. Structural equation modeling (SEM) is utilized to analyze the relationships among these variables and to evaluate the model's validity, which is constructed based on the theoretical framework. A multivariate statistical analysis approach that combines regression and factor analyses used to assess newly-created models, SEM offers researchers the opportunity to use manifest variables to measure the latent constructs of models that include direct and indirect effects between measured, latent, and multilevel variables (Gürbüz & Şahin, 2015; Hoyle, 1995; Kline, 2019).

Participants

The study's sample comprised 541 university students, consisting of 371 (68.6%) females and 170 (31.4%) males. The average of age the participants included in the sample was found to be 21.19. The participants were drawn from three faculties: 157 (29%) from the Faculty of Medicine, 256 (47.3%) from the Faculty of Education, and 128 (23.7%) from the Faculty of Theology.

Sampling Procedures

The population consisted of 25.123 undergraduate students actively enrolled in Eskişehir Osmangazi University during the 2018-2019 spring semester. The study's sample groups were composed of 541 students selected using multistage sampling, a technique that is used when the population is prohibitively large or cannot be easily defined by the researchers and in studies in which sample groups are determined in two or more stages and in which more than one sampling technique is used (Creswell, 2017). The university has a total of 12 faculties. Three different faculties representing three of the professions (numerical, verbal and equally-weighted) were included in the research. By carrying out this study with students from faculties of medicine, education and theology, it was aimed to reach individuals from different professions, different cultural levels, different socioeconomic structures and different beliefs. Using stratified sampling, we first formed three strata from the university's different faculties, namely the faculties of medicine, education, and theology, as they were believed to be pertinent to the study's theme and to manifest important differences. We were able to obtain the required number of data sets by calculating the ratios for the three strata to the population. The majors belonging to each stratum were then accepted as clusters and those students who were to participate in the study were chosen from each stratum using random cluster sampling. This sampling technique aimed to encompass students from various faculties and pursuing different majors at Eskişehir Osmangazi University.

Sample Size, Power, and Precision

For this study, the alpha value was 0.05, the power was 0.95, and the effect size was 0.15 (medium level), and the sample size was calculated with G*Power analysis. While determining sample size, we were careful to ensure a confidence interval of 95% and a margin of error of ± 5% for our non-homogeneous universe, and therefore calculated the required sample size to be N=384 (Gürbüz & Şahin, 2015). A non-homogeneous universe refers to a universe that contains different characteristics and units. In this universe, which includes different units, the number of variables will also vary depending on the number of units, so it is necessary to select an appropriate and sufficient sample (Baştürk ve Taştepe, 2013). For this reason, the required sample size for a non-homogeneous universe has been calculated with a 95% confidence interval. Additionally, when determining the sufficient sample size for SEM, the 20xp (p = number of parameters) formula was taken into account (Kline, 2019), resulting in required sample size of 20x17 = 340. To account for the possibility of erroneous data, we collected data from 633 individuals. After the evaluation, 92 participants with missing and/or erroneous data were excluded from the study. This resulted in the final sample of 541 participants, including 371 (68.6%) females and 170 (31.4%) males. In terms of the strata, 157 (29%) participants were enrolled in the Faculty of Medicine, 256 (47.3%) in the Faculty of Education, and 128 (23.7%) in the Faculty of Theology.

Data Collection Instruments

We used the PERMA-Profiler (Demirci et al., 2017) to investigate university students' well-being levels, the Autonomous-Relational Self in Family Scale (Kağıtçıbaşı, 2007) to measure self-construals, and the Family Climate Scale (Gönül et al., 2018) to measure family climate.

PERMA-Profiler. Demirci et al. (2017) undertook the adaption of the PERMA-Profiler developed by Butler and Kern (2016) to measure individuals' well-being levels to fit Turkish culture. The scores of this 23-item scale range from 0 (never) to 10 (always). The scale covers five sub-dimensions aligned with Martin Seligman's well-being model (i.e., positive emotions, engagement, positive relationships, meaning, accomplishments). Each sub-dimension of the scale contained three items, for a total of fifteen such items, plus an additional eight filler items. Of the filler items, one pertained to general well-being, three to feeling healthy, three to negative emotions, and one to loneliness. Items 7, 12, 14, and 20 were reverse scored. The score for each dimension was obtained by taking the average score of its three sub-dimensions. Items 5, 10, and 22 belonged to the sub-dimension *Positive Emotions*, items 3, 11, and 21 to *Engagement*, items 6, 15, and 19 to *Positive Relationships*, items 1, 9, and 17 to *Meaning*, and items 2, 8, and 16 *Accomplishments*. Of the filler items, items 4, 13, and 18 belonged to the sub-

dimension *Health*, items 7, 14 and 20 to *Negative Emotions*, item 12 to *loneliness*, and item 23 to *general well-being*. Total well-being was calculated by taking the average of the scores earned for positive emotions, engagement, positive relationships, meaning, accomplishments, and general well-being (happiness). Examples of items are: ''In general, to what extent do you lead a purposeful and meaningful life?'', ''In general, how often do you feel joyful?'', ''In general, how often do you feel anxious?''. While Cronbach's alpha reliability coefficient was found to be .91 for the entire scale, Cronbach's alpha internal consistency coefficients were found to be between .61 and .81 for the sub-dimensions. Test-retest reliability coefficients for the sub-dimensions ranged between .61 and .85. In this research Cronbach's alpha reliability coefficient was found to be .89 for the entire scale, Cronbach's alpha internal consistency coefficients were found to be between .62 and .82 for the sub-dimensions.

Autonomous-Relational Self in Family Scale. Developed by Kağıtçıbaşı (2007) to investigate self-construals, this scale contains three sub-dimensions, namely (a) In-family Autonomous Self, (b) In-family Relational Self, and (c) In-family Autonomous-relational Self. The twenty-two 5-point Likert-type items of the scale were formatted as Definitely Disagree (1), Disagree (2), Undecided (3), Agree (4), and Definitely Agree (5). Measuring autonomy levels in individuals' relationship with their family, the sub-dimension *in-family autonomous self* was composed of a total of nine items. The sub-dimension *in-family relational self* measuring individuals' material, spiritual, and psychological closeness with their family was similarly composed of nine items. The sub-dimension *in-family autonomous-relational self*, which measured both the closeness of relationships and autonomy of individuals, was composed, however, of four items. A high score earned in a specific sub-dimension indicates that the relational self-construal is strong in the individual. Examples of items are as follows: ''I feel independent from my family'', ''My family is my first priority'', ''The person may feel both independent and emotionally attached to her family''. Conducted with university students, the validity and reliability study for the scale found that Cronbach's Alpha reliability coefficients for both autonomous self and relational self were .84, and .77 for autonomous-relational self. In this research Cronbach's Alpha internal consistency coefficient was found to be .75 for the autonomous self, .77 for the relational self and .73 for the autonomous-relational self.

Family Climate Scale. This scale was developed by Björnberg and Nicholson (2007) to examine characteristics concerning individuals' family climate and conducting the necessary validity and reliability studies, was adapted to Turkish by Gönül et al. (2018). The scale was composed of 34 5-point Likert-type items expressed as Definitely Disagree (1), Disagree (2), Undecided (3), Agree (4), and Definitely Disagree (5). The scale was composed of three sub-dimensions (i.e., In-family Relatedness, Intergenerational Authority, and Cognitive Cohesion). The first

21 items measured in-family relatedness, items 22-28 measured intergenerational authority, and items 29-34 measured cognitive cohesion. A high score in any given sub-dimension indicated that the related concept was afforded greater importance and was more frequently experienced in one's family. Examples of items are as follows: ''The emotional bonds between us are very strong'', ''We take time to listen to each other'', ''The older members of the family set the rules''. Cronbach's Alpha internal consistency coefficient was found to be .91 for the entire scale, .95 for in-family relatedness and .87 for both intergenerational authority and cognitive cohesion. Test-retest reliability coefficients were .79 for in-family relatedness, .80 for intergenerational authority, and .82 for cognitive cohesion. In this research Cronbach's Alpha internal consistency coefficient was found to be .85 for the entire scale, .91 for in-family relatedness and .67 for intergenerational authority and .68 for cognitive cohesion.

Data Collection

During the data collection process, ethics committee approval was obtained from the Social and Human Sciences Scientific Research and Publication Ethics Committee of Eskişehir Osmangazi University. Afterwards, necessary applications were made to Eskişehir Osmangazi University Rectorate for a research permit so that the data collection tools could be applied in the relevant faculties. Applications were carried out in the Faculty of Medicine, Education and Theology in the spring semester of the 2018-2019 academic year with the research permission granted by the Rectorate of Eskişehir Osmangazi University. Students voluntarily participated in the survey during class hours as determined by the respective faculty members. Prior to administering the survey, students were briefed and provided with necessary information. All procedures were conducted confidentiality without collecting participants' personal information. The survey took approximately 15 minutes to complete.

Data Analysis

The data collected was analyzed using SPSS 23 and AMOS 20.0. Out of the initial 633 university students, data from 92 students were excluded due to incompleteness and/or errors, leaving 541 data sets for analysis. Pearson's Product-Moments Correlation analysis was employed to investigate the relationship between the variables and sub-dimensions of well-being (PERMA), self-construals, and family climate. More importantly, the primary objective of our study, performing SEM analyses to examine the mediating role of self-construals in the relationship

between family climate and well-being (PERMA) and to test the resulting model, was realized.

In this study, we chose to use a Hybrid Path Analysis among SEM types. A Hybrid Path Analysis is a SEM technique that incorporates both manifest and latent variables as multiple endogenous and exogeneous variables. This approach combines measurement models and structural modeling, allowing for the examination of both direct and indirect effects between variables. Direct effects indicate the impact of the independent variable on the dependent variable without any mediation, while indirect effects represent the impact of the independent variable on the dependent variable transmitted through one or more mediator variables (Çokluk et al., 2018; Kline, 2019).

Results

Table 1. PERMA (Multi-Dimensional Well-being) Scale, Autonomous-Relational Self in Family Scale and Family Climate Scale for Sub Dimensions Descriptive Statistics Values

Variables (N=541)		$\overline{X}$	*SD*	*SE*	Min.	Max.	Skew.	Kurt.
PERMA (Multi Dimensional Well-being)	1.P_Positive Emotions	6.76	1.62	.07	2.00	10.00	-.40	-.27
	2.E_Engagement	7.14	1.38	.06	3.33	10.00	-.41	-.26
	3.R_Positive Relations	6.83	1.54	.07	2.33	10.00	-.35	-.36
	4.M_Meaning	6.77	1.53	.07	2.33	10.00	-.27	-.41
	5.A_Accomplishment	6.97	1.40	.06	3.33	10.00	-.24	-.44
	6.Happiness	6.94	1.80	.08	2.00	10.00	-.37	-.23
Self Construals	7.Autonomous Self	27.04	5.30	.23	13.00	42.00	.05	-.12
	8.Relational Self	37.00	5.11	.22	23.00	45.00	-.34	-.59
	9.Autonomous Relational Self	17.54	2.22	.10	10.00	20.00	-.74	.24
Family Climate	10.In-family Relatedness	86.26	10.36	.45	55.00	105.00	-.25	-.47
	11.Intergenerational Authority	20.34	4.17	.18	9.00	31.00	-.23	-.17
	12.Cognitive Cohesion	20.29	3.56	.15	10.00	30.00	-.28	.04

Table 1 shows the mean, standard deviation, standard error, minimum, maximum, skewness and kurtosis values for the sub-dimensions of the PERMA Scale, the Autonomous-Relational Self in Family Scale, and the Family Climate Scale. All values are within the normal score range expected to be taken on the scales. When the skewness and kurtosis values are examined, all sub-dimensions are between +1 and -1. This result indicates that one of the assumptions of normality is supplied, that is, the distribution is normal.

Relationships between the PERMA-Profiler, Autonomous-Relational Self in Family Scale, and Family Climate Scale

Table 2 depicts the results of the Pearson's Product-Moments Correlation Analysis conducted to determine the relationships between university students' well-being (positive emotions, engagement, positive relationships, meaning, accomplishments, happiness), self-construals (autonomous, relational, autonomous-relational self), and family climate (in-family relatedness, intergenerational authority, cognitive cohesion).

Table 2 Relationships between the Sub-Dimensions of the PERMA-Profiler, Autonomous-Relational Self in Family Scale, and Family Climate Scale

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.P_Positive Emotions	1											
2.E_Engagement	.59***	1										
3.R_Positive Relationships	.59***	.49***	1									
4.M_Meaning	.55***	.54***	.53***	1								
5.A_Accomplishment	.47***	.60***	.46***	.68***	1							
6.Happiness	.67***	.51***	.56***	.49***	.45***	1						
7.Autonomous Self	-.14***	-.073	-.11**	-.17***	-.11**	-.14**	1					
8.Relational Self	.24***	.24***	.26***	.23***	.24***	.20***	-.24***	1				
9.Autonomous-relational Self	.051	.17***	.14**	.11**	.11**	.08*	.19***	.36***	1			
10.In-family Relatedness	.30***	.30***	.28***	.22***	.24***	.23***	-.17***	.69***	.39***	1		
11.Intergenerational Authority	-.041	-.035	-.019	.019	.006	.004	-.36***	-.024	-.14**	-.16***	1	
12.Cognitive Cohesion	.16***	.15***	.16***	.19***	.18***	.12**	-.37***	.40***	-.026	.44***	.041	1

***$p < .001$ ** $p < .01$ * $p < .05$

Table 2 illustrates that scores for the PERMA variables of positive relationships, meaning, accomplishments, and happiness were negatively related with autonomous self and positively related ($p < .01$) with relational self. Scores for autonomous-relational self were positively related with engagement, positive relationships, meaning, accomplishments, and happiness. Additionally, scores for autonomous-relational self were found to be positively related with scores for in-family relatedness and negatively related ($p < .05$) to intergenerational authority. Scores for the PERMA variables of positive emotions, engagement, positive

relationships, meaning, accomplishment, and happiness were found to be positively related ($p < .01$) to in-family relatedness and cognitive cohesion. Whereas scores for autonomous self were found to be negatively related to in-family relatedness, intergenerational authority, and cognitive cohesion, scores for relational self were found to be positively related ($p < .001$) to in-family relatedness and cognitive cohesion. The effect of the relationship between the relational self and in-family relatedness and cognitive cohesion is high, while the effect of the correlation between the autonomous-relational self and in-family relatedness is moderate. Additionally, a statistically significant relationship ($p < .05$) was found to exist between generational authority and scores for positive emotions, engagement, positive relationships, meaning, accomplishments, and happiness.

The Model Examining the Mediating Role of Self-Construals in the Relationship between Family Climate and PERMA Well-Being

In examining the mediating role of self-construals in the relationship between family climate and well-being, we first conducted various statistical analyses to determine the predictive power of the independent variable (family climate) on the dependent variable (PERMA well-being) and the exogeneous variable (family climate) on the endogenous variable (PERMA well-being). The resulting regression model is presented in Figure 1.

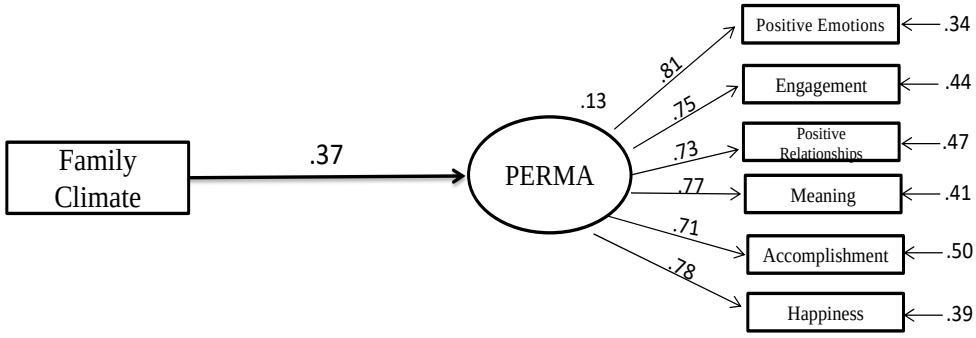

Figure 1. Regression Model Examining the Relationship between Family Climate and PERMA Well-Being

An examination of Figure 1 reveals there to be a significant positive relationship between family climate and PERMA well-being ($\beta = .37; p < .05$). Family climate was found to have a moderate direct effect on well-being and to explain roughly 13% of PERMA well-being ($R^2 = .13; p < .01$). This indicates that one of the

requirements for conducting a study with a structural equation model that includes a dependent, independent, and mediating variable, namely that that the relationship between the predictor variable (family climate) and the predicted variable (PERMA well-being) be meaningful, was satisfied (Civelek, 2018; Sümer, 2000). Upon confirming this, we moved on to the study's primary objective of performing analyses on the structural equation model created to examine the mediating role of self-construals in the relationship between family climate and well-being.

We performed a path analysis to examine self-construals' mediating role in the relationship between family climate and well-being (PERMA). In the structural equation model, family climate is the exogeneous variable, self-construal (autonomous self, relational self, and autonomous-relational self) is the mediating variable, and well-being (PERMA) is the endogenous variable. Figure 2 presents the findings pertaining to the path analysis for the structural equation model.

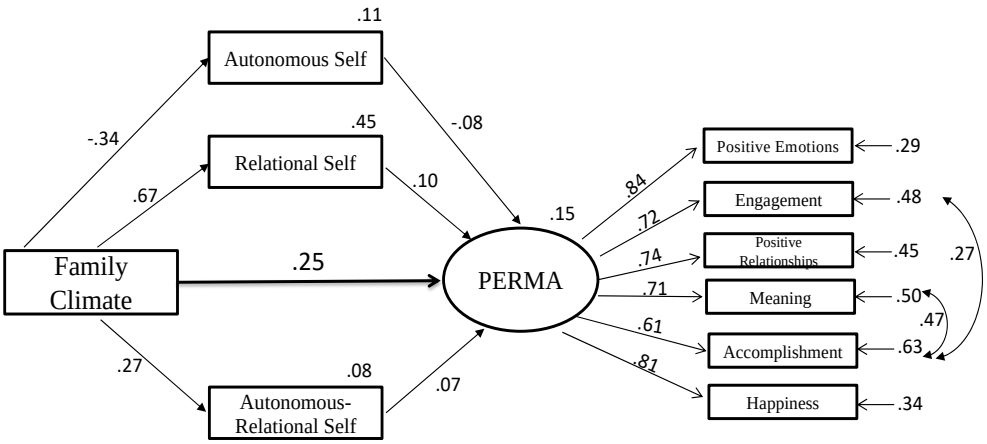

Figure 2. Structural Equation Model Created to Examine the Mediating Role of Self-Construals in the Relationship between Family Climate and PERMA Well-Being

Figure 2 depicts the findings pertaining to the study's main objective, performing an examination of self-construals' mediating role in the relationship between family climate and PERMA well-being. Upon examination of the first model (Figure 1), we observe that the relationship (β=*.37*) between family climate and PERMA well-being witnessed a statistically significant (*p<.05*) decrease upon the inclusion of self-construals (β=*.25*). Studies investigating mediation and its various facets assert that upon inclusion in the model, the mediating variable must either partially reduce or completely eliminate the independent variable's influence on the dependent variable (Baron & Kenny, 1986). The main finding obtained from this is that self-construals (autonomous, relational, autonomous-relational) partially explain (β=*.12*) the relationship between family climate and PERMA well-being. In

other words, self-construals play a partial mediating role in the relationship between family climate and PERMA well-being.

In the model, family climate was found to have a direct negative effect (-.34) on autonomous self-construal, autonomous self to have a direct negative effect (-.08) on PERMA well-being, and family climate to explain 11% of the variance in autonomous self-construal ($R^2 = .11; p<.01$). Family climate was found to have a direct positive effect (.67) on relational self-construal, relational self-construal to have a direct positive effect (.10) on PERMA well-being, and family climate to explain a large portion (≈45%) of the variance in relational self-concept. Family climate was found to have a direct positive effect (.27) on relational self-construal, autonomous relational self-construal to have a direct positive effect (.07) on PERMA well-being, and family climate to explain 8% of the variance in autonomous-relational self-concept ($R^2 = .08; p<.01$). Well-being (PERMA) explained 15% of the total variance in the entire model.

In SEM-based studies, decisions are made by looking at whether the data supports the model being tested and at the model's goodness-of-fit indices obtained as a result of the analyses conducted during the study. While SEM analyses include several different fit indices, the values widely preferred in such analyses are given in Table 2 (Hu & Bentler, 1999; Marsh, Wen, Hau, & Nagengast, 2006; Schermelleh-Engel, Moosbrugger, & Müller, 2003; Sümer, 2000; Tabachnick & Fidell, 2001).

Table 3. Fit Indices and Threshold Values Used in the Structural Equation Model and Fit Values Obtained during the Study

Fit Indices	First Model Values	Adjusted Model Values	Good Fit	Acceptable Fit
χ^2/df	5.43	3.37	$0 \leq \chi 2/df \leq 2$	$2 \leq \chi 2/df \leq 5$
CFI	.941	.969	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$
RMSEA	.093	.068	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$
TLI (NNFI)	.911	.953	$0.95 \leq TLI \leq 1.00$	$0.90 \leq TLI \leq 0.95$
GFI	.943	.965	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$
AGFI	.896	.933	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$
IFI	.941	.970	$0.95 \leq IFI \leq 1.00$	$0.90 \leq IFI \leq 0.95$

The results of the path analysis of the fit index values for the first model illustrated in Table 3 indicate that $\chi 2/df$ and RMSEA values are acceptable. As a result, several adjustments were made based on the recommended modification indices to improve the model. These adjustments were executed by making modifications to the error variances scores between engagement and accomplishments and to those between meaning and accomplishments. The fit index values of the second, adjusted model were determined to be both acceptable and at a good level (Çokluk et al., 2018; Kline, 2019). The composite of these findings

confirms self-construals' mediating role in the relationship between family climate and well-being.

Discussion

The findings for the model reveal that the fitness of the Structural Equation Model examining self-construals' mediating role in the relationship between family climate and well-being are within acceptable levels. Family climate exerted a moderate direct effect on well-being, and although the inclusion of self-construal into the model reduced this relationship, its significance was maintained, with family climate having an indirect effect on well-being mediated through self-construal. Given these findings, we have concluded that self-construal plays a partial mediating role in the relationship between family climate and well-being.

According to the model, a positive family climate characterized by high intra-family interactions, cognitive cohesion, and low intergenerational authority facilitates the development of a positive self-construal (relational and autonomous-relational self). This, in turn, increases individuals' well-being levels. These findings highlight the importance of addressing family climate characteristics and self-construals when examining individuals' well-being. While there is no study directly examining the one-to-one relationship between these variables in the literature, some studies present similar findings that support the current study. Specifically, these studies found that intra-family relationships and family environment characteristics were shaped through the mediation of identity development (Matheis & Adams, 2004). Adolescents' self-conceptions developed positively in families in with intrafamilial cohesion, positive communication between family members, and appropriate emotional bonds, unity, and competence (Berkem, 1999). Family environments and perceived family climate were influential in individuals' identity development, and identities with a high-level of interdependency were associated with optimal psychological cohesion, high self-esteem, and positive family environments (Sznitman et al., 2019). Regarding positive family climate characteristics, as parental acceptance and interest increased, so did individuals' positive self-perceptions (Yılmaz, 2000). Furthermore, the likelihood of individuals having relational self-construals was high in families with positive and high-quality relationships between parents and children (Pomerantz et al., 2009). Such findings support our conclusion that the positive family climate characteristics included in the model are influential in the development of a positive self-construal.

The established mediation model has yielded the result that individuals with relational or autonomous-relational self-construals will have a high level of well-being. Furthermore, Dutrizac (2005) states that in addition to high relationship quality and empathy levels, having a relational self-construal is positively associated

with positive emotional experiences and negatively associated with aggressiveness, negative emotional experiences, and depression. Similarly, Luo et al. (2014) found that individuals with a relational self-construal not only were highly self-competent and set mastery-approach goals but also tended to attribute their success to internal regulation like effort, interest, and study skills. In her study, Major (2016) found relational self-construal to be positively associated with personal well-being motives and forgiveness characteristics. Frank et al. (1990) assert that the simultaneous existence of autonomy and relatedness is important, and Allen et al. (1994) hold that having positive relationships with one's family in addition to autonomy significantly affects individuals' psychosocial development. Given all these findings, it may be concluded that having a relational or autonomous-relational self-construal is important for individuals' high well-being levels and is associated with having positive life experiences.

The model further reveals that characteristics associated with a positive family climate facilitate individuals' well-being levels, and there are several studies in the literature that support this finding. In families with effective intrafamilial communication, interpersonal harmony, unity, positive functionality, and satisfaction (i.e., positive family climate), individuals were observed to have high levels of well-being (Chang, 1998; Kazarian, 2005; Kendall, 2018; Phillips, 2012), high levels of psychosocial adjustment and psychological health (Shek, 1997), a high quality of life and high levels of life satisfaction (Tutal, 2015; Tümer, 2018), psychological robustness (Topbay, 2016), and high levels of subjective well-being (Coty & Wallston, 2010; Eryılmaz, 2010). Ledbetter (2009) highlights that positive intrafamilial communication models impact individuals' well-being and shape their relationships with friends and others. Crea et al. (2013) state that positive family environments are vital in nurturing emotional and behavioral well-being in children. In their study, Vandeleur et al. (2009) found that high family cohesion influenced satisfaction felt toward family bonds and that emotional cohesion impacted individuals' emotional well-being. Similarly, Kins et al. (2009) found that individuals who lived a life in harmony with their personal values and preferences and whose parents were empathetic and non-controlling had greater levels of well-being. Reaching similar conclusions, Proctor et al. (2009) found that individuals who have positive relationships with their parents had high levels of happiness and life satisfaction. Valdes-Cuervo et al. (2018) found that family climate characteristics were positively linked with parental support and empathy. Brophy-Herb et al. (2013) emphasize that maternal well-being and emotionality are closely associated with her children developing positive behaviors. Furthermore, the literature contains several findings indicating that the existence of positive family climate characteristics during adolescence plays an important role in individuals' development into healthy adults and their future lives. Braun (1998) concluded that family climate characteristics, cohesion, and participation in active recreational activities in stem families positively impact the quality of individuals' future relationships and the satisfaction they derive

from these relationships. Klasen et al. (2015) underline the importance of positive family climate and protective factors (e.g., social support) in individuals developing high levels of self-efficacy. Similarly, Ackerman et al. (2013) state that the existence of positive family climate and positive bonds in stem families during adolescence is positively associated with the formation of positive bonds with one's spouse post-marriage. All of these findings indicate that intrafamilial relatedness, positive intrafamilial communication, and interpersonal harmony are vital in raising psychologically healthy individuals and that positive family climate characteristics act as a safeguard against the emergence of negative patterns.

When evaluated in terms of psychotherapy applications, it is observed that the programs aimed at increasing subjective well-being have led to university students experiencing an increase in positive emotions, life satisfaction, a decrease in negative emotions, improved relationships, and the acquisition of an optimistic outlook (Eryılmaz, 2014). Technology-assisted mental health care has significant potential for individuals' mental well-being and therapeutic development (Pleumeekers et al., 2024). It has been observed that MoodWheel, one of the technology-assisted applications, has the ability to accurately assess students' stress levels and overall mental health as a result of an experimental study (Tomoiagă et al., 2024). Bahadır et al. (2017) found that the "Sunrise to My Dreams" project, which they conducted, supported young girls facing economic difficulties and social maladjustment due to unconscious parents, enabling them to actively participate in all aspects of life and increasing their psychological well-being and hope levels. Armstrong et al. (2018) mention that parenting interventions enhance parenting knowledge and skills, and improve the quality of the parent-child relationship. According to a study, individuals from broken families were observed to have lower subjective well-being compared to those from healthy family structures, but it was found that the implementation of a family interaction education program led to an increase in the subjective well-being of individuals from broken families (Özyürek, 2020). Based on these psychotherapy applications, it can be said that a healthy family structure and a positive family climate have significant effects on individuals' well-being. In this context, improving the family climate, supporting healthy family relationships, enhancing positive self-construals, and conducting psychotherapy and group interventions are crucial for increasing well-being. Furthermore, it can be noted that the mediator model presented in this study clarifies the areas that should be focused on in future experimental studies aimed at increasing well-being.

In conclusion, the characteristics of the family in which individuals spend their formative years have a significant influence on whether individuals experience positive emotions, are engaged in the activities they do, form positive relationships with others, are aware of the meaning of life, accomplish important feats, and are generally happy with their lives—otherwise described as well-being. The impact that one's family has on a person lasts an entire lifetime. Furthermore, in addition to the type of family climate in which an individual was raised, the cultural values,

attitudes, and characteristics of their society greatly influence self-construal development and, as a consequence, indirectly affect well-being. As such, the model will fill in the gap in the literature and make noteworthy contributions to the field.

There are some limitations regarding mediation in the study. Providing a reason does not explain why an intervention leads to change or how the change occurs. Research often examines mediators to assess how the change took place. Mediators are structures that demonstrate significant statistical relationships between variables. However, mediators may not fully explain the precise process of change (Kazdin, 2007). The finding that self-construals play a partial mediating role in the relationship between family climate and well-being is an important statistical result in this study. However, self-construals may not be the sole mediating variable explaining this relationship. It is important to include other potentially significant variables in the process alongside self-construals in an intervention study.

It is unlikely that mediators explaining a specific relationship can be determined definitively based on a single study. Consistency must be established to express the impact of a mediator clearly. To achieve consistency, the study needs to be replicated at different times and in different contexts. After several studies and when most or all criteria are met, it can be said that some processes explain the change (Kazdin, 2007). Although this study, being cross-sectional research, suggests that self-construals play an important mediating role in the relationship between family climate and well-being, making a definitive interpretation about the mediation of self-construals without replication does not seem appropriate. Therefore, it is recommended to replicate the study at a different time.

It has been shown that changes in the mediator are associated with the variance related to the outcome, and it predicts and accounts for it. Statistical analysis alone cannot establish that one effect preceded the other and therefore, likely mediated. The magnitude of the variance may not solely arise from the variables included in the study. Other variables may also impact on the process (Kazdin, 2007). It is apparent that well-being is a variable explained by family climate and self-construals. In light of these limitations, it should be remembered that the magnitude of the explained variance is not only attributable to these variables but other variables as well.

The limitations of the study are that it was conducted with only a Turkish sample and employed only a quantitative method approach. Based on the study's findings, we recommend implementing diverse psychoeducational programs, group psychological counseling sessions, and awareness-based educational programs based on the PERMA model of well-being to enhance university students' well-being and psychological health. We suggest that future research be intercultural in nature, involving larger samples and segments of society with different cultural characteristics, allowing for comparative examination with the findings of other studies. In future experimental studies aimed at enhancing individuals' well-being, we recommend applying a variety of activities and therapeutic approaches that focus

on family climate characteristics and self-construals, given their influence on well-being. Additionally, examining the characteristics of well-being, family climate and self-construals through qualitative methods will provide more detailed information about the mental health components of university students. Studying individuals in different cultures and countries in a more comprehensive way comparative manner may also enable the examination of differences arising from cultural structures.

Authors' Notes

Institutional Review Board (IRB) or Ethical Committee Approval. This research was conducted with the permission of the Eskişehir Osmangazi University Social Sciences and Humanities Scientific Research and Publication Ethics Committee with the decision no 2019-01 dated 09.01.2019.

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Informed Consent Statement. Informed consent was received from the participants before the study.

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