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Research Article

Commitment of Married Couples in Marriage and Dyadic Adjustment Prediction of Commitment Styles*

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Abstract

The aim of this study is to investigate the commitment and attachment styles which are likely to affect couples' adjustment in marriage relationships. The study group is made up of 500 couples ($N=1000$). The data are collected using "Commitment Scale," "Dyadic Adjustment Scale," and "Experiences in Close Relationships Scale." According to the results of the study, when the sub-dimensions of the commitment scale and attachment styles sub-dimensions, and the sub-dimensions of marriage adjustment are considered, a significant relationship is found between the social pressure sub-dimension of the commitment scale and affectional expression, dyadic satisfaction, and dyadic cohesion. When the extent to which the sub-dimensions of the commitment scale and the sub-dimensions of the attachment styles of married individuals who predicted the cohesion sub-dimension of the marriage adjustment scale was investigated, it is discovered that the dedicational and financial alternatives sub-dimensions of the commitment scale, anxiety sub-dimension of the attachment styles scale and concern for partner welfare sub-dimension were significant predictors of the dyadic cohesion sub-dimension, which is one of the sub-dimensions of the dyadic adjustment. The data that are obtained are discussed in the light of the relevant literature.

Key Words

Attachment styles • Commitment • Couples • Dyadic adjustment • Marriage

*This study was produced from the first author's doctoral dissertation, which she graduated in 2015.

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"Attachment" refers to the emotional bond of a person (or animal) to another specific individual. That's why, attachment could be said to be discriminatory and specific. The first bond is probably created with the mother (Sümer & Güngör, 1999), but this leaves its place to a group of other specific person in a short time. Attachment tends to be permanent, whether it happens once with a mother or with another person. Attachments connect the gaps in space and time, and attachment behaviour may increase or decrease depending on situational factors, but bindings themselves are permanent, even under the influence of adverse conditions (Ainsworth, 1969; Burger, 2006).

Attachment theory provides a critical developmental framework for understanding how individuals get on with close relations firstly as children and then as adults. The internalized experience of this early relationship of the child who is in need of establishing a protective bond with the main caregiver, usually the mother, develops as a cognitive-emotional template that continues to provide information about future relationships. This way, such effects become observable throughout a lifetime (Bifulco & Thomas, 2013, p. 1-2).

Adjustment in marriage must be defined in the context of modern marriage. If marriage has become a social relationship rather than personal, then it must be defined in terms of personalities, their conflicts, and the degree of adjustment that is taking place (Eddy, Heyman, & Weiss, 1991). At its certain stages, marriage adjustment can be measured by compromise (adjustment), which is a way of life that minimizes the conflict and encourages adjustment. Most marriages, perhaps the majority, stay at the level of compromise (Vuchunic, 1987). The emphasis here is on participation in mutual communication, mutual stimulation and joint activities. In that case, a harmonious marriage could be defined as a marriage in which the attitudes and actions of each of the partners produce a convenient environment for the personality functioning of each of the partners, particularly in the area of primary relations (Burgess & Cottrell 1939). According to Locke and Wallace (1959), marriage adjustment is the adjustment of wife and husband to each other within a certain period of time. Spanier and Cole (1976) define marriage adjustment as the process of successful marriage.

Commitment is a concept that has different meanings in different fields. When we make a general scanning, we will come across different meanings in terms of commitment. We are focusing here on relational commitment as the subject of our study. Relational commitment is used to describe the likelihood of maintaining a relationship (Arriaga & Agnew, 2001). Thompson-Hayes and Webb (2004) described marriage as the desire of couples to remain in their marriages mutually, functionally, or partly interactively. Rusbult (1983) defined commitment as a long-term adjustment, including intention to maintain the relationship and a sense of psychological commitment. Along with the ones (Johnson, 1973; Stanley & Markman, 1992) who defined commitment as the intention of maintaining the relationship for a long period, there are also those who conceptualized commitment as a choice to abandon other options (Stanley et al., 2005).

Stanley and Markman (1992) considered commitment as including two related structures: personal dedication and constraint commitment. Personal dedication refers to an individual's desire to maintain or improve the quality of the relationship for the common good of the participants. This situation shows itself not only through a desire to keep up with the relationship, but also to develop it, to make concessions for it, to invest in it, to link personal aims to this, to look after not only personal welfare, but the welfare of the partner (Stanley & Markman, 1992).

On the other hand, constraint commitment refers to the forces that force individuals to continue in their relationships, regardless of their individual commitment. Limitations may arise as internal or external pressure, and they support the termination of the commitment of relationship by making it economically, socially, personally or psychologically more costly. Studies indicate that the concept of commitment is valid in keeping with commitment and limitation (Stanley & Markman, 1992). The dimensions associated with personal dedication (Personal Dedication) are obtained from a number of sources related to research and clinical experience (see also Beach & Broderick, 1983; Rusbult, 1980). Relationship agenda is the willingness of a person to maintain the relationship over time. Primacy of relationship refers to the priority level of the relationship within a person's activity hierarchy. Couple identity refers to how much an individual regards the relationship as a team rather than two different individuals who want to maximize individual gain. Satisfaction with sacrifice is the sense of satisfaction that people feel when they do things in general or only for the benefit of their partners. Alternative monitoring is a dimension examined by Leik and Leik (1977), Cook and Emerson (1978). Leik and Leik (1977) and Cook and Emerson (1978) are examined the alternative monitoring dimension. Although these theorists addressed alternatives in a broad context, Stanley and Markman (1992) focused more on the level of follow-up of possible alternative partners of the response owners. The more individuals feel attraction to other potential partners or connect with them, the more their personal commitment to their current partners decrease. Meta-commitment is the level of commitment to one's promises. This is a value that one can bring to a relationship, rather than being tied to a specific aspect of the relationship (as cited in Stanley & Markman 1992). Many dimensions to constraint commitment are taken directly from the work of Johnson (1982). Structural investments, the first sub-dimension of the constraint commitment, are investments that are intricately intertwined, worked together, especially with property and money investments. Due to the desire not to lose the investment, limitations increase as the level of investment increases (Lund, 1985). Social pressure refers to the pressure which others, especially friends and family, mount on couples to maintain the relationship. Termination procedures (Johnson, 1982) refer to the difficulty of taking steps to terminate a relationship. Unattractiveness of alternatives (Johnson, 1982) is how much unhappy one will be regarding wide range of possible life changes after someone's relationship ends (e.g. house change, change in economic situation). Conversely, availability of partners focuses on the perceived presence of other appropriate partners when the current relationship is over. If a person wants to have a relationship, but he/she perceives that there is no one other than the current partner, the person is forced to stay with this partner. Morality of divorce means the ethical acceptability of the divorce (as cited in Stanley & Markman, 1992).

Along with researches on marital adjustment and attachment styles (Banse, 2004; Cobb, Davila & Bradbury, 2001; Fuenfhausen & Cashwell, 2013; Jones, Welton, Oliver, & Thoburn 2011; Ng, Loy, MohdZain, & Cheong, 2013), study in which commitment in marriage, the variables related to the prediction of marriage adjustment of attachment styles were not found in the Turkish sample. The reason for this is that the Revised Commitment Inventory, by Owen, Rhoades, Stanley and Markman (2011), was not applied in Turkish society except for adaptation work (Girgin-Büyükbayraktar, Özteke, & Kesici, 2015). This study is important in terms of disclosure of relationships between commitment and marital adjustment and attachment styles.

Marriage is a structure built by individuals who are connected to each other for various reasons. In order to maintain this structure, the attachment structure in the marriage must be functional. In order to provide this functionality, couples need to have confidence in their relationships, that is, they should not experience anxiety

in their relationships or get away from the relationship by running away from the problem. In other words, they should prefer secure attachment instead of anxious or avoidant attachment style. When bonding and secure bonding is achieved in the marriage, the harmony of the couples increases and their partnership becomes happy. The purpose of this study is the predictive amount of commitment and attachment styles that predict marital adjustment, and that attachment and attachment styles are thought to be important in increasing marital adjustment of married individuals. When this goal is achieved, the increasing divorce in the society, domestic violence and non-communication within the family will be prevented to some extent.

Objectives

1. To determine whether the commitment in marriage and attachment styles of married individuals predict the consensus between couples, which is from the sub-dimensions of marital adjustment scale.
2. To determine whether the commitment in marriage and attachment styles of married individuals predict emotional self-expression of couples, which is from the sub-dimensions of marital adjustment scale.
3. To determine whether the commitment in marriage and attachment styles of married individuals predict commitment between couples, which is from the sub-dimensions of marital adjustment scale.
4. To determine whether the commitment in marriage and attachment styles of married individuals predict commitment between couples, which is from the sub-dimensions of marital adjustment scale.

Method

This section dwells emphasize on the research model, study group, data collection tools and analysis of data.

Research Model

General scanning model is used in this study and individual or relational scans are performed by general scanning models. General scanning model is a research model that aims to describe a past or present situation as it is and tries to define the subject, event or object in its own conditions (Karasar, 2008). Correlational screening model is “studies conducted to determine the relationships between two or more variables” (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2014). The purpose of choosing this research model is that we aimed to determine the relationships between variables in the study.

Study Group

The study group of this research consists of married individuals who reside in the province of Konya. Before conducting the research, they were informed about it about the research. Among the couples who wanted to participate in the study voluntarily, those who gave consent to participate in the study were included. A total of 500 couple consisting of 500 women and 500 men residing in Selçuklu, Karatay and Meram provinces of Turkey-Konya, participated in the research between 2013 and 2015.

Data Collection Tools

In order to reach the personal information of the married individuals, "Personal Information Form" is used, to measure their commitment in marriage, "Revised commitment inventory" is used, to measure attachment styles "Experiences Inventory in Close Relationships" is used and to measure marital adjustment, "Dyadic Adjustment Scale" is used. Introductory information on these data collection tools used in the research is given below.

Personal Information Form. The Personal Information Form containing information on age, gender, year of marriage, marital status and number of children of married individuals, was prepared by the researcher with the aim of determining the personal characteristics of married individuals. These married individuals were not asked questions containing their identity information.

Revised Commitment Inventory (RCI). Revised Commitment Scale (RCS), "Revised Commitment Inventory (RCI)" with its original name, was developed by Owen, Rhoades, Stanley, and Markman (2011) with the aim of measuring commitment in close relationships, and it was adapted to the Turkish sample by Girgin-Büyükbayraktar, Özteke and Kesici (2015). As a result of confirmatory factor analysis, the adaptive value was calculated for the seven-factor and two-factor models as in the original scale (Owen et al., 2011).

When the Cronbach α internal consistency coefficient of the Turkish form of the scale was examined, the alpha value in the consideration of partner's well-being sub-dimension was .65 for women and .43 for men. In the financial investments sub-dimension, the alpha value for women is .62 while it is .61 for men. While the alpha value for women in the social pressure subscale is .64, it is .66 for men. In the financial alternatives sub-dimension, the alpha value for women is .77 while it is .65 for men. In the termination sub-dimension, the alpha value for women is .68 while it is .70 for men. In the devotion sub-dimension, the alpha value for women is .80 while it is .78 for men. In the limitation dimension, the alpha value for women is .81 and .71 for men. Generally, the alpha values according to the sub-dimensions vary between .54 and .79, while the Cronbach α value for the whole scale is .78.

For criterion-related validity, the relationship between the sub-dimensions of the commitment scale and the scales of marital adjustment, relationship assessment, future time orientation in romantic relationships, forgiveness, and dyad adjustment was examined. Thinking about partner's well-being sub-dimension is related to time orientation scale (FTORR) and forgiveness scale in romantic relationships. Financial alternatives subscale relationship assessment and FTORR, termination processes subscale relation assessment, FTORR and forgiveness scales, social pressure subscale with marriage adjustment, relationship assessment and FTORR, material investments subscale with FTORR and new partner finding subscale with marriage adjustment, FTORR and forgiveness scales. Test-retest reliability it was found to be .86 for the whole scale. .89 for the dedication dimension, .82 for social pressure, .86 for termination processes, .84 for finding new partners, .86 for thinking about partner well-being, .87 for financial alternatives, and test-retest reliability of .88 for financial investments has been found.

The scale consists of 25 items in total. Items to be scored in reverse are 17,2,7,13,16,10,12,14,21,24,25. The sub-dimensions of the scale are Social Pressure (8,17), Financial Alternatives (2,7,13), Termination (3,15), Thinking of the partner's well-being (CPW) (4, 16), Availability (9,10,12), Investments (11,14) and Dedication (18,19,20,21,22,24,25).

Experiences Inventory in Close Relationships (EICR). The Experiences Inventory in Close Relationships, developed by Brennan et al. (1998), is designed to measure anxiety and avoidance in close relationships, two dimensions of attachment. Brennan et al.(1998) first applied factor analysis to approximately 60 scales, which they thought measured the attachment in close relations of adults. As a result of this analysis, two dimensions that can be defined by avoidance and anxiety in close relations were obtained. Therefore, based on these two dimensions, a 36-item Experiences Inventory in Close Relationships (EICR) was developed. Principal

components (factor) analysis was performed on the 36 items via varimax rotation by Sümer (2006) in the Turkish sample in order to examine the factor structure of the EICR. 38% of the total variance was explained as a result of the two-factor solution. The first factor corresponding to the avoidance dimension proposed by Brennan and his colleagues (1998) explained 22% of the total variance, and the second factor corresponding to the anxiety dimension explained 16% of it. In addition, it was observed that both dimensions have a high reliability coefficient (86 for anxiety, 90 for avoidance dimension). It was suggested that the attachment variables constructed according to EICR explained the highest level of variance in both categorical (.17) and dimensional analysis (.24). The results of factor analysis show that two dimensions representing the anxiety and avoidance dimensions of EICR were observed on the Turkish sample, as well. Besides, except an item (item 13) in the dimension of anxiety, all the items have a higher load than the predicted dimension and two dimensions are represented independently of each other (Sümer, 2006).

Dyadic Adjustment Scale- (DAS). Developed by Spanier in 1976, Dyadic Adjustment Scale is a 32-item scale used to measure how couples perceive their own bilateral relations. There are four sub-dimensions of the scale; 10-item spousal satisfaction subscale; 5-item spousal commitment subscale; 13-item spousal consensus subscale, and the last is 4-item emotional expression subscale. Total measurement scores reflect the relationship/marital adjustment and satisfaction level of the individuals.

In the study of validity and reliability conducted by Fıfılođlu and Demir for Turkish sample of this scale developed by Spanier (1976), point average was found to be 104.5 (SD = 18.6) as 103.7 (SD=18.8) in males and 105.5 (S.D. = 18.4) in females. Internal consistency reliability result in the Turkish sample was found to be 0.92 close to the original result. In addition, the reliability results of the subscales vary slightly from the original ones and are between 0.75 and 0.83.

Collection of Data

In order to collect the data, the hours at which the scales would be applied with voluntary married individuals are decided and the scale battery that includes "Personal Information Form", "Revised Commitment Scale", "Experiences Inventory in Close Relationships" and "Dyadic Adjustment Scale" are applied by the researcher at the time previously informed consent agreed upon. Two criteria are taken into account in the application. Volunteerism is first of these criteria. The second criterion is that the couples are asked not to see each other's answers because "Revised Commitment Scale" is applied to each spouse separately.

Scale batteries are handed out to married individuals in sealed envelopes and collected in sealed envelopes. Before the application started, the researcher read the guidelines on scales and gave information about the application. The application lasted approximately 60-75 minutes and no problems were encountered during the application.

Analysis of Data

SPSS 21.00 package program is used for the analysis of data in the study. Stepwise technique of multiple regression analysis is applied to demonstrate how much of the variance of married individuals related to dyadic adjustment is predicted by attachment and attachment styles of married individuals.

Findings

The findings as a result of statistical analysis of data obtained in accordance with the purpose and the sub-problem of the study are presented in this section.

Table 1

The Results of Regression Analysis Regarding to the Prediction of Spousal Consensus Subscale of Marital Adjustment Done by the Sub-Dimensions of Commitment Scale and Sub-Dimensions of Attachment Styles Scale of Married Individuals

| Model | R | R ² | R ² (Adj) | Standard Error | F | P |
|-------|------|----------------|----------------------|----------------|---------|------|
| A | .235 | .055 | .054 | 5.173 | 57.780* | .000 |
| B | .273 | .075 | .073 | 5.121 | 39.902* | .000 |
| C | .301 | .090 | .088 | 5.080 | 32.727* | .000 |
| D | .310 | .096 | .092 | 5.067 | 26.178* | .000 |
| E | .316 | .100 | .095 | 5.058 | 21.912* | .000 |
| F | .324 | .105 | .99 | 5.047 | 19.222* | .000 |

A Predictor: Commitment.

B Predictor: Commitment, anxiety

C Predictor: Commitment, anxiety, finding a new partner

D Predictor: Commitment, anxiety, finding a new partner, termination processes

E Predictor: Commitment, anxiety, finding a new partner, termination processes, considering partner's welfare

F Predictor: Commitment, anxiety, finding a new partner, terminating processes, considering partner's welfare, social pressure

Dependent Variable: Consensus

* $p < .01$ **

As shown in Table 1, the dedicational sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, the finding a new partner, termination processes, considering partner's welfare, social pressure sub-dimensions of commitment scale are found to be significant predictor of consensus from dyadic adjustment sub-dimensions ($p < 0.01$). The dedicational sub-dimension of commitment scale explains 5.4% of the total variance of the consensus. The dedicational sub-dimension of commitment scale and the anxiety sub-dimension of attachment styles scale, together, explain 7.3% of the total variance relating to the consensus.

The dedicational sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale and the finding a new partner sub-dimension of commitment scale, together, explain 8.8% of the total variance relating to the consensus. The dedicational sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, the finding a new partner sub-dimension of commitment scale and termination processes, together, account for 9.2% of the total variance for the consensus. The dedicational sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, the finding a new partner sub-dimension of commitment scale, termination processes and considering partner's welfare, together, account for 9.5% of the total variance of the consensus. The dedicational sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, the finding a new partner sub-dimension of commitment scale,

termination processes, considering partner's welfare and the social pressure sub-dimension, together, account for 9.9% of the total variance of the consensus.

Table 2

The results of Regression Analysis Regarding to the Prediction of Marital Adjustment Scale's Spousal Satisfaction Sub-Dimension by the Sub-Dimensions of Commitment Scale and the Sub-Dimensions of Attachment Styles Scale of Married Individuals

| Model | R | R ² | R ² (Adj) | Standard Error | F | P |
|----------|------|----------------|----------------------|----------------|----------|------|
| A | .458 | .210 | .209 | 4.762 | 263.240* | .000 |
| B | .473 | .224 | .222 | 4.721 | 143.023* | .000 |
| C | .480 | .230 | .228 | 4.704 | 98.854* | .000 |

A Predictor: Dedication.

B Predictor: Dedication, considering partner's welfare

C Predictor: Dedication, considering partner's welfare, finding a new partner

Dependent Variable: spousal satisfaction

** $p < .01$

As shown in Table 2, the commitment, considering partner's welfare and finding a new partner sub-dimensions of commitment scale are found to be significant predictors of spousal satisfaction from the sub-dimensions of dyadic adjustment ($p < .01$). The dedicational sub-dimension of commitment scale accounts for 20.9% of the total variance relating to spousal satisfaction. The dedicational and considering partner's welfare sub-dimensions of commitment scale, together, explain 22.2% of the total variance relating to spousal satisfaction. The dedicational, considering partner's welfare and finding a new partner sub-dimensions of commitment scale account for 22.8% of the total variance for spousal satisfaction.

Table 3

The Results of Regression Analysis Regarding to the Prediction of the Sub-Dimension of Emotional Self-Expression of Marital Adjustment Scale by the Sub-Dimensions of Commitment Scale and the Sub-Dimensions of Attachment Styles Scale of Married Individuals

| Model | R | R ² | R ² (Adj) | Standard Error | F | P |
|----------|------|----------------|----------------------|----------------|---------|------|
| A | .170 | .029 | .028 | .776 | 29.636* | .000 |
| B | .194 | .038 | .036 | .773 | 19.440* | .000 |
| C | .209 | .044 | .041 | .771 | 15.058* | .000 |

A Predictor: Dedication.

B Predictor: Dedication, considering partner's welfare

C Predictor: Dedication, considering partner's welfare, anxiety

Dependent Variable: Emotional self-expression

** $p < .01$

As shown in Table 3, the dedication, considering partner's welfare sub-dimensions of commitment scale, and the anxiety sub-dimension of attachment styles scale are found to be significant predictors of the emotional self-expression sub-dimension of the dyadic adjustment scale from the sub-dimensions of dyadic adjustment ($p < .01$).

The dedication sub-dimension of commitment scale describes 2.8% of the total variance for the sub-dimension of emotional self-expression of marital adjustment scale. Along with the dedication of commitment scale and the considering partner's welfare sub-dimension, they explain 3.6% of the total variance relating to the emotional expression sub-dimension of marital adjustment scale. Along with the dedication and the considering partner's welfare sub-dimension of commitment scale, they explain 4.1% of the total variance relating to the emotional expression sub-dimension of marital adjustment scale.

Table 4

The Results of Regression Analysis Regarding to the Prediction of the Commitment Sub-Dimension of Marital Adjustment Scale by the Sub-Dimensions of Commitment Scale and the Sub-Dimensions of Attachment Styles Scale of Married Individuals

| Model | R | R ² | R ² (Adj) | Standard Error | F | P |
|----------|------|----------------|----------------------|----------------|---------|------|
| A | .312 | .097 | .096 | 4.965 | 106.997 | .000 |
| B | .325 | .106 | .104 | 4.944 | 58.713 | .000 |
| C | .335 | .112 | .109 | 4.929 | 41.639 | .000 |
| D | .340 | .116 | .112 | 4.921 | 32.454 | |

A Predictor: Dedication.

B Predictor: Dedication, financial alternatives

C Predictor Dedication, financial alternatives, anxiety

D Predictor Dedication, financial alternatives, anxiety, considering partner's welfare

Dependent Variable: Commitment

** $p < .01$

As seen in Table 4, the dedication and financial alternatives sub-dimensions of the commitment scale, the anxiety sub-dimension of attachment styles scale, and the considering partner's welfare sub-dimension of commitment scale are found to be significant predictors of the commitment sub-dimension of the dyadic adjustment scale from the sub-dimensions of dyadic adjustment ($p < 0,01$). The Dedication sub-dimension of commitment scale describes 9.6% of the total variance for the sub-dimension of emotional self-expression of marital adjustment scale. Along with the dedication and considering partner's welfare sub-dimensions of commitment scale, they explain 10.4% of the total variance relating to the commitment sub-dimension of marital adjustment scale. Along with the dedication and the considering partner's welfare sub-dimensions of commitment scale and anxiety sub-dimension of the attachment styles scale, they explain 10.9% of the total variance relating to the commitment sub-dimension of marital adjustment scale. Along with the dedication and the financial alternatives sub-dimensions of commitment scale and anxiety sub-dimension of the attachment styles scale, and considering partner's welfare sub-dimensions of commitment scale, they explain 11.2% of the total variance relating to the commitment sub-dimension of marital adjustment scale.

Discussion

The findings that belong to the sub-problems developed to determine the purpose of the research are discussed and interpreted in this chapter. Discussion and interpretation of findings related to the research are made in accordance with the order of examination of the sub-problems.

Investigation on Married Individuals' Sub-dimensions of Commitment Scale and Sub-dimensions of Attachment Styles Scale's Prediction of Consensus Sub-dimension of Marital Adjustment Scale

The dedication sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, finding a new partner, termination processes, considering partner's welfare, social pressure sub-dimension of commitment scale are found to be significant predictors of the consensus from the sub-dimensions of dyadic adjustment show that both commitments in marriage and attachment styles are significant in dyadic adjustment of couples.

Dedication of married couples to each other, that is, self-sacrifice to each other predicts that consensus between couples, because couples come to terms on important matters in their marriage relations. The consensus culture between couples is concerned with resolving conflicts. For this reason, couples need to dedicate necessary self-sacrifice, that is themselves, to resolve the conflicts between themselves, and for each couple not to be the loser but to be the winner, to resolve the conflict. Rhoades et al. (2010) found in their research that more commitment and limitation, which is felt less, are associated with possibility of staying together supports research findings. Another finding supporting research findings is Rhoades et al.(2009)'s result that people living together before engagement have a lower marital satisfaction, as well as commitment and trust, they have more negative communication and greater likelihood of divorce compared to those who live together only after being engaged or who do not live together before marriage. Considering the significant (considerable) effect of positive and negative emotional changes on marital satisfaction and stability (see also Gottman & Levenson, 2000), this result shows that dedication is important for consensus in marriage, and that if individuals want to live together, their level of dedication must be high. Otherwise there may be conflicts, not consensus, because they may have difficulties solving important problems between them.

The result of the dedication sub-dimension of commitment scale and the anxiety sub-dimension of attachment styles scale together predict the consensus can be interpreted as follow: when married individuals fulfil their responsibilities to demonstrate the necessary self-sacrifice to solve important problems, a consensus and compromise can be seen between them. But in one of these conditions of consensus, couples may need not to worry about concerns of not finding approval for their ideas, that their relations are sustainable; instead of satisfying others, it may be necessary for them to narrow down the psychological distance between them to solve important problems (Selcuk et al., 2005). Consensus must be reached regarding the adjustment between the couples. Couples who have anxious attachment may find it difficult to reconcile. The result that the constraint from Bahadır (2006)'s strategies of anxiety dimension conflict resolution of attachment directly predicts avoidance, compliance and co-operation at a significant level, the result that the level of anxiety does not significantly predict the reconciliation strategy supports the research findings.

The result that the attachment sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, and the finding a new partner sub-dimension of commitment scale together predict the consensus show that self-sacrifice, namely dedication, for the consensus between the couples, not anxious attachment, secure attachment, and in situations couples cannot provide consensus on important issues, the possibility of finding a new partner can be effective. This result shows that the possibility of finding a new partner can force couples to compromise, while reducing their commitment in marriage. Because the existence of a third person in the marriage process may mean divorce, couples who have made investment in marriage will be compensated for

the investment they made to the relationship without closing the doors in the solution of conflicts, that is, by not being obstinate with each other but resolving the conflict in a compromising manner. Otherwise, because they will not be able to receive the investment they have made in the relationship and they will avoid further relationship, this situation increase the likelihood of finding a new partner (Rusbult et al., 1998).

Consequently, the dedication sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, together with the finding a new partner and the termination process sub-dimensions of commitment scale predict the consensus; being satisfied with the self-sacrifice in marriage, the difficulty in the possibility of finding a new partner, the complexity and difficulties involved in terminating the marriage relationship can be considered among the factors that will make it easier for couples to build consensus on their relations.

Furthermore the dedication sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, the finding a new partner sub-dimension of commitment scale, together with the sub-dimensions of termination processes and considering partner's welfare predict the consensus; the difficulty of terminating marriage relations and overcoming difficult days in marriage processes can be explained by the establishment of the commitment anchor such as having children (Dallos & Draper, 2012; Kesici, Mert, Ilgün, & Girgin-Büyükbayraktar, 2015).

Also, the dedication sub-dimension of commitment scale, the anxiety sub-dimension of attachment styles scale, the finding a new partner sub-dimension of commitment scale, together with the termination processes, the considering partner's welfare and the social pressure sub-dimensions predict the consensus; as couples walk toward a common compromise or destination, an important variable contributing to the process of strengthening their commitment to marriage and not an anxious attachment but a secure attachment can be explained by the fact that there is social pressure, because both family and close friends and the society insist on not terminating the relation, not having an idea of separation, considering partner's welfare and maintaining marital relationship. This insistence also increases the commitment to marriage. Terminating the relationship, the idea of separation regulates the relationship between performing commitment and separation behaviours, it is associated with moving more suddenly and it demonstrates that beyond commitment, only it provides a unique explanatory power over separation behaviour, and it shows that there is one step between commitment and staying/separation in close relationships which are parallel with the findings of the research (VanderDrift et al., 2009). In his result Bayrakçı (2014) says that self-esteem is a significant predictor of the consensus which supports the finding of the research. In his result Amanvermez (2007) found parallel with the dimensions of attachment for close associations, the anxiety and avoidance dimensions are in question for attachment to the group, and the length of the relationship with the group from the collective self and demographic variables that has the most predictive power for group attachment; gender and lover demographic variables have the most predictive power for lover attachment supports the finding of the research, because the collective self and the length of the relationship variables are significant in terms of commitment. The result of Özer and Güngör-Cihan (2012) reveal that females with low marital adjustment have less attribution of causality, males with high marital adjustment have more causal attribution; the responsibility loading style and the experimental openness personality traits are higher in males low marriage adjustment and lower in females with high marital adjustment supports the finding of the research. Because for the commitment in marriage, along with causality and responsibility loadings; it

reveals how important openness to experience personality traits is for dyadic adjustment and also shows how important the results of the research are.

Investigation on Married Individuals' Sub-dimensions of Commitment Scale and Sub-dimensions of Attachment Styles Scale's Prediction of Dyadic Satisfaction Sub-dimension of Marital Adjustment Scale

The result that the dedication, considering partner's welfare and finding a new partner sub-dimensions of commitment scale are found to be significant predictor for dyadic satisfaction shows that commitment in marriage is a significant predictor of dyadic satisfaction.

The result that the dedication sub-dimension of the commitment scale predicts dyadic satisfaction relates with the situation that emerges by evaluating the positive and negative aspects of feelings, thoughts and behaviours in couples' relations. The result of [Atçeken \(2014\)](#) reveal that married individuals' problem solving skills in marriage, together with the motivation from the sub-dimensions of relationship loads of married individuals, and avoiding from the sub-dimensions of attachment styles predict financial assistance from the sub-dimensions of spousal support and information utility support research findings. Because married couples are motivated to solve problems in marriage and display their commitment by providing financial and information support to each other, and with this conclusion, their solved problems are reflected to them as satisfaction. Rusbult et al.'s view that couples' commitment will increase at a rate they get high satisfaction in the relationship supports our findings.

The result that the commitment scale together with the sub-dimensions of dedication and considering partner's welfare predict dyadic satisfaction is an indication of the belief of being satisfied from the self-sacrifice they make and ensuring partners with better conditions by raising the quality of life together. [Turan \(2015\)](#)'s result that the social interest support of married individuals, the meaningfulness dimension of sense of family cohesion, financial assistance and information utility, and manageability sub-dimension of family cohesion are found to be significant predictors of problem solving skills in marriage support the finding of the research. Because if couples have a sense of family cohesion, if they give each other spousal support seeing potential problems as understandable, meaningful and manageable, problems can be solved. Solved problems and the sense of putting meaning to problems and making them understandable can make the dedication and self-sacrifice better, and these operations can make the partner feel better.

The result that the commitment scale together with the dimensions of dedication, considering partner's welfare and finding a new partner predict the dyadic satisfaction is a sign of that couples dedication and considering partner's welfare and not finding a new partner will increase the commitment in the marriage. Because if couples want to terminate their marriage relationship but do not think they can find a new partner, they will remain faithful to the process of marriage and the commitment in marriage will be high. The couples who were more dedicated to their partners reported that they were in search of fewer alternatives ([Stanley & Markman, 1992](#)), and this leads them to effectively reduce attractive alternatives ([Johnson & Rusbult, 1989](#)). For as much as, [Bayrakçı \(2014\)](#)'s result that the self-esteem and the family environment predict dyadic satisfaction supports the finding of the research. This is because the sense of finding a new partner is an indication of self-respect. High self-esteem can bring about self-confidence, and self-confidence can bring about finding a new partner. [Feeney \(1999\)](#)'s result that individuals' family relations have a significant effect on their romantic relations supports the finding of the research. [Larson \(1988\)](#)'s finding that individuals with non

functional family rules have less satisfaction in their relationships supports the finding of the research. Because, if functionality is lost, partners can be harmed in the relationship they are therefore tempted to search for a more functional family environment. On the other hand, couples with low self esteem may find it difficult to find a new partner. For this reason, the couples' commitment may increase. [Murphy and O'Leary \(1989\)](#)'s result that there is a significant relationship between low self-esteem and low marriage satisfaction support the findings of the research. [Büyükşahin \(2006\)](#)'s result that the variables that best predict relationship satisfaction level among investment model variables are feeling safe in the relation and the trust to the spouse is parallel to the findings of the research. [Akbalık-Doğan and Büyükşahin-Sunal \(2011\)](#)'s result that the relation satisfaction predicts the positive illusion in marriage positively supports the findings of the research.

Investigation on Married Individuals' Sub-dimensions of Commitment Scale and Sub-dimensions of Attachment Styles Scale's Prediction of Emotional Self-Expression Sub-dimension of Marital Adjustment Scale

The result that the dedication and considering partner's welfare sub-dimensions of commitment scale, and the anxiety sub-dimension of attachment styles scale predict the expressing emotions from the dyadic adjustment sub-dimensions shows that being self-sacrificing in expressing the feelings of couples, being self-satisfied with the self-sacrifice, trying to raise the quality of life of the partner, having an anxiety of disapproval, having an anxiety of separation, and having an anxiety of satisfying the partner affect them to express their feelings/emotions.

The dedication sub-dimension of commitment scale's prediction of expressing the feelings of couples may mean that being satisfied and being willing to turn their love into behaviour from the subjects that couples compromise on how they show their love ([Fışiloğlu & Demir 2000](#)). Family environment is also effective in expressing the feelings of couples. Likewise, [Satir \(1988\)](#)'s opinion of that the individuals, who are grown in a family which features humour, tolerance, joy, happiness and a peaceful environment, and made up by parents with high self-confidence, will show their interest, love and compassion without hesitation, without fear, and thanks to this communication environment made up by educatory families, in a family environment where the rules are open, flexible, and individuals are not judged for their differences, supports the findings of the research.

The prediction of expressing emotions by the marriage adjustment scale along with the dedication and considering partner's welfare sub-dimensions of the commitment scale; in the case of a communication establishment in which there are no races and competition in order to increase the quality of marital life for couples, no confusion, no latent expectations, and in which they can show their love to each other, and in which they provide the myths that emerged in the communication in the marriage, couples may express their feelings ([Koerner & Fitzpatrick, 2002](#); [Koerner & Fitzpatrick, 2006](#); [Schrodt, 2009](#)). The result [Rhoades et al. \(2009\)](#) found in the study they did that negative dyadic communication is associated with the low level adjustment to the relation, trust and commitment supports the findings of the research.

The dedication and the considering partner's welfare sub-dimensions of the commitment scale and together with the anxiety sub-dimension of attachment styles scale prediction on the expressing emotions of couples, the dedication to revealing the love of couples, the quality of life of partners, and the anxieties of disapproval of couples, separation and dissatisfaction of partners force them to turn their love into behaviour. [Bayrakcı \(2014\)](#)'s prediction of self-esteem and family environment on the emotional expression of couples supports the findings

of the research, because the height of self-respect and the availability of the family environment affect emotional expressions of couples. In the study in which Bahadır (2006) examined the relationship between attachment and conflict resolution strategies in romantic relationships; the significant prediction of anxiety level on the reconciliation strategy, and the direct significant prediction of both the anxiety and avoidance dimensions of attachment on the anticipation of negative emotional state regulation support the results of the research, because the anxious individual is alert and can have difficulties to express his/her feelings clearly. Morris et al. (2007)'s statement that individuals learn their emotional regulations, and how to control their emotions by taking a model of their immediate surroundings; and their view that emotional atmosphere in the family, parenting style, the relationship of parents to each other are important in expressing feelings supports the findings of the research. Dattilio (2005)'s view that family schemas shape both family dynamics and interaction patterns related to communication in the family and how family members control and express their emotions is a remarkable explanation in terms of specifying the importance of early incompatible schemas and family myths in expressing the feelings of couples. Sümer (2006)'s finding that those who are attached safely perceive satisfaction at a higher level in their relationships supports the results of the research.

Investigation on Married Individuals' Sub-dimensions of Commitment Scale and Sub-dimensions of Attachment Styles Scale's Prediction of Commitment Sub-dimension of Marital Adjustment Scale

The result that the dedication and financial alternatives sub-dimensions of commitment scale, the anxiety sub-dimension of attachment styles scale and the considering partner's welfare sub-dimension of commitment scale predict the commitment of couples is an indication of the consistency of the research within itself. Because, dedication, financial alternatives and considering partner's welfare sub-dimensions of the commitment scale in marriage predict the commitment sub-dimension of dyadic adjustment. Adding the anxiety sub-dimension of attachment styles scale to this result is an expression of how meaningful the research results are.

The result that the dedication sub-dimension of commitment scale predicts the commitment sub-dimension of marital adjustment scale can be explained with how much couples dedicate themselves to marriage and their constant investment in marriage. It is a sign of a delicate balance between commitment and family cohesion that Olson (1993)'s view of family commitment as an emotional bond developed by couples and family members against each other, and family cohesion as leadership, role relationships, and the amount of change in the relationship rules. There is a need for the spirit of dedication that this balance can occur between couples and in the family environment. For as much as, Olson (1993)'s view of family function as family commitment, closeness, family cohesion, flexibility capacity, adaptation to difficulties and changes in both family and environment is important in terms of supporting the findings of this research because it means self-sacrificing for family functioning.

As a result of the result that together with the dedication and financial alternatives sub-dimensions of commitment scale, marital adjustment scale predicts commitment; it is interesting to consider financial alternatives in commitment for increasing both the dedication and the quality of life of the family, because married couples make investments in marriage to increase their commitment. But this investment is not only emotional, but also an investment that has financial dimensions as well. The result that the satisfaction related to a relationship is in a clear relationship with alternatives, investments and commitment to this relationship in a

meta-analysis study of Rusbult's Commitment Investment Model supports the findings of the research (Le & Agnew, 2003).

The result that together with the dedication and financial alternatives sub-dimensions of commitment scale and the anxiety sub-dimension of the attachment styles scale predict the commitment sub-dimension of marital adjustment scale may be due to the reasons such as self-sacrifice for the commitment in increasing marital adjustment, worrying about financial investments that will increase the quality of life of the partner, and not satisfying the partner. The result that anxious attachment styles have a significant effect on marital satisfaction supports the findings (Green, 2012). In addition, the study done by Lippitt (2005) supports the findings.

The result that together with the dedication and financial alternatives sub-dimensions of commitment scale, and the anxiety sub-dimension of attachment styles scale, and the considering partner's welfare sub-dimension of commitment scale predict the commitment sub-dimension of marital adjustment scale may mean both self-sacrifice and financial gain for commitment in marriage, and besides considering partner's welfare mutually, being concerned about gaining the approval and trust of the partner, and giving more attention to the partner as a result of this concern. Self-sacrifice attitudes between couples mediate commitment and relationship adjustment (Stanley et al., 2006; Whitton et al., 2008). Büyükşahin (2006)'s found that the variables that best predict relationship satisfaction level among investment model variables are feeling safe in the relation and the trust to the spouse supports our research. The result of Bayrakcı (2014) that self-esteem is an important predictor of commitment from the sub-dimensions of dyadic adjustment also supports the finding of the research. Because couples with a high self-perception know their weak and strong sides, there is a commitment between them, not a dependency. The result of the study in which Turan (2015) found that the social interest support, the meaningfulness dimension of sense of family unity, financial aid and information support, and manageability sub-dimension of family unity are significant predictors of problem solving skills in marriage support the findings of the research, because if couples are to stand up to difficulties, they can stand up to them with a sense of unity and spousal support. This mutual effort can increase the commitment between them.

Ethics Approval

We declare that the research was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. There is no conflict of interest in the research.

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Self-Discipline in the Life of University Students: A Qualitative Research*

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Abstract

Self-discipline directly or indirectly affects certain aspects of human life such as daily routines, academic achievement, career development, financial independence, health behavior, addictions, social consequences, and psychological adjustment. In this respect, self-discipline is a valuable trait that many people want to obtain or want to develop within their psychological state. The purpose of this study is to reveal self-discipline in the life of university students and to examine how it affects their lives. In the research, 2 steps were followed. In the first step, the self-discipline score of 885 university students was measured. Then, 16 students with the highest self-discipline score (8 people) and the lowest (8 people) were interviewed. As a result of the analysis of qualitative data obtained through content analysis, the following themes emerged: Life goals, ways to achieving life goals, peaceful and happy life perception, ways of reaching to a peaceful and happy life, effects of self-discipline in life, the role of self-discipline in daily life, feelings of to be self-disciplined. Research results indicate that self-discipline has made a positive contribution to students' lives in many aspects. The study sheds light on the role of self-discipline in the experience of university students' lives.

Key Words

Self-discipline • Self-control • University students' perceptions • Qualitative study

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Human beings come to the world with both impulses and skills that can be resisted. Self-discipline is an inner power that distinguishes human from other creatures and differentiates people from each other (McGonigal, 2012). Self-discipline is a capacity that serves human adaptations (Uziel & Baumeister, 2017). When we look at the literature, there is a dissent about how to name self-discipline, how to define it and how to measure its structure (Duckworth & Kern, 2011). As a matter of fact, the concepts of self-control, willpower, self-regulation, conscientiousness and self-discipline are used interchangeably from time to time (Baumeister, Vohs, & Tice, 2007; Duckworth & Seligman, 2005; Jung, Zhou, & Lee, 2017; Muraven, Baumeister, & Tice, 1999; Muraven, Tice, & Baumeister, 1998; Zimmerman & Kitsantas, 2014). Although there are minor differences between these concepts, we used self-discipline (Duckworth & Seligman, 2005) as the equivalent of self-control and willpower in this article.

Self-discipline is an ability to resist one's desires, regulate emotions, control thoughts and adjust their behavior according to their long-term goals (Baumeister et al., 2007; de Ridder, Lensvelt-Mulders, Finkenauer, Stock, & Baumeister, 2012; Duckworth & Seligman, 2006; Tangney, Baumeister, & Boone, 2004). Most of the definitions in the literature emphasize that self-discipline is the ability to perform purposeful behaviors (Hagger, 2013), and progress towards the goals is centrally located as benefit of self-discipline (Tangney et al., 2004). In order to emerge self-discipline behavior, the goals determined by the person have a significant importance and achieving the goals, first of all, the person must connect to the target strictly and then pour all effort of striving to achieve the target (Duckworth, Grant, Loew, Oettingen, & Gollwitzer, 2011).

One of the main life goals of human beings is wellbeing (Lopez & Snyder, 2003) and linking to this, self-discipline is the main component that contributes directly or indirectly to well-being (de Ridder & Gillebaart, 2017; Gillebaart & de Ridder, 2015). Studies in the literature have shown that self-discipline is associated with positive psychological variables such as life satisfaction (Hofmann, Luhmann, Fischer, Vohs, & Baumeister, 2013), subjective well-being (Ronen, Hamama, Rosenbaum, & Mishely-Yarlap, 2016), happiness (Cheung, Gillebaart, Kroese, & de Ridder, 2014), psychological well-being (Joshanloo, Jovanović, & Park, 2020), the meaning of life (Stavrova, Pronk, & Kokkoris, 2020) and positive emotional reactivity (Finley & Schmeichel, 2019). Besides, self-discipline is negatively related to stress (Nielsen, Bauer, & Hofmann, 2020) and psychopathology (Tangney et al., 2004).

Self-discipline is a trait that contributes functioning effectively both socially and individually throughout a person's life (de Ridder et al., 2012). According to the prominent literature, there are several areas of life that self-discipline could be examined as a major role such as in daily life (Kannangara et al., 2018), academic achievement (Duckworth & Seligman, 2005; Duckworth & Seligman, 2006; Gorbunovs, Kapenieks, & Cakula, 2016; Hagger & Hamilton, 2019; Tangney et al., 2004; Zhao & Kuo, 2015; Zimmerman & Kitsantas, 2014), social life (DeBono, Shmueli, & Muraven, 2011; Uziel & Baumeister, 2017) and occupational/professional life (Diestel & Schmidt, 2009; Sintemaartensdijk & Righetti, 2019). In this regard, most people desire to have self-discipline and develop these skills to enhance their inner power.

Self-discipline is often needed when reached to the point where is faced with the dilemma to choose between two different behavioral tendencies need to be resolved. A typical example of such a dilemma occurs when a person with a long-term goal of staying slim and healthy resists eating an attractive looking chips in front of the television (Gillebaart & de Ridder, 2015). People with low self-discipline level cannot resist attractants and tend

to act impulsively (Tangney et al., 2004). When we look at the literature, low self-discipline is associated with a large number of negative behaviors such as substance use (Dvorak, Simons, & Wray, 2011; Wills, Walker, Mendoza, AINETTE, 2006), risky health behaviors such as impulsive eating, and exercise avoidance (de Ridder et al., 2012; Hagger, Gucciardi, Turrell, & Hamilton, 2019; Sirikulchayanonta, Ratanopas, Temcharoen, & Srisorrachatr, 2011; Wills, Isasi, Mendoza, & AINETTE, 2007), internet addiction (Özdemir, Kuzucu, & Ak, 2014), impulsive buying (Vohs & Faber, 2007), antisocial behavior and criminal behavior (Cauffman, Steinberg, & Piquero, 2005; Schoepfer & Piquero, 2006).

The current study

As aforementioned, self-discipline affects human life in numerous aspects (Baumeister et al., 2007). Therefore, the development of self-discipline is frequently encouraged (Uziel & Baumeister, 2017). Governments, schools and parents strive for citizens, students and children to acquire self-discipline skills (Bear & Duquette, 2008; Chong, Rahim, & Tong, 2014; Duckworth & Kern, 2011; Milyavskaya & Inzlicht, 2017). One of the life periods in which self-discipline becomes important is young adulthood. As a matter of fact, young adulthood is an important milestone where individuals make important decisions regarding professional and private life (Akbağ & Ümmet, 2017), and begin to take responsibility for their lives. A large population of young adults in Turkey has participated in higher education (Turkey Statistical Institute [TUIK], 2019). Unlike primary school and high school educational environments, college education has a structure where there is no parental control and the curriculum is much more flexible. Therefore, low self-control in the college students can lead to negative consequences (Stephenson, Heckert, & Yerger, 2020). In this respect, it is important to examine the role of self-discipline in the life of university students. Within the scope of this research, we aimed to make an in-depth examination and comparison of the role of self-discipline in the life of college students with high and low self-discipline score. In this context, the following questions were examined with given answers of participants:

- What are the life goals of university students and what is the contribution of self-discipline in achieving these goals?
- What is the perception of a peaceful and happy life of university students and how does self-discipline contribute to a peaceful and happy life?
- What is the role of self-discipline in the daily life of university students?
- How does self-discipline affect the life of university students in academic, health, social, psychological and moral aspects?
- How does it feel to be self-disciplined?

Method

Qualitative research method has been used in the research to directly penetrate the experiences and opinions of the participants (Patton, 2014). Fundamentally, the main purpose of qualitative research is to understand how participants interpret and build a sense of understanding to their experiences (Merriam, 2013). Qualitative research provides a holistic and flexible approach to the study of human behavior (Patton, 2014; Yıldırım & Şimşek, 2013).

Recruitment and selection of participants

The present study conducted following two steps:

In the first step of the research, to carry out the study, the permission of deans is received for surveys. After receiving permission from the university deans, data started to be collected. Then, self-discipline scale was applied to 900 students studying in various departments of the two major state universities in Turkey. Due to missing extreme inputs and information, 15 of the survey has been removed from the data set. Students' mean scores of self-discipline were 49.09 (SD: 6.67). Overall gender rates among the participants are respectively 62.4% female (552) and 37.6% (333) male. Additionally, the age range of the participants is between 17 and 54 with the mean age 20.75 (SD: 3.16). Students were requested to attach their phone numbers into the survey if they voluntarily participate in the second step (interviews) of the research. In order to fulfill the second stage, 284 participants out of 900 agreed to interview and wrote down their phone number with their consent. Following this, 8 students with the highest and lowest points from these participants were called for appointments and the interviews were arranged by informing the research process. Gender distribution of the second stage participant is 5 males and 11 females of the university in the interview, and the average age is 19.5. Students study in various departments and class levels (Table 1).

Qualitative research has been carried out on small samples that are purposefully selected to facilitate in-depth understanding and analysis of a phenomenon (Patton, 2014). Extreme or deviant case sampling method, which is one of the purposeful sampling types, was used in the research. This sampling type is commonly used in situations due to extreme or outlier cases can provide richer data than normal situations and help to comprehend the problem in multiple dimensions and in depth (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2014; Yıldırım & Şimşek, 2013).

Table 1

Information about Participants and Self-Discipline Scores

| Participants | Gender | Age | Department | Self-discipline Score | Highest/Lowest Point |
|--------------|--------|-----|-----------------------|-----------------------|----------------------|
| P1 | Male | 18 | Turkish Education | 62 | Highest |
| P2 | Male | 20 | Turkish Education | 62 | Highest |
| P3 | Female | 19 | Counseling Psychology | 64 | Highest |
| P4 | Female | 18 | Counseling Psychology | 63 | Highest |
| P5 | Female | 20 | Counseling Psychology | 61 | Highest |
| P6 | Female | 19 | Counseling Psychology | 61 | Highest |
| P7 | Female | 19 | Counseling Psychology | 62 | Highest |
| P8 | Female | 22 | History of Art | 61 | Highest |
| P9 | Female | 20 | Nursing | 36 | Lowest |
| P10 | Female | 22 | Engineering | 33 | Lowest |
| P11 | Female | 19 | Counseling Psychology | 35 | Lowest |
| P12 | Female | 19 | Turkish Education | 22 | Lowest |
| P13 | Female | 19 | Counseling Psychology | 36 | Lowest |
| P14 | Male | 20 | Counseling Psychology | 27 | Lowest |
| P15 | Female | 19 | Turkish Education | 33 | Lowest |
| P16 | Male | 19 | Veterinary | 22 | Lowest |

Data Collection

In the first step of the research, we used the *Self-Discipline Scale (SDS)* developed by [Simsir \(2020\)](#) to assist the level of self-discipline of college students. SDS consisted of 13-items and two dimensions as self-control and responsibility. The results of exploratory factor analysis indicated that a two factor model with 13 items explained 46.57% of the total variance. Also, the factor loadings of SDS ranged from .38 to .77. All items are rated on a 5-point Likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores on this scale indicate higher levels of self-discipline. In the current study, Cronbach's Alpha coefficients calculated as .80 for total scale. The maximum score that can be obtained from the scale is 65, and the minimum score is 13.

In the second step of the research, a semi-structured interview form which involves examining individual opinions of every single participants with their own words and consisting of the closed and open-ended questions developed by the researcher was used ([Merriam, 2013](#); [Büyüköztürk et al., 2014](#)). The interview form has been prepared considering the relevant literature. Later, interview form has submitted to be examined by five academicians working in the Department of Educational Sciences who have extensive knowledge and experience in qualitative research studies. Following the feedback provided by expert academicians, the final arrangements were made. Resulting plot interviews participation with 3 students, the final version of interview form was framed.

After preparation of the final form, the interviews were arranged according to the appointments received from the participants to be held face to face. At the beginning of the interviews, the purpose of the interview was explained to the students and they were encouraged to share thoughts freely in a comfortable environment. Participants were given the guarantee that their identity would be hidden. The interviews were recorded with the content of the participants and lasted approximately 30 to 40 minutes for each.

Data Analysis

Data obtained through interviews were analyzed by using content analysis method. In content analysis, similar data is categorized in certain themes and concepts and interpreted to be demystified for readers ([Yıldırım & Şimşek, 2013](#)). Qualitative research is based on exploration and as a part of it inductive analysis which is the process of building an overall pattern from specific to general ([Patton, 2014](#)).

A series of steps were followed during the analysis of the data. In the first step of our data analysis, voice recordings of interviewees were transcribed. In order to control the data, the researcher wrote down all the data and proceeded to analysis without interruption. NVivo 11 software was used to analyze the data. This software facilitated the coding of data and the creation of themes and categories. Qualitative data analysis was carried out through the cycle of description, classification and interpretation of data. Creating codes or categories in this cycle is at the center of qualitative data analysis. In this process, detailed definitions were created, themes and categories were developed interpretations were made from the perspective of the researcher or in the light of the information in the literature. Coding is a process that includes gathering texts or visual materials into small categories of information, looking for evidence for code from various databases used in the study and labeling these codes ([Creswell, 2013](#)).

To ensure validity and reliability in the research, data diversification was made. From the preparation of the interview questions to the analysis phase and within this aspect each phase are consulted by an expert opinion. After analyzes the participants were asked to make evaluations by making short interviews with ¼ of the participants. In addition, with the help of another researcher, re-coding was carried out to demonstrate the consistency between the coders. Following re-coding, these two encoding results were calculated with the formula proposed by Miles and Huberman (1994), and coefficient of concordance between encoders was calculated as 90%.

Findings

In this section, themes, categories, and statements of students' views are given. The result of the content analysis was that seven general themes emerged: Life goals, ways to achieving life goals, peaceful and happy life perception, ways of reaching to a peaceful and happy life, effects of self-discipline in life, the role of self-discipline in daily life, feelings of to be self-disciplined. The statements of participants are given as P1, P2,...P16.

Self-discipline in achieving life goals

Table 2

Categories Formed Under the Themes of Life Goals and Ways to Achieving Life Goals

| Theme | Categories with the opinions of students with high self-discipline score | Categories with the opinions of students with low self-discipline score |
|--|--|---|
| 1. Life goals | A good profession I can love (5) | A good profession I can love (4) |
| | A high standard of living (2) | Happy life with the family (2) |
| | Raising good generations (1) | Carefree happy life (2) |
| | Doing everything well I do (1) | Travel (1) |
| | Happy life with the family (1) | To improve education (1) |
| 2. Ways to achieving life goals | Work to college lessons (6) | Economic independence (1) |
| | To acquire professional skills (4) | Reading / Researching (3) |
| | Reading / Researching (4) | To acquire professional skills (2) |
| | Learning foreign language (2) | To make financial savings (2) |
| | Constantly set new goals (1) | Know oneself (1) |
| | | Participating in activities (1) |
| | | To reduce stress and anxiety (1) |
| | Learning foreign language (1) | |

Note: The numbers in parentheses (n) indicate frequencies.

In order to reveal the role of self-discipline in achieving life goals of university students, the answers given to the questions of “What are their life ideals “and “How they can achieve them” and “What they do to achieve them” were categorized and compared. When we look at the answers of the students, most of them have an ideal job that they do well and love. For example,

I have a dream of establishing a company on energy field. I dream of starting a company on energy and software. I am hoping for this dream to make it true. (P10)

Both groups of students with high and low self-discipline score, they see in their future to live together with families as one of their goal of life. For example,

... Apart from that, a happy life is a life with my wife and children. My parents are the same. It is such a large family. I guess having such a big family like this much. (P4)

While However, the students with high self-discipline have the other life goals such as, good profession, high standard of living, raising good generations, doing everything well, happy life with family; on the other hand, the other life ideals of students with low self-discipline are listed as a good profession, happy life with the family, carefree happy life, travel, to improve education, economic independence. For example,

...I want a good life, rather a life above the standards. I mean. I want it to live in a house, not an apartment. Basically, I think more of a place where my child can play in the garden intertwined with nature. (P2)

...I dream of a life without stress and anxiety, healthy, happy, without troubles. (P14)

When the life goals of both groups are compared, it is seen that students with high self-discipline level have more work-oriented ideals and the ideals of which they actively work while students with low self-discipline idealize a life where they can feel more comfortable. Considering the issue what students need to do to achieve their life goals, there is not such a big difference in the views of both groups. In order to reach their ideal lives, students respond the conditions as working to college lessons, acquiring the professional skills, reading/researching, learning foreign language, saving money, knowing themselves better, reducing stress and anxiety, constantly setting the new goals. For example,

Firstly, both academically and socially... For example, I both try to study lessons and a continue to my social life even a little... (P7)

... Namely, I plan to attend an English course abroad during this summer or another summer holidays. Because I can't speak English. (P11)

Self-discipline in reaching a peaceful and happy life

Table 3

The Categories Formed Under the Themes of Peaceful and Happy Life Perception and Ways of Reaching Peaceful and Happy Life

| Theme | Categories of the opinions of students with high self-discipline score | Categories of the opinions of students with low self-discipline score |
|--|--|---|
| 3. Peaceful and happy life perception | To be with family and loved ones (3) | To be with family and loved ones (5) |
| | Achieving life goals (3) | Working in the job you love (2) |
| | Fulfill the requirements of the faith (1) | Overcoming problems in life (1) |
| | Be free (1) | Make Money (1) |
| | High quality interpersonal relationships (1) | Having goals in life (1) |
| | Dealing with nature (1) | A healthy life (1) |
| | Waking up to a new day (1) | Be free (1) |

| | | |
|---|--|--|
| | Working and striving (5) | Making the family and other people happy (4) |
| 4. Ways of reaching to a peaceful and happy life | Making the family and other people happy (2) | Make money (4) |
| | Positive attitude to life (2) | Working and striving (2) |
| | Know oneself (2) | Expanding the social environment (1) |
| | Finding the ideal partner (1) | |
| | Dream (1) | |
| | Expanding the social environment (1) | |

Note: The numbers in parentheses (n) indicate frequencies

The answers of the given questions are categorized in order to examine the perceptions of students who are with high and low self-discipline scores about a peaceful and happy life and the role of self-discipline in terms of a peaceful/happy life. Examples of students' views on how to achieve peace and happiness are as follows:

...To be with people I love. This is peace for me, for example ... For some people it is money, for others it is prestige. This is not the case for me. I care about people especially those I love. There are may be disappointments at the end of this, but peace for me is the goodness and happiness of them, and being with them. (P15)

When you achieve your goals, you will be peaceful and happy. , I would be happy if I make my goals true without any trouble... (P3)

While the self-disciplined students emphasized to reach a peaceful and happy life is predominantly working and striving, however, the other group most emphasized answers are to build a family and make other people happy. One of the topics that students who score low are the most emphasized is earning money. When we look at the examples from the opinions of the students:

For example, I like studying. To be honest, I feel happy when I learn something by studying. Because I add something to myself. Because I look at it not as a lesson but as I have learned something for the life ... I think this makes me feel happy. (P7)

... As I said right now, after earning money, saving money and going to Iran or Azerbaijan. That's why I'm saving money right now. (P16)

The effects of having self-discipline in life

Table 4

Categories Formed Under the Theme of the Effects of Self-Discipline in Life

| Theme | Categories with the opinions of students with high self-discipline score | Categories with the opinions of students with low self-discipline score |
|-------|---|---|
| | Academically | Academically |
| | <ul style="list-style-type: none"> • Success of individual / group studies (6) • Guiding work (2) • Achieving the goal more easily (1) | <ul style="list-style-type: none"> • Being successful (6) • Being course-oriented constantly (1) • Living like a robot (1) |

| | | |
|--|--|--|
| 5. Effects of self-discipline in life | In terms of health | In terms of health |
| | <ul style="list-style-type: none"> • Physical health (6) • Mental health (3) | <ul style="list-style-type: none"> • Physical health (8) • Mental health (2) |
| | In terms of social life | In terms of social life |
| | <ul style="list-style-type: none"> • Keeping one's word and appointment (5) • Gaining dignity (2) • To gain the appreciation of people (1) • Having to do the hardest jobs (1) • Fulfilling social responsibilities (1) | <ul style="list-style-type: none"> • Communication problems (5) • Gaining dignity (2) • Be late for the appointment (2) • Give confidence/trust to people (1) |
| | Psychologically | Psychologically |
| | <ul style="list-style-type: none"> • Feeling peaceful and happy (4) • Get bored (2) • Feeling beneficial to the community (1) | <ul style="list-style-type: none"> • Get bored (2) • Feeling peaceful and happy (2) • Being self-sufficient (1) • Personal satisfaction (1) • Increased self-esteem (1) |
| | In terms of addictions | In terms of addictions |
| | <ul style="list-style-type: none"> • Awareness of problematic technology use (5) • Awareness of cigarette / alcohol addiction (5) | <ul style="list-style-type: none"> • Problematic technology use (7) • Smoking, alcohol dependence (4) |
| | Morally | Morally |
| | <ul style="list-style-type: none"> • Social values (3) • To protect the rights of the people (2) • Ideal human profile (2) | <ul style="list-style-type: none"> • To protect the rights of the people and keeping one's word (3) • Religious values (1) |

Note: The numbers in parentheses (n) indicate frequencies

In this part of the research, it has been examined how self-discipline is effective on social, academic, health, addictions, moral and psychological aspects in their lives accordingly to the opinions of students with high and low self-discipline score.

When we look at the opinions of the participants on how self-discipline affects academic activities, the examples as below:

...So I set a goal and I have to work constantly to achieve that goal. It is necessary to have willpower. You set yourself a goal until you're done. I should do this much, I should study this much. So it guides you. It leads our lessons. (P5)

... Those who are already in academic world are generally self-disciplined people. I think so. But in general it feels like a robot that does everything punctually. Academicians, for example always telling the same thing like a robot. Being a robot ... You exist today, won't be here tomorrow, why such an effort? (P16)

Looking at the answers given in terms of health, students drew attention to their positive aspects with regards to physical and mental health. For example,

For example, a person who starts a sport. I used to be like that. I started to do a sport. I continued for 5-6 months. After seeing the improvement in myself, I carried on my sport activities happily without even realizing that I didn't want to continue, because once you moved in that mood you cannot stop it. (P1)

...I sometimes had psychological difficulties in my life. There are many people who experience the same things. When you cut off your communication with others, you become very depressed. There is always action when you have self-discipline. The self-disciplined person in pursue what next he should do. His communication increases as his thinks about it. He heals his psychological problems himself as his communication increase. (P10)

From a social perspective, although the students often emphasized the positive effect of self-discipline, they have also drawn attention to their negative experiences such as being obliged to do the hardest work from time to time and assuming to have more responsibility than others. For example,

In a positive way, it gives confidence to the other person. For example, when you say I will do this and you do that, you build trust in others. It's like, if a person keeps his promise to him, he keeps his promise to me... (P11)

...The negative side of this the most disgraceful job would always left to me... (P2)

From a psychological perspective, having self-discipline has positive aspects such as feeling peaceful and happy, feeling beneficial to the society, being self-sufficient, personal satisfaction, and increasing self-esteem. However, it can lead someone to feel overwhelmed if the sense of self-discipline exists than it is supposed to be. When we look at the opinions of the students:

A self-disciplined person already has a personal satisfaction for doing what he should do. His happiness is high if he increases the well-being of other people. Hardworking person is a self-satisfied person anyway because he always fulfils his/her duty. (P10)

... On the negative side, I sometimes feel tired because of overloaded responsibilities on me. (P4)

From the perspective of addictions, it is seen that having self-discipline is closely related to the awareness of problematic technology use, awareness of cigarette/alcohol addiction. The only group who has problematic technology use and some harmful habits is the students with low self-discipline level. For example,

...I don't have any addiction, nor on the phone. I control myself after a while. I know it's harmful, I shouldn't use it anymore. I know that I should use it according to the necessary needs. (P3)

I like computer games excessively whether it is combat or car games, it doesn't matter. As there was no college during the summer holiday, I play games like crazy day and night. At one point I started to have eye redness. Because I looked at the screen all the time. The doctor gave me eye drop, but it did not help how much regularly I used it because I continued to play. (P9).

According to the opinions of the participants, the moral contribution of having self-discipline is important in the context of social values, protecting people's rights, ideal human profile, keeping the word and religious values. For example,

... Being self-disciplined is like an ideal human profile. It seems to me like that. ... (P3)

...Likewise, cheating. Maybe I would get a higher grade, but I don't cheat. it is a very heavy misbehaviour when we think of it as a guilt. Both I thought of as a rightful due. You're fooling yourself... (P11).

Self-discipline in daily life

Table 5

Categories Formed Under the Theme of the Role of Self-Discipline in Daily Life

| Theme | Categories with the opinions of students with high self-discipline score | Categories with the opinions of students with low self-discipline score |
|---|---|--|
| 6. The role of self-discipline in daily life | Planned and organized life (4) | Getting up late in the morning (3) |
| | Maintaining useful habits (3) | Weakness of willpower (3) |
| | Getting up early in the morning (3) | Not following daily plans (2) |
| | Fulfilling responsibilities (3) | Postpone (2) |
| | Punctuality (1) | A monotonous life (1) Clutter (1) |

Note: The numbers in parentheses (n) indicate frequencies

Considering the role of self-discipline in the daily life of university students, it is remarkable that there are great differences in the opinions of students with high and low self-discipline scores. Students with high scores stated that being self-disciplined contributes to them for a planned and organized life, maintaining useful habits, getting up early in the morning, fulfilling responsibilities, punctuality. For example,

I always get up early in the morning. I think that the person who gets up early in the morning will always proceed early. I experienced this myself last year. For example, I used to study lessons from 1 to 2 at night, and wake up early in the morning. I was getting calmer because I got up early. The daylight also motivates you and so on. I was working better in the early morning...(P1)

... I plan my day when I wake up in the morning without wasting time. I will do this at this time. I'll do this as the following job after that. I'm usually organized and scheduled...(P4)

The students with low self-discipline score stated that the lack of self-discipline had negative consequences on the it daily life such as getting up late in the morning, weaknesses of willpower, not following the daily plans, postpone, a monotonous life, and clutter:

I constantly postpone my duties. I think this is one of my biggest weaknesses. For example, I say what I am going to do today, it is postponed for weeks to months next time, and these create problems for me. If we think about this from an academic point of view, for example, I always promise myself that I will do this today and I will do it tomorrow or something but I constantly postpone, and it causes a lot of trouble during the exam period or simply my cleaning duty. I say I'm going to clean my room today or I'm going to clean my closet but I don't. When it is accumulated, it becomes a bigger problem. They all are accumulated together and create way bigger problems in my daily life. (P15).

...I wake up in the morning and have breakfast. In the morning, I get up according to lessons, but mostly I get up late, I can't revive, I wake up but I can't revive at once... (P12)

Feeling of self-disciplined

Table 6

Categories Formed Under the Theme of the Feelings of Self-Disciplined

| Theme | Categories with the opinions of students with high self-discipline score | Categories with the opinions of students with low self-discipline score |
|--|---|--|
| 7. Feelings of to be self-disciplined | Self Confidence (4) | Peace and happiness (5) |
| | Peace and happiness (3) | Self Confidence (3) |
| | Being useful to people (1) | Independence (1) |
| | Be proud of oneself (1) | Monotonous and boring (1) |

Note: The numbers in parentheses (n) indicate frequencies

Students stated their feelings when they are self-disciplined with such expressions self-confidence, peace and happiness, being useful to people, proud of themselves and feelings of independence. For example,

...I think it gives you more confidence. I can do this I can stand behind my decisions. It can make you more socialize in this respect. I am a really disciplined person, rather than saying that I am not taking that responsibility or withdrawing it, I assume the task that I can do it, I can succeed it. (P13)

...When I improve myself to be self-disciplined, I feel peaceful because there is a relief because I do my task or manage my duty. The stress that I feel disappears. But it bothers me when I postpone a duty or when I don't leave something that I should leave. I can't sleep because of its stress or if I am doing a something, I cannot do it properly... (P14)

Discussion

In this study, we focused on the role of self-discipline in the lives of university students with low and high levels of self-discipline. In the research, which has conducted with a qualitative method, the following themes emerged as a result of the analysis of the data obtained through the interviews; life goals, ways to achieving life goals, peaceful and happy life perception, ways of reaching to a peaceful and happy life, effects of self-discipline in life, the role of self-discipline in daily life, feelings of to be self-disciplined.

Self-discipline is one of the sources of motivation and a skill that enables the person to delay their temptations and determine their priorities in reaching their goals in the long run (de Ridder, Van der Weiden, Gillebaart, Benjamins, & Ybema, 2019; Laran, 2020). The situation in which self-discipline most needed occurs when time of long-term goals and immediate pleasures in the short term in conflict (Duckworth & Gross, 2014; Gillebaart & de Ridder, 2015). In the midst of these conflicts, the aim of self-improvement and the feeling of well-being at that moment are equally strong. For example, students especially experience self-control conflicts when they have to study texts they are not interested in for long hours to achieve academic success (Fishbach & Labroo, 2007). When we look at the opinions of students with low and high levels of self-discipline in our study regarding the goals and objectives, it can be seen that students with high levels of self-discipline tend to take

more actions to achieve their goals, such as working, learning professional skills, reading and doing research even if it is difficult and boring.

The source of happiness, which is one of the most emphasized and researched topics in the history of psychology and philosophy (Diener, 1984; Kashdan, Biswas-Diener, & King, 2008), is one of the questions that researchers try to find its answer (Borooah, 2006; Demirci & Ekşi, 2018; Lu & Shih, 1997). Among these pursuits of the source of happiness would be answered as self-discipline (de Ridder & Gillebaart, 2017; Lu & Shih, 1997). In the research, the most emphasized issues about a peaceful and happy life of the students are to be with the family and their loved ones, to reach their life goals, to have the profession they like. Students with high levels of self-discipline emphasized working and striving as to achieve a peaceful and happy life, while the other group emphasized making both the family and other people happy and making money. Researches in the literature indicate that self-discipline contributes to positive mood, such as happiness (Cheung et al., 2014), subjective well-being (Ronen et al., 2016) and life satisfaction (Stavrova et al., 2020).

Self-discipline affects university students' lives directly and indirectly in terms of academic success, social life, health, addictions, moral and psychological situation. The students emphasized that self-discipline has a positive effect on their academic success. When we look at the literature, we can say that most of the studies on self-discipline are focused on academic success (Duckworth & Seligman, 2006; Durrant, 2010; Tangney et al., 2004; Zhao & Kuo, 2015; Zimmerman & Kitsantas, 2014). The students drew attention to the importance of self-discipline in terms of physical and mental health. There are many studies in the literature that emphasize the importance of self-discipline in maintaining a healthy life (Gerdtham, Wengström, & Östervall, 2019; Sirikulchayanonta et al., 2011). Self-discipline has a pivotal role in the implementation of social and moral rules (Baumeister & Exline, 1999; Uziel & Baumeister, 2017). The students stated that exhibiting self-discipline behavior made them moral and bring them closer to the ideal human profile in the society. From a psychological point of view, students stated that being self-disciplined has positive aspects such as feeling peaceful and happy, feeling beneficial an individual to the society, being self-sufficient, personal satisfaction, and increasing self-esteem. Research conducted by Nielsen et al. (2020) supports this finding and found negative relationships between self-control and stress. In terms of addictions, it is seen that having self-discipline is closely related with the awareness of technology abuse, smoking and alcohol addiction. Studies have found that low self-discipline is associated with substance abuse (Tibbetts & Whittimore, 2002), online gaming, internet addiction (Teng, Li, & Liu, 2014), and smartphone addiction (Kim, Min, Min, Lee, & Yoo, 2018).

The theme in which the most differentiation is observed in the responses of the participants with high and low self-discipline score is the role of self-discipline in daily life. Students with high scores stated that being self-disciplined contributes to them for more planned and organized life, beneficial habits, waking up early in the morning, fulfilling responsibilities and punctuality. Students with low scores stated that self-discipline had negative consequences such as waking up late in the morning, inability to follow with daily plans, postponing duties, monotonous life and clutter. In the study of Kannangara et al. (2018), who conducted a similar study, it was revealed that having the self-discipline makes the students who successfully graduated from the university, successful on several subjects such as time management, self-awareness, prioritizing the tasks to be done and awareness of their own weaknesses. In the study conducted by de Ridder and Gillebaart (2017), self-discipline was found to be associated with daily beneficial habits and a stronger reliance on established daily routines.

The students expressed that they feel better when they are self-disciplined, with self-confidence, peace and happiness, being beneficial to people, self-proud and independent. Studies in the literature demonstrate that self-discipline increases positive emotions (Finley & Schmeichel, 2019; King & Gaerlan, 2014). As self-discipline increases positive emotions, positive emotions and positive mood also increase self-discipline (Fishbach & Labroo, 2007; Tice, Baumeister, Shmueli, & Muraven, 2007; Tornquist & Miles, 2019). All in all, positive mood contributes to people adapting their goals and performing tasks require self-control more successfully (Fishbach & Labroo, 2007).

In conclusion, this research has revealed that self-discipline plays an important role in the life of college students and it affects most aspects of their lives. Nevertheless in the existing literature, most of the studies on self-discipline have been carried out with quantitative methods but there are a limited number of studies conducted with the qualitative research method, which allows examining the perspective of the participants. In this regard, it is thought that the research would make an important contribution to the literature. Conducting the study with the participation of the students with the highest self-discipline score and the lowest was important and necessary in terms of providing the opportunity to make extensive comparisons. However, like other research, this study also has confronted some limitations.

The research was carried out with the participation of a small number of students due to its qualitative nature. In addition, these students consist of those who voluntarily agree to participate in the second stage of the self-discipline measurements in the first stage of our research. The students participating in the study are the students studying in various departments of the two main universities in Turkey. In this regard, it would not be to generalize the whole human behaviors with this study. It would be worthwhile to carry out more studies on self-discipline with wide diverse sample groups and mixed research techniques using qualitative/quantitative methods together in the future. In addition, the future studies should substantially focus on how college students can improve their self-discipline skills. Additionally, universities should create various opportunities for students to develop their self-discipline skills. For example; psychological counseling centers of universities can develop psycho-education programs to increase the self-discipline skills of university students.

Ethic Approval

I declare that the research was conducted in accordance with the ethical standarts of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standarts. Informed consent was obtained from all individual participants included in the study. There is no conflict of interest in the research. The study was approved with the Meeting Date and Number 25.06.2020/73 by the Social and Human Sciences Ethic Committee of Necmettin Erbakan University. The author received no financial support for the authorship, research and publication of this article.

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Investigation of the Relationships between Metacognitive Functions and Subjective Well-Being and Depression, Anxiety and Stress Levels in Adult Individuals

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Abstract

The metacognitive functions significantly affect the levels of psychological symptoms such as depression, anxiety, stress in individuals. Thus, it was considered that metacognitive traits also have a significant effect on the subjective well-being levels. In the present study, the correlations between metacognitive functions and depression, anxiety, stress and subjective well-being levels of adult individuals were analyzed. The study was conducted with 114 female and 137 male, a total of 251 adult individuals. The study data were collected with the Metacognitions Questionnaire (MCQ-30), Depression, Anxiety, Stress Inventory, Subjective Well-being Scale and a Personal Information Form. The study data were analyzed using Pearson Correlation Analysis and Hierarchical Regression method. The analysis findings revealed that metacognitive functions, uncontrollability and danger, the need to control the thoughts, cognitive confidence, positive belief, and cognitive awareness levels were positively associated with depression, anxiety, and stress variables. On the other hand, there were negative correlations between subjective well-being and positive beliefs, need to control thought, levels of uncontrollability and danger, cognitive confidence, uncontrollability of thoughts and danger. According to the hierarchical regression analysis made by creating models, sub-dimensions of metacognition predict depression, anxiety, stress and subjective well-being levels.

Key Words

Metacognition • Subjective well-being • Depression • Anxiety • Stress

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Humans perceive, make sense and actively implement the sensations they receive from the environment throughout their lives. It is possible for individuals to make sense of life through various emotions and ideas that they develop based on experiences, exhibit various behaviors, and employ their cognitive processes. Cognition is defined as a type of mechanism that combines intellectual processes and functions (Irak, Çapan, & Soylu, 2015). In addition, Neisser (1967) defines that cognition means the transformation, reduction, processing, recording, restructuring of emotional input. On the other hand, metacognition is a concept first described by Flavel (1979). According to Flavel (1979), metacognition is the knowledge about cognitive abilities and strategies that an individual possesses. Brown (1987) defined metacognition as a type of higher system that allows an individual to be aware of, control and employ the cognitive skills and strategies that the individual possesses for certain purposes. According to Wells (2008), metacognition is the knowledge of self-intellectual processes, the way individuals organize their thoughts and the way they react. While mental processes such as perception and remembrance are cognitive functions, metacognitive functions include thinking about one's acts such as perception and remembrance (Garner & Alexander, 1989). Thus, individuals could have knowledge about their intellectual functions and thinking structures due to metacognitive processes and guide their minds purposefully and functionally (Tosun & Iraq, 2008). In this context, it was reported that the concept of metacognition, which includes awareness and regulation of cognitive capacity, includes several functions and individuals develop positive or negative beliefs based on their metacognitive beliefs about daily life events (Wells et al., 2009). Flavell (1979) argued that metacognition included three dimensions: "metacognitive knowledge", "metacognitive experiences" and "metacognitive strategies". Knowledge on the development of cognitive processes and beliefs about these processes is defined as metacognitive knowledge. Metacognitive experiences include the experiences of the individual in intellectual processes such as thinking and decision making when a situation or event is encountered. These experiences could be emotional or cognitive experiences. Metacognitive strategies, on the other hand, include the reactions (avoidance, control) of the individual against the encountered events throughout life. Also, Wells (2002) reported that metacognitive knowledge, metacognitive experiences and metacognitive strategies form the metacognitive system. It is known that the metacognitive system is effective in the development of coherent response styles by the individual (Cartwright-Hatton & Wells, 1997; Gwilliam, Wells, & Cartwright-Hatton, 2004). A diversion in this system could lead to various psychopathologies (Wells & Cartwright-Hatton, 2004). According to Cartwright-Hatton and Wells (1997), positive and negative beliefs play an important role in the development of psychopathology, affecting an individual's dysfunctional thoughts and the way they analyze the events. These beliefs are combined in the metacognitive system and lead to incoherent reactions. It was reported that the inadequate coping mechanisms such as rumination and the need to control thoughts, when discussed in this context, were effective on the emergence and progression of certain psychopathologies. In summary, metacognitive beliefs are associated with individual attempts to cope with stressful events such as anxiety, rumination, avoidance, and suppression. Thus, high inadequate coping efforts could lead to an increase in negative emotions and more intense anxiety and could create a vicious anxiety, avoidance and rumination cycle. The review of the literature on metacognitive model demonstrated that metacognitive processes were studied in association with disorders such as mood disorders (Matthews & Wells, 2004; Soderstrom, Davalos & Vázquez, 2011; Wells, 2002), anxiety disorders (Doğan, Solak, Özdel, & Türkçapar, 2013; Myers and Wells, 2005; Spada, Hiou, & Nikcevic, 2006; Wells & Papageorgiou, 1998),

psychotic disorders (Çağlar, Özsoy & Mermi, 2016; Favrod et al., 2014; García-Montes, Pérez-Álvarez, Soto Balbuena, Perona Garcelán & Cangas, 2006; Moritz et al., 2011).

From a different perspective, it was claimed that psychopathology was due to the reactions of individuals to negative thoughts in the Self-Regulatory Executive Function (S-REF) model described by Wells and Matthews (1996). Based on the S-REF model, the individual's metacognitive processes and cognitive strategies (need to control, cognitive awareness, positive belief about anxiety, cognitive confidence) affect the way the individual assesses the events. In brief, it was argued that the individual reactions to negative thoughts besides the negative content of the thoughts play an important role in the development of psychopathology. Wells (2002) suggested that all psychological disorders were associated with a cognitive structure called Cognitive Attentional Syndrome (CAS) in the S-REF model. Based on the Cognitive Attentional Syndrome, persistent and repetitive contemplations such as anxiety and rumination that lead to the sustenance of psychopathologies concentrate the attention of the individual on negative situations. This may lead to the development of inadequate coping strategies (suppression, avoidance, distraction, etc.). For example, positive metacognitive beliefs that an individual should be constantly thinking about anxiety or a negative situation could lead to ruminative thoughts. Concentration of the attention on self-cognitive processes could trigger rumination and result in a decrease in cognitive functions. According to Wells et al. (2009), the belief of the individual that it would be beneficial to worry about a dangerous situation may lead to certain inadequate outcomes such as alertness for a danger and rumination. Thus, exacerbation and the persistence of the existing anxiety may be observed.

Metacognitive beliefs, such as avoiding the circumstances that trigger anxiety or avoiding thinking about the circumstances, may lead to greater perceived stress and concomitant negative emotions. General avoidance of anxiety could be understandable. From this point of view, the perception of the consequences of anxiety as dangerous may lead to the employment of initiatives such as control and avoidance. However, considering anxiety as a positive strategy to cope with a possible hazard may lead to focusing on the threatening stimuli. The literature review revealed that studies on the significance of metacognitive functions in the course of psychiatric disorders have increased in recent years (Morrison & Wells, 2003; Rahimi & Haghighi, 2010; Yılmaz, Gençöz, & Wells, 2011). However, according to the S-REF model, studies demonstrated that mood and anxiety disorders were associated with metacognitive functions are also seen in the literature (Corcoran & Segal, 2008; Ellis & Hudson, 2010; Köseoğlu, 2013; Papageorgiou & Wells, 2003; Spada, Mohiyeddini & Wells, 2008). The variables investigated in the study included depression, anxiety and stress symptoms.

Depression is a mood disorder characterized by emotional, behavioral and cognitive symptoms. Depression (Köknel, 2005), which is also called mental breakdown, is described as a disorder accompanied by emotions such as worthlessness, guilt, unhappiness, loneliness, and hopelessness (Sharp & Lipsky, 2002). Problem-solving skill problems also frequently accompany depression (Duque & Vázquez, 2015). In clinical depression, in addition emotional depression, impairments in cognitive processes such as perception, remembrance and attention could be observed (Yalom & Glick, 2006). Anxiety is known to be one of the most common concomitant psychopathologies in depression (Bartlett, Singh, & Hunter, 2017).

Anxiety is a clinical term used to describe fear and concern. In a broader definition, anxiety entails intense restlessness and stress against a situation that is not fully understood and perceived as dangerous. Beck, Emery and Greenberg (2005) defined anxiety as an emotional and physical reaction of the organism to a dangerous and

threatening circumstance, while Seligman, Walker and Rosenhan (2001) considered anxiety as a mood that could even be observed without a certain stimulus. Antony and Swinson (2000) considered the individual thoughts that an individual would not cope with a perceived threat as the most common form of anxiety. The literature review revealed studies that suggested that depression and anxiety were interrelated psychopathologies (Christensen, Griffiths, & Farrer, 2009; Davies, Morriss & Glazebrook, 2014; Dyrbye, Thomas & Shanafelt, 2006), and in other studies, depression, anxiety and stress variables were addressed (Beiter et al., 2015; Dyson & Renk, 2006; Newbury-Birch & Kamali, 2001; Rada & Johnson-Leong, 2004).

Stress was conceptualized as the presence of the perceived undesirable and negative life events by the individual (Lazarus & Folkman, 1984). Stress leads to tension and stimulation of an individual in the presence of certain life events; however, it sometimes functions as an adaptive and a stimulating reaction (Aydm, 2010). Stress factors and reactions to stress in life could also lead to the development of disorders such as depression and anxiety (Akerstedt, Kecklund & Axelsson, 2007; Wolkowitz, Epel, Reus, & Mellon, 2010). In the metacognitive framework, literature included studies which reported that metacognitive features affected the development of psychopathology such as depression, anxiety and stress (Normann, Emmerik, & Morina, 2014; Roussis & Wells, 2006; Spada et al., 2008; Yılmaz, Gençöz & Wells, 2014). Besides, certain studies reported that there were correlations between metacognitive functions such as positive beliefs about anxiety, the need to control thoughts, and frequent review of thoughts, and anxiety disorders (Barahmand, 2009; Morrison, Wells & Nothard, 2000). Several studies demonstrated that metacognitive functions such as cognitive confidence, described as self-confidence in memory, especially in verbal memory, as well as positive beliefs about negative thinking and anxiety were associated with depression (McDermott & Ebmeier, 2009; Moritz, Peters, Laroı & Lincoln, 2010; Özsoy & Kuloğlu, 2017; Soderstrom et al., 2011). Similarly, it was suggested in various studies that as the levels of metacognitive functions such as positive beliefs, cognitive confidence and the need to control thoughts increased, the stress levels increased as well (Doğan et al., 2013; Nixon et al., 2008; Önen, Uğurlu, & Çayköylü, 2013; Sarıcam, 2015; Spada et al., 2008).

Considering that various psychological symptoms are related to metacognitive functions, it comes to the fore that metacognition can be an important factor on the subjective well-being of the individual. Subjective well-being, which was one of the variables investigated in the study, was first described by Bradburn (1969). Bradburn (1969) stated that subjective well-being is a balanced combination of positive and negative emotions. Diener (1984) analyzed subjective well-being in two dimensions; cognitive and emotional well-being. The individual is considered happy when positive emotional experiences are more than negative emotional experiences. The cognitive dimension mostly includes subjective judgments about a satisfaction in the main areas of life, such as professional life, education, and marriage. Also, Hybron (2000) tackled subjective well-being in two dimensions of positive-negative affection and life satisfaction. Vaillant (2003) demonstrated that subjective well-being reflects positive psychological health, while Bray and Gunnell (2006) suggested that the level of subjective well-being provides important data to monitor, evaluate, preserve, and treat an individual's psychological health. It was reported that individuals with high subjective well-being levels tend to be creative, optimistic, trusting and benevolent (Diener, 2000), and it is considered to be associated with positive psychological traits of the individual (Eid & Larsen, 2008). With a metacognitive approach, Cornoldi (1998) reported that metacognitive features may play a protective role for psychological functions. Similarly, Fastame, Penna, Rossetti and Agus (2012) emphasized that subjective well-being level and metacognitive efficiency were

related. Metacognition (Brown, 1980), which allows behavior with high awareness, also includes subjective individual analyses about self-cognitive capacity and abilities (Fernandez-Duque, Baird & Posner, 2000). Kiaei and Reio (2014) reported that metacognitive competence, which develops based on cognitive processes such as monitoring, evaluation, planning and strategy, contributes to the subjective well-being levels by developing the individual's interpersonal skills. Wells and Matthews (1994) reported that Cognitive Attentional Syndrome, which leads to the development of negative metacognitive functions, activates strategies such as anxiety, rumination, threat, and monitoring, leading to a higher negative emotional level. According to Wells (2002), these coping strategies rarely work in resolving the stressful situation. This situation enforces the belief that the individual cannot control anxiety, resulting in the continuation of the problem. Increased dysfunctional strategies could lead to the continuation of an individual's maladaptive thinking and a drop in subjective well-being level. Similarly, negative metacognitive beliefs common in life negatively affect the subjective well-being levels through negative emotional and cognitive effects. Thus, it was concluded that the level of subjective well-being of the individual increases significantly as the level of metacognitive functions, especially the need to control, cognitive awareness and thoughts increase (Toffalini, Veltri & Cornoldi, 2014; Valiente, Prados, Gómez & Fuentenebro, 2012).

The review of the available studies and theoretical knowledge in the literature demonstrated that metacognitive characteristics were associated with depression, anxiety, stress levels and lay the ground for the development of various psychopathologies. The metacognitive functions and subjective well-being levels of individuals were scrutinized as two interacting variables. Despite the increasing academic interest in the concepts of metacognitive and psychological well-being, it was observed that the number of studies on the interaction between these two variables was limited. The review of the studies on metacognition in Turkey revealed that variables such as psychotic disorders, obsessive compulsive disorder, anxiety disorders and depression were frequently investigated (Canbay, 2018; Köseoğlu, 2013; Yılmaz, İzci, Mermi, Atmaca, 2016). The predicted variables (dependent variable) of the present study are subjective well-being and depression, anxiety, stress levels; the predictor variable (independent variable) is metacognitive functions. Thus, the present study aimed to contribute to the literature and investigate the correlation between metacognitive functions and depression, anxiety and stress levels in a non-clinical sample. In the present study, it is aimed to examine the relationship of metacognitive functions of individuals with various psychological symptoms and subjective well-being levels. There are studies conducted with clinical samples in the relevant literature. However, studies examining the meta-cognitive functions of individuals without any psychiatric diagnosis are limited. Today, increasing depression, anxiety and stress symptoms are thought to negatively affect the subjective well-being levels of individuals. Factors such as perceptions of one's emotions and thoughts, the presence of repetitive maladaptive thought patterns, avoiding or suppressing one's own thoughts are thought to be associated with depression, anxiety, stress symptoms and subjective well-being. Metacognitive approach, which is one of the third generation approaches of cognitive therapies, tries to explain psychopathologies especially in relation to the control of thought, interpretation of threat factors, dysfunctional thoughts and coping mechanisms. In order to examine whether metacognitive characteristics have an effect on individuals' depression, anxiety, stress symptoms and subjective well-being in a non-clinical sample, the relevant variables are discussed in the present study. Based on this main aim, the research problem was determined as whether there was a predictive role of

metacognitive functions on depression, anxiety and stress levels and subjective well being levels in adult individuals.

Method

Research Model

The purpose of the research is to present the relationship among metacognition and depression, anxiety, stress and subjective well-being as well as to test the created model in terms of these relations. A relational survey model has been used in the research. A relational survey is a research model conducted in order to define the relationships among two or more variables and in order to obtain clues concerning cause-and-effect relationships (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2008).

Study Group

The research group had previously received psychological support, psychiatric assistance (psychotherapy, medication, etc.) 251 adult individuals, 114 of whom were women and 137 men, who stated that they did not take consists of. The mean of age has been calculated as 31.6 and the range of age is 18-48. Table 1, which includes socio-demographic characteristics, was created to give information about the sample of the research. The descriptive statistics findings for the study variables are presented in Table 1.

Table 1

Participant Socio-Demographics

| | Variables | N | % |
|------------------------|------------------|----------|----------|
| Gender | Female | 137 | 54.6 |
| | Male | 114 | 45.4 |
| Marital Status | Married | 129 | 51.4 |
| | Single | 122 | 48.6 |
| Age | 18-25 | 86 | 34.3 |
| | 26-35 | 89 | 35.5 |
| | 36-45 | 57 | 22.7 |
| | 45 and over | 19 | 7.6 |
| Education Level | Literate | 3 | 1.2 |
| | Primary | 19 | 7.6 |
| | High | 63 | 25.1 |
| | Associate | 42 | 16.7 |
| | Undergraduate | 108 | 43.0 |
| Residence | Graduate | 16 | 6.4 |
| | Village/Town | 9 | 3.6 |
| | District | 9 | 3.6 |
| | Urban Center | 119 | 47.4 |
| | Metropolitan | 114 | 45.4 |

Measurement Tools

Metacognitions Questionnaire-30 (MCQ-30): The Metacognition Questionnaire-30, developed by Cartwright-Hatton and Wells (1997) to determine the metacognitive functions in adult individuals, and adapted to Turkish culture by Tosun and Irak (2008) was employed in the study. The scale includes 30 items. It is a 4-point Likert-type scale [(1) strongly disagree, (2) partially disagree, (3) partially agree, (4) strongly agree]. The scale score range is between 30 and 120 points, and a higher score indicates the presence of pathological

metacognitive functions in the individual (Tosun & Irak, 2008). In the original scale, the internal consistency coefficient (Cronbach's alpha) for the entire scale was 0.93 and between 0.72 and 0.93 for the sub-scales. In the Turkish adaptation, the internal consistency coefficient (Cronbach's alpha) for the entire scale was 0.86 and it varied between 0.70 and 0.85 for the sub-scales. In the current study, the Cronbach Alpha coefficient was calculated as .88. The scale includes items such as "I constantly examine my thoughts" and "Worrying is dangerous for me".

Subjective Well-Being Scale (SWS): Subjective Well-Being Scale developed by Tuzgöl Dost (2005) was employed to determine the cognitive analysis of the participating individuals and the levels of their positive and negative emotions. The 5-point Likert-type scale includes 46 items [(5) completely agree, (4) mostly agree, (3) partially agree, (2) somewhat agree, and (1) disagree]. A higher scale score indicates that the subjective well-being level of the individual is high. The internal consistency coefficient (Cronbach's alpha) of the Subjective Well-being Scale was calculated as .93. Also the reliability of the scale was determined for adults. The reliability study was conducted by Canbulat and Çankaya (2014) with 174 adult individuals. It was observed that the total item correlations in the scale ranged between .25 and .71. Cronbach Alpha internal consistency coefficient was determined as .95 and the scale was considered adequate for adult individuals. In the current study, the Cronbach Alpha coefficient of the scale was determined as .93. The scale includes items such as "I like to make plans for the future" and "I have trouble setting goals".

Depression, Anxiety and Stress Inventory (DASI): The Depression, Anxiety, Stress Inventory (DASI) developed by Lovibond and Lovibond (1995) was employed to determine the depression, anxiety and stress levels of adult participants in the study. The adaptation of the scale to Turkish culture was conducted by Akin and Çetin (2007). The scale includes 42 items; 14 of which measure depression, 14 measures anxiety and 14 measures stress. The scale is a 4-point Likert-type scale [(0) completely disagree, (1) somewhat agree, (2) generally agree, and (3) completely agree]. High depression, anxiety and stress dimension scores indicate that the individual suffers the relevant problem. As a result of item analysis, it was determined that total item correlations ranged between .51 and .75. The scale Cronbach Alpha internal consistency coefficient was .89 for the whole scale; and for the depression, anxiety, and stress subdimensions, the coefficient was .90, .92 and .92, respectively. Cronbach Alpha coefficient of the scale was determined as .95 in the current study. The scale includes items such as "I feel sad and pessimistic" and "I think life is meaningless".

Process

The ethics committee approval was obtained from Dicle University Social Sciences and Humanities Ethics Committee. Appropriate sampling technique was used in the selection of the participants consisting of individuals aged 18 and over. Participants were informed about the research and were asked if they would like to participate in the study. The necessary information was given to the participants to fill in the scales. Participants whose verbal and written consents were obtained were included in the study. During the data collection, detailed information about the aim and scope of the study, the confidentiality of personal data and the voluntary participation principle was provided to the participants. It took approximately 25 minutes for the volunteering participants to complete the personal information form and the scales in the study.

Data Analysis

In the present study that investigated the correlation between metacognitive functions and depression, anxiety, stress and subjective well-being levels in adult individuals, the relational research model, a general screening model, was employed. IBM SPSS-24 (Statistical Package for Social Sciences) software was used for the analyses. To determine the adequacy of the data for statistical analysis, normality assumptions were tested and it was concluded that all variables exhibited normal distribution. For the data to be accepted as normally distributed, the kurtosis-skewness values should be between -1.5 and +1.5 (Tabachnick and Fidell, 2007). Skewness value of metacognition scale -.123, kurtosis value -.356; skewness value of subjective well-being scale is -.182 and kurtosis value is .767; and for the DAS scale, the skewness value is .477 and the kurtosis value is -.585. Since all variables were distributed normally, the Pearson correlation coefficient was calculated to determine the correlations between the variables. In order to test the hierarchical regression assumptions, the Durbin-Watson coefficient was calculated to determine the autocorrelation of the variables of the study. The Durbin-Watson coefficient was calculated as $d = 2.034$ for sub-dimensions of metacognition and depression, anxiety, stress variables; also, $d = 1.688$ was calculated for the subjective well-being variable. The Durbin-Watson coefficient, which takes a value between 1.5 and 2.5 according to Kalaycı (2008), indicates that there is no autocorrelation problem between the variables. Thus, it is seen that there is no autocorrelation problem between variables. In another aspect, the Variance Inflation Factors (VIF) was examined in order to test the multiple connection problems between sub-dimensions of metacognition, which is the independent variable of the study. It is seen that the VIF values for the sub-dimensions take values between 1.16 and 2.39. Considering that there is no multicollinearity problem regarding the independent variables in case the Variance Inflation Factors takes a value less than 10, it is seen that there is no multicollinearity problem that negatively affects the suitability of the variables to regression analysis in the present study.

Findings

Before the analysis of the correlation between metacognitive functions and depression, anxiety, stress and subjective well-being variables, the scale scores were reviewed and presented in Table 2.

Table 2

Data Collection Instrument Statistics

| | Variables | N | % | SS | \bar{X} | Skewness | Kurtosis | Min | Max |
|------------------------------|--|-----|-----|--------|-----------|----------|----------|------|------|
| Metacognition | Positive beliefs | 251 | 100 | .77344 | 2.1627 | .156 | -.829 | 1.00 | 4.00 |
| | Cognitive confidence | | | .73619 | 2.1016 | .255 | -.922 | 1.00 | 3.83 |
| | Uncontrollability and danger | | | .72565 | 2.3725 | .083 | -.832 | 1.00 | 4.00 |
| | Cognitive self-consciousness | | | .65317 | 2.8493 | -.222 | -.412 | 1.00 | 4.00 |
| | Need to Control of the thoughts | | | .70308 | 2.5153 | -.119 | -.426 | 1.00 | 4.17 |
| DAS | Depression | 251 | 100 | .69880 | .8882 | .785 | -.161 | .00 | 2.79 |
| | Anxiety | | | .63082 | .9042 | .629 | -.419 | .00 | 2.64 |
| | Stress | | | .67379 | 1.1685 | .235 | -.688 | .00 | 2.93 |
| Subjective Well-Being | | 251 | 100 | .63958 | 3.5840 | -.096 | -.457 | 1.96 | 4.93 |

The results of the correlation analysis conducted to determine the correlations between metacognitive functions and depression, anxiety, stress levels and subjective well-being are presented in Table 3.

Table 3

The Correlations between Metacognitions Questionnaire Sub-Dimensions and Depression, Anxiety, Stress, and Subjective Well-Being Variables

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|--------|---------|---------|--------|---------|---------|---------|---------|
| positive_beliefs (1) | 1 | | | | | | | |
| cognitive_confidence (2) | .106 | 1 | | | | | | |
| uncontrollability_and danger(3) | .276** | .399** | 1 | | | | | |
| cognitive_self-consciousness (4) | .323** | .071 | .480** | 1 | | | | |
| Need_to_control_thoughts (5) | .340** | .331** | .688** | .592** | 1 | | | |
| Depression (6) | .152* | .321** | .533** | .249** | .420** | 1 | | |
| Anxiety (7) | .161* | .344** | .596** | .218** | .456** | .784** | 1 | |
| Stress (8) | .209** | .259** | .526** | .265** | .381** | .781** | .799** | 1 |
| SWB_mean (9) | -.125* | -.423** | -.500** | .005** | -.349** | -.630** | -.509** | -.489** |

Note: * $p < .05$; ** $p < .01$

As seen in Table 3, a positive correlation was determined between depression and uncontrollability of thoughts and danger ($r = 0.533$ and $p = 0.001$), need to control thought levels ($r = 0.420$ and $p = 0.001$), cognitive confidence ($r = 0.321$ and $p = 0.001$), cognitive self-consciousness ($r = 0.249$ and $p = 0.001$), and positive beliefs ($r = 0.152$ and $p = 0.008$) metacognitive function sub-dimensions.

There were positive correlations between anxiety and uncontrollability of thoughts and danger ($r = 0.596$ and $p = 0.001$), need to control thought levels ($r = 0.456$ and $p = 0.001$), cognitive confidence ($r = 0.344$ and $p = 0.001$), cognitive self-consciousness ($r = .218$ and $p = .001$), and positive beliefs ($r = 0.161$ and $p = 0.005$).

It was determined that there were positive correlations between stress and uncontrollability of thoughts and danger ($r = 0.526$ and $p = 0.001$), need to control thought levels ($r = 0.456$ and $p = 0.001$), cognitive confidence ($r = 0.259$ and $p = 0.001$), positive beliefs ($r = 0.209$ and $p = 0.001$), and cognitive self-consciousness ($r = 0.218$ and $p = 0.001$).

Based on the above-mentioned findings, there is a significant correlation between metacognition sub-dimensions and depression, anxiety and stress levels.

It was also determined that there were negative correlations between the subjective well-being level, another dependent variable analyzed in the study, and positive beliefs ($r = -0.125$ and $p = 0.048$), need to control thought levels ($r = -0.349$ and $p = 0.001$), cognitive confidence ($r = -0.423$ and $p = 0.048$), and uncontrollability of thoughts and danger ($r = -0.500$ and $p = 0.001$). There is no significant relationship between subjective well-being cognitive awareness, which is one of the sub-dimensions of metacognition ($r = 0.005$ ve $p = 0.938$).

Attention, decision-making processes are related to metacognitive functions and they vary from person to person. It is thought that the metacognitive strategies used can have a significant effect on the cognitive and emotional processes of the person. It is considered that the way of evaluating events in line with the relevant metacognitive strategies may be affected and this situation may lead to processes that disrupt the adaptation of

the individual. Therefore, metacognitive functions were considered as predictors of depression, anxiety, stress, and subjective well-being variables.

The hierarchical regression analysis was conducted on the sub-scales to determine the predictive power of metacognition sub-dimensions of depression, anxiety, stress and subjective well-being levels. The findings are presented in Table 4, Table 5, Table 6 and Table 7.

Table 4

The Results of Hierarchical Regression Analysis Regarding to the Prediction of Depression Level by the Sub-Dimensions of Metacognition Questionnaire

| Model | R | R ² | R ² (Adj) | Std.Err. | F | P |
|-------|------|----------------|----------------------|----------|--------|------|
| A | .533 | .284 | .281 | .59234 | 98.934 | .000 |
| B | .538 | .290 | .284 | .59130 | 50.582 | .000 |
| C | .550 | .302 | .294 | .58720 | 35.685 | .000 |
| D | .550 | .303 | .291 | .58824 | 26.702 | .000 |
| E | .550 | .303 | .289 | .58942 | 21.278 | .000 |

A. Predictor: Uncontrollability and danger
 B. Predictor: Uncontrollability and danger, need to control thoughts
 C. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence
 D. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence, self-consciousness
 E. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence, self-consciousness, positive beliefs
 Dependent Variable: Depression

** $p < 0.1$

As seen in Table 4, uncontrollability and danger, which are sub-dimensions of metacognition were explained the total variance of depression at a rate of 28.4% in the first model. After that, the need to control thoughts sub-dimension was added to the first model and it was observed that the second model was explained at a rate of 29%, significantly. Then, cognitive confidence was added to the third model and it was explained 30.2 % of the total variance. The fourth model was created by adding the cognitive self-consciousness to the third model and it was explained 30.3% of the total variance. It was seen that the positive beliefs sub-dimension added in the last model but it was not contribute the model.

Table 5

The Results of Hierarchical Regression Analysis Regarding to the Prediction of Anxiety Level by the Sub-Dimensions of Metacognition Questionnaire

| Model | R | R ² | R ² (Adj) | Std.Err. | F | P |
|-------|------|----------------|----------------------|----------|---------|------|
| A | .596 | .355 | .352 | .50765 | 137.034 | .000 |
| B | .599 | .359 | .354 | .50707 | 69.459 | .000 |
| C | .609 | .371 | .364 | .50314 | 48.658 | .000 |
| D | .617 | .380 | .370 | .50066 | 37.719 | .000 |
| E | .617 | .380 | .368 | .50168 | 30.053 | .000 |

A. Predictor: Uncontrollability and danger
 B. Predictor: Uncontrollability and danger, need to control thoughts
 C. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence
 D. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence, self-consciousness
 E. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence, self-consciousness, positive beliefs
 Dependent Variable: Anxiety

** $p < 0.1$

As seen in Table 5, uncontrollability and danger were explained the total variance of anxiety at the rate of 35.5% in the first determined model. For the second step, the need to control thoughts added to the model which was explained significantly to the model at a rate of 35.9%. Then, cognitive confidence and cognitive self-consciousness were added to the next models, respectively, and they were contributed significantly the models. The cognitive confidence was added to the model and it was constituted 37.1% of the total variance and the cognitive self-consciousness was explained 38%. In the last step, it was seen that the positive beliefs sub-dimension was added to the model and it did not contribute to the model.

Table 6

The Results of Hierarchical Regression Analysis Regarding to the Prediction of Stress Level by the Sub-Dimensions of Metacognition Questionnaire

| Model | R | R ² | R ² (Adj) | Std.Err. | F | P |
|----------|------|----------------|----------------------|----------|--------|------|
| A | .526 | .276 | .352 | .57440 | 95.003 | .000 |
| B | .526 | .277 | .354 | .57527 | 47.482 | .000 |
| C | .529 | .280 | .364 | .57537 | 31.947 | .000 |
| D | .529 | .280 | .370 | .57646 | 23.887 | .000 |
| E | .533 | .284 | .368 | .57608 | 19.399 | .000 |

A. Predictor: Uncontrollability and danger
 B. Predictor: Uncontrollability and danger, need to control thoughts
 C. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence
 D. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence, self-consciousness
 E. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence, self-consciousness, positive beliefs
 Dependent Variable: Stress

** $p < 0.1$

When Table 6 is examined, the uncontrollability and danger were added in the first step to the model and it was explained the total variance of stress at a rate of 27.6%. In the second step, when the need to control thoughts was added to the model, it is seen that 27.7% of the total variance was explained. In the third model, cognitive confidence was explained the total variance by 28%. The cognitive self-consciousness was added to the model in the fourth step and it seems that it did not contribute to the model. It is seen that the positive beliefs added in the last step of the model and the last model explained the total variance significantly at a rate of 28.4%.

Table 7

The Results of Hierarchical Regression Analysis Regarding to the Prediction of Subjective Well Being Level by the Sub-Dimensions of Metacognition Questionnaire

| Model | R | R ² | R ² (Adj) | Std.Err. | F | P |
|----------|------|----------------|----------------------|----------|--------|------|
| A | .500 | .250 | .247 | .55514 | 82.838 | .000 |
| B | .500 | .250 | .244 | .55624 | 41.262 | .000 |
| C | .556 | .310 | .301 | .53464 | 36.922 | .000 |
| D | .616 | .380 | .370 | .50773 | 37.676 | .000 |
| E | .617 | .381 | .368 | .50836 | 30.142 | .000 |

A. Predictor: Uncontrollability and danger
 B. Predictor: Uncontrollability and danger, need to control thoughts
 C. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence
 D. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence, self-consciousness
 E. Predictor Uncontrollability and danger, need to control thoughts, cognitive confidence, self-consciousness, positive beliefs
 Dependent Variable: Subjective Well Being

When Table 7 is examined, the uncontrollability and danger added to the first model and it was explained the total variance of stress at a rate of 25%. It is seen that the need to control thoughts sub-dimension was added in the second step, and it did not contribute to the second model. In the third model, cognitive confidence was explained the total variance by 31%. When cognitive self-consciousness was added to the model in the fourth step, it is seen that the model explains 38% of the total variance. Based on the last model, the positive beliefs was added to the existing model and explained 38.1% of the variance.

Discussion

Metacognition is the self-consciousness about the properties of one's cognitive processes and their resources, and awareness about using these resources efficiently, actively and effectively (Livinstgon, 1997). In the current study, metacognitive functions of adult individuals were investigated as predictors of depression, anxiety, stress symptoms and subjective well-being levels. First, the correlations between metacognitive functions and depression, anxiety, stress and subjective well-being levels were discussed, and it was concluded that there were significant correlations between these variables. The literature review demonstrated that metacognition sub-dimensions such as the negative beliefs about the uncontrollability of thoughts and danger (Matthews, Hillyard, & Campbell, 1999; Moritz et al., 2010; Spada et al., 2008; Taylor, 2010; Yılmaz et al., 2011), cognitive confidence (Köseoğlu, 2013; Lee, Hermens, Porter & Redoblado-Hodge, 2012; Mcdermott & Ebmeier, 2009; Nieto, Delgado, Mateos & Bueno, 2010; Paelecke-Habermann, Pohl & Leplow, 2005), cognitive self-consciousness (Grötte et al., 2014; Köseoğlu, 2013; Myers & Wells, 2005; Reuven-Magril, Rosenman, Liberman, & Dar, 2009), beliefs about the need to control thought levels of uncontrollability and danger (Köseoğlu, 2013; Morrison et al., 2000; O'Carroll & Fisher, 2013), and positive beliefs (Barahmand, 2009; Morrison et al., 2000; Yılmaz, 2007) were associated with various psychopathologies such as depression, anxiety and stress. Thus, it observed that the present study findings were consistent with the findings reported by similar studies in the literature. Based on the findings, the predictive role of metacognitive strategies on psychological symptoms such as depression, anxiety and stress demonstrate that the level of these symptoms could increase with the level of negative metacognitive strategies adopted by individuals.

On the other hand, frequent use of metacognitive strategies may negatively affect the subjective well-being of the individual by paving the way for the development of discordant psychological responses. Thus, from a metacognitive perspective, the cognitive analyses of the individual against life events could have a significant effect on psychological well-being (Brett, Johns, Peters, & McGuire, 2009). The present study finding that metacognitive evaluations were not factors that only affect the depression, anxiety and stress levels, but also the subjective well-being, which is a reflection of general well-being, demonstrated that metacognitive functions could be effective on several fields of life. Similarly, the finding that the increase in metacognitive function levels had a negative impact on the subjective well-being level was consistent with the literature (Fastame et al., 2012; Fastame & Penna, 2013; Sariçam, 2015).

Metacognition manages the cognitive system and is an important component of this system (Veenman, Wilhelm, & Beishuizen, 2004). In the current study, the analysis of the correlations between the metacognition sub-dimensions and depression, anxiety, and stress levels revealed a positive and significant correlation between these variables and the positive beliefs, uncontrollability and danger, cognitive confidence, cognitive self-

consciousness and need for control sub-dimensions, and metacognition sub-dimensions significantly predicted depression, anxiety, and stress levels.

The uncontrollability and danger sub-dimension is associated with frequent anxiety and continuity of anxious thoughts despite the efforts of the individual to control them. It was suggested that negative metacognitive functions caused by beliefs that negative thoughts could not be controlled could play an active role in the presence of mechanisms such as persistent thinking (e.g., rumination) and threat monitoring. Thus, based on the study findings, it was suggested that beliefs about the difficulty of controlling negative thoughts may have increased the depression, anxiety and stress levels. In the literature, certain studies reported that the uncontrollability and danger sub-dimension was associated with depression, anxiety, stress levels (Davis, Chen, Jivet, Hauff, & Houben, 2016; Matthews, Hillyard & Campbell, 1999; Moritz et al., 2010; Spada et al., 2008; Taylor, 2010; Yılmaz et al., 2011). The positive beliefs sub-dimension reflects individual's positive beliefs about anxiety. According to Wells (2002), the positive beliefs of the individual about anxiety lead to rumination as a type of coping mechanism. In the present study, this could be explained by the fact that the individual, who perceives the anxiety as a positive factor, employees' anxiety in several fields of life as a method of coping with undesired thoughts. A belief that anxiety is beneficial could result in intense anxiety levels that extend throughout the life of the individual. Thus, the depression, anxiety and stress symptoms may increase. In the literature, certain studies reported that the positive beliefs sub-dimension affected primarily the depression and anxiety levels (Barahmand, 2009; Clark & Wells; 1995; Morrison et al., 2000; Papageorgiou & Yılmaz, 2007; Wells; 2002; Wells, 2003).

The cognitive confidence sub-dimension reflects the insecure beliefs of individuals about their memory. It was suggested that the distrust of the individual towards her or his memory could lead to a non-confidence, which in turn activates negative metacognitive beliefs and increases depression, anxiety and stress levels. The present study findings were consistent with the previous studies which reported a negative correlation between cognitive insecurity that reflects the negative perceptions of the individual about memory performance and depression and anxiety levels (Köseoğlu, 2013; Lee et al. 2012; Mcdermott & Ebmeier, 2009; Nieto et al., 2010; Paelecke-Habermann et al., 2005).

The cognitive self-consciousness sub-dimension reflects the review of one's thoughts frequently. In the present study, it was suggested that the cognitive self-consciousness sub-dimension was associated with depression, anxiety, stress symptoms, and intensive focus on one's psychological processes and more frequent monitoring of present threats. According to the Cognitive Attentional Syndrome model defined as by Wells and Matthews (1994), an individual's intense focus on danger increases negative metacognitive beliefs about the potential threat and danger. In short, it could be suggested that the intense interest of the individual to self-thoughts, frequent review of these thoughts, and focus on mental processes, could increase rumination levels. In the present study, it is possible to say that as the cognitive attention levels of the individuals increased, their depression and anxiety levels might have increased along with their ruminative thinking styles. This finding was consistent with the findings of previous studies that associated cognitive self-consciousness and psychopathologies such as depression, anxiety, and stress (Grøtte et al., 2014; Köseoğlu, 2013; Myers & Wells, 2005; Reuven et al., 2009).

The need to control thought levels sub-dimension reflects the beliefs that thoughts should be frequently controlled. An individual's belief that one should control thought levels could increase the anxiety about dangerous and could lead to an increase in depression, anxiety and stress levels. Similarly, certain studies demonstrated that the need to control thought levels was associated with depression, anxiety, and stress (Köseoğlu 2013; Morrison et al., 2000; O'Carrol & Fisher, 2013). Based on the present study findings, it was suggested that the subjective well-being level, which could be defined as the balance between the positive and negative emotions, and high life satisfaction and perceived happiness levels, could be reduced by inadequate coping mechanisms and psychopathologies that were increased due to the negative metacognitive functions. The finding that the metacognitive functions predicted the subjective well-being level could be explained by the Self-Regulatory Executive Functions Model (S-REF) developed by Wells and Matthew (1996) which proposed that metacognitive beliefs played a significant role in the development of psychopathologies and explained psychological disorders based on their association with intellectual processes. Thus, the positive beliefs about anxiety through an individual's metacognitive beliefs triggered by a negative life event could lead to ruminative thinking. As a result of the continuity of rumination, the belief that the anxiety is uncontrollable, and the individual would face an inevitable danger could lead to a significant difficulty in the individual's ability to think lax and control her or his negative thoughts. As the negative metacognitive functions increase, the frequency of adopting strategies such as rumination and threat monitoring increases (Wells & Matthews, 1996). It was suggested that dysfunctional mechanisms such as directing attention to the sources of threat, thought suppression, anxiety and rumination, which could be used as coping methods, may have negatively affected the subjective well-being levels. There are only a limited number of studies which demonstrated that metacognitive beliefs were an important factor in subjective well-being (Fastame & Penna, 2013; Toffalini et al., 2014; Valiente et al., 2012). It was suggested that the level of negative metacognitive beliefs reduced the perceived subjective well-being levels by affecting the individual's ability to adapt and cope.

Fisher and Wells (2009) reported that psychopathologies are associated with the cognitive processes that individuals employ in a controlled and deliberate manner when they face thought content and threatening negative life events. In summary, in the present study, it was suggested that increased depression, anxiety, stress symptoms and metacognitive beliefs increase the incongruous coping methods that are actively used by an individual. The dysfunctional mechanisms such as concentration on the sources of threat, thought suppression, anxiety, and rumination, which could be used as coping methods, may have negatively affected the subjective well-being levels.

Conclusion

The current study is among the limited number of studies in the literature where metacognitive functions in adult individuals were analyzed based on depression, anxiety, stress and subjective well-being levels. Metacognition entails the cognitive capacities of individuals and the conscious knowledge that they possess through self-monitoring these activities. The existence of anxiety and inadequate beliefs about cognitive functions increases the level of dysfunctional thinking, leading to emotional distress. Based on the current study findings, metacognitive functions had positive correlations with depression, anxiety and stress levels, and a negative correlation with subjective well-being. Furthermore, it was concluded that metacognitive functions were significant predictors of these variables. The present study findings demonstrated the importance of

metacognitive therapy methods in the treatment of psychopathologies. Thus, it was suggested that the existence of studies on the metacognition system that affects the individual's thought patterns, assessments and beliefs about the cognitive processes were important. The current study has certain limitations. The facts that the sample was not sufficiently large and it was assigned to the convenience sampling method were the factors that limited the generalizability of the study findings. The current research was conducted by a non-clinical sample. In future studies, different psychological variables that could have an impact on metacognition could be analyzed with a clinical sample. It was also suggested that the scrutiny, regulation and functionalization of metacognitions in therapeutic relationships would have positive effects on perceived subjective well-being levels and the development and course of psychological problems. Evaluation of metacognitive processes will be an important intervention in the treatment of depression and anxiety disorders. Within the framework of metacognitive therapy, it would be appropriate to determine the dysfunctional thinking styles of the clients and strategies to avoid negative experiences and implementing practices that will reduce the rumination level. In addition, questioning the beliefs of the clients who are followed up with depression and anxiety disorder about their beliefs that worry is uncontrollable or that it is necessary to worry will be beneficial in terms of decreasing depression, anxiety, stress symptoms and increasing the subjective well-being of the clients during the therapy process.

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Research Article

Teachers Views on The Effectiveness of Visual Arts Education

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Abstract

The aim of this study is to reveal the opinions of teachers about the effectiveness of the fine arts course in transferring the values to the students studying in primary and secondary schools. Phenomenology (phenomenon) pattern was used in the study conducted by qualitative research method. The study group consisted of 19 teachers aged between 24 and 50 years. Appropriate sampling technique was used to involve teachers in the research. Within the scope of the research, interviews were made with visual arts teachers working in primary and secondary schools of Ministry of National Education in Konya. In the scope of the research, semi-structured interview form, consisting of open-ended questions, was used to get the views of visual arts teachers about the effectiveness of the visual arts education course. The data obtained through interviews were analyzed with content analysis method. In the content analysis, an inductive approach was presented, first categories were created and then the themes representing the categories in the best way were formed. As a result of content analysis, 5 themes emerged. These themes can be listed as follows: The role of the visual arts course in the value transfer, the different aspects of the visual arts course from the other courses in the value transfer process, the methods and techniques that can be used in the visual arts course in the value transfer, the effect of the use of the visual arts course in the value transfer on the students' attitudes and behaviors, contribution to moral development. These themes are divided into several categories. The results of the research were discussed and recommendations were made in the light of the relevant literature.

Key Words

Value • Value transfer • Visual art course • Qualitative research

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Values are closely related to people's feelings, thoughts and behavioral dimensions. Social scientists state that values have a fundamental importance in explaining human behavior. When we look at the last few centuries, values have been one of the main problems of the social sciences. In recent years, we have seen that various disciplines in various fields of social sciences consider this subject as a research topic. We can show sociologists, social psychologists, anthropologists and psychologists among scientists who do research in this field. The concept of value has brought different explanations to different disciplines. While value is defined as a system of beliefs that direct people's behavior (Ulusoy and Dilmaç, 2015).

In a society's life, everything is perceived by values and compared with others. Individuals generally adopt the group, society and cultural values they live in and use them as criteria in their reasoning and choices. Thus, they will be able to achieve general judgments such as better, more right, more appropriate, more beautiful, more important and fairer. Values play an important role in determining normal or abnormal behaviors in society. Individual attitudes and behaviors remain under the influence of values contained in moral and values, customs and traditions. However, these values are embodied within the norms and they become effective through norms. Because the norms against the values that are more general and abstract, sanction forces constitute a distinctive element of social life (Dilmaç et al., 2009).

Although many studies have been carried out on the concept of value, no agreement has been reached yet on the scope of values. In some periods, it has been suggested that the value concept in which values are not based on an objective basis has a subjective quality. Values have been tried to be explained by many theoreticians by explaining them with various concepts. Each discipline has chosen and explored the dimension that is of interest to this concept and ignores its other dimensions. For these reasons, a common definition could not be reached (Güngör, 1993). Therefore, it is possible to find various definitions in the literature about the value concept. It is also natural to make different definitions and classifications of values covering a large area (Özensel, 2003).

Rokeach (1973), who defines value as the standards guiding the life of individuals, has stated that it is the determinant of social attitudes and behaviors. Rokeach (1973) stated that the values have continuity and relativity characteristics and firstly emphasized the continuity feature. He considered the concept of value as the schemes that produce behaviors that individuals find meaningful to both themselves and to the people around them. For example, if the individual performs help behavior as meaningful to both himself and others, the schema that reveals the help behavior and help behavior is a value for that person. Cevizci (2002), who treats the value as a practical orientation, expresses that there is definitely a personality there when it comes to value. The value that exists as a criterion is an attribute that the subject loads into the object.

Before addressing the place of art education in values education, the definition of art should be emphasized. The role of art in shaping the competences of young people in line with the needs of our age is increasingly accepted in the world, particularly in Europe. Art education is effective in the individualization of the individual in a healthy and balanced manner and being a tolerant, sensitive, responsible, sharing and respectful individual as required by human beings, and it accomplishes this by developing the individual's creative power and aesthetic perceptions. This process is a form of education that allows the person to look at the creative and aesthetic aspects of life from preschool to undergraduate and post-graduate (Dilmaç, 2015).

It is not possible to make a definitive definition of art as a subjective concept. The discussion of the concept of art in the historical sense came to the fore in the late 19th century (Tansug, 1982). Art has been defined so far.

Some of these are as follows: Art is the aesthetic relationship between human and objective realities in nature. In general, art is the spiritual activity which arises from the efforts of people to express their feelings and thoughts about nature in a personal and beautiful manner in a personal way with tools such as lines, colors, sounds, words and rhythms (Artut, 2001). Considering the contribution of art education to values education, the deficiencies in the education of values in art education programs are remarkable (Dilmaç, 2015).

The importance of art education, especially for the affective field, is of great importance in bringing moral values to the individual. Individual, emotional and spiritual experience needs of mathematics, chemistry and foreign language etc. can not achieve such lessons. In this sense, art can be said to be a very important resource that nourishes the sensitivity that affects the human development rings. In other words, the most economical way to gain sensitivity and the feeding of emotions and emotions can be fed with art education (Boydaş, 2004; Gençaydin, 2002). Art education, which is an area suitable for educating individuals according to social values, is important in this respect. Human being as a social being, by taking the values, attitudes and beliefs of the society in which he lives, gains social values and adapts to the society in which he lives. Each one of the system of beliefs, ideas and norms that constitute social culture is considered as a value (Tural, 1992). Art education is a necessary discipline in adapting the individual to society (Dilmaç, 2015).

By means of art education, it will be possible to empathize with people by recognizing their own culture and works of art realized by different cultures from thousands of years ago. Thus, by understanding the importance of the cultural values of the past, it is ensured that the cultural heritage is protected and educated consciously about the transfer of these values to future generations. This is very important in terms of establishing a balanced society (Dilmaç, 2015). In art education, empathy can be carried out with activities reflecting the cultural and economic characteristics of the period and the cultural and economic characteristics of the artists of different cultures and their own culture. This practice is an approach that can help students to develop their characteristics such as art, empathy, reasoning and imagination, and thus make positive contributions to students' gaining values.

Art education is a process of changing, transforming, developing and empowering people's lives in a positive and methodical way (Uçan, 2002). If the art education is not given properly, the aesthetic sensitivity of the individual, respect for the counter opinions, value of different cultures, gain consciousness of preserving the works of art and sharing a universal common value etc. behaviors such as can not win (Mercin and Alakus, 2007). By means of art education, it will be possible to empathize with people by recognizing their own culture and works of art realized by different cultures from thousands of years ago. Thus, by understanding the importance of the cultural values of the past, it is ensured that the cultural heritage is protected and educated consciously about the transfer of these values to future generations. This is very important in terms of establishing a balanced society (Dilmaç, 2015).

Painting education is a discipline that aims to understand and analyze the social values by creating a visual culture. Art education, which requires an interdisciplinary study, aims to achieve these goals in line with the needs of the society. It provides a rich learning environment by allowing individuals to recognize intercultural understanding and respect, and their cultural identities that make up society and other societies. This feature of art education is that in the multicultural environment of the United States, young people can learn their own culture. It is used to synthesize with culture and to interact with the world (Blocker, 2008; Akt, Dilmaç, 2015).

Looking at China, it is seen that art education has been prioritized as a means of developing a sense of national solidarity (Dilmaç, 2015).

It should not be forgotten that another important feature that distinguishes art education courses (visual arts) from other courses is that it allows the student to experience the process of making individual decisions. Students who are able to think individually, make decisions and develop their self-confidence will also develop. In this context, the aim of the study is to determine the opinions of teachers about the effectiveness of the visual arts course and to determine their suggestions in this direction.

Method

Research Model

The aim of this study is to reveal the opinions of teachers about the effectiveness of the fine arts course in transferring the values to the students studying in primary and secondary schools. The research was conducted with qualitative research method. Qualitative research method is a research method, which is performed with the participation of a limited number of people, which allows gathering in depth and detailed information on any subject (Patton, 2014; Yıldırım & Şimşek, 2013).

Phenomenology (phenomenon) pattern was used in the research. Phenomenology pattern discusses the facts that we are aware of but do not have detailed and in-depth knowledge about (Yıldırım & Şimşek, 2013). Phenomenological research focuses on the experience of the individual and how he makes sense of this experience (Patton, 2014).

Study Group

The study group consisted of 19 teachers aged between 24 and 50 years. Appropriate sampling technique was used to involve teachers in the research. Proper sampling, time, money and labor economics in terms of providing, the sample is easily accessible and can be selected from the application is selected from units (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz and Demirel, 2014). Within the scope of the research, interviews were made with visual arts teachers working in primary and secondary schools of Ministry of National Education in Konya.

Developing the Data Collection Tool

In the scope of the research, semi-structured interview form, consisting of open-ended questions, was used to get the views of visual arts teachers about the effectiveness of the visual arts education course. Semi-structured interview, open-ended and fixed-choice questions, the participants perceive the world to express their perceptions is a conversation. The semi-structured interview form is one of the most widely used data collection tools in qualitative research because it is easy to analyze, provide in-depth information and facilitate the self-expression of individuals (Büyüköztürk et al., 2014).

The data collection tool was developed by the researcher as a result of literature review. In the development of the data collection tool, books and articles in the literature on the values psychology and values education have been read and an interview form has been formed in accordance with the information obtained. After the form was formed, the opinions of 2 academicians who had knowledge about qualitative research were taken and finalized.

Data Collection and Analysis

The data collection process was conducted through face-to-face interviews. The interviews were conducted in an environment where there was no one other than the calm and the researcher so that the participants could feel comfortable and open themselves. Before the interviews, the participants were informed about the purpose of the study and if they wanted to participate, a time and place was available where the participants were available and an appointment was made. Before the interviews were started, permission was taken from the participants to record the sound and the voice was recorded. Interview notes were kept next to the voice recording. After each interview, the researcher transcribed the audio recordings. During the transcripts, there were questions that the participants did not want to respond or were not included in the analysis because these interviews would cause data loss and analysis difficulties. The number of participants, which were about 25, dropped to 19 because of incomplete answers. Analyzes were also made through the answers of these 19 participants.

The data obtained through interviews were analyzed with content analysis method. Content analysis is a systematic, reproducible technique in which some words of a text are summarized with smaller content categories based on certain rules (Büyüköztürk et al., 2014). In the content analysis, an inductive approach was presented, first categories were created and then the themes representing the categories in the best way were formed.

The content analysis process was carried out in four stages. In the first stage, the answers of each participant to each question were read by the researcher several times and the important places were highlighted and certain concepts and words were briefly noted on the right side of the text. In the second stage, the responses of each participant were coded individually. In the third stage, the categories that represent the responses of the participants in the best way were formed. Finally, the themes that collect the categories under a single title and which represent the categories in a short and concise way were created. After this process, it was checked by the researchers whether the themes and categories were compatible with each other; 2 academicians with knowledge and experience in qualitative research have been consulted and the analysis has been finalized.

Findings

This section includes the findings of the analysis of the data obtained from the interviews with the participants. The research findings are presented based on the statements of the participants. The participants were not included in the names of the participants in accordance with the ethical principles, while the participants were named as P1, P2, P3.

As a result of content analysis, 5 themes emerged. These themes can be listed as follows: The role of the visual arts course in the value transfer, the different aspects of the visual arts course from the other courses in the value transfer process, the methods and techniques that can be used in the visual arts course in the value transfer, the effect of the use of the visual arts course in the value transfer on the students' attitudes and behaviors, contribution to moral development. These themes are divided into several categories. The following are the examples of the themes, categories and the opinions of the participants.

The Role of Visual Arts Course in Value Transfer

Table 1

The Role of Visual Arts Course in Value Transfer

| Themes | Categories | Frequency |
|---|--------------------------------|-----------|
| The Role of Visual Arts Course in Transferring Value | Taking responsibility | 1 |
| | Teaching patience | 7 |
| | Fast learning and persistence | 2 |
| | Teaching respect and tolerance | 3 |
| | Time management | 1 |
| | Transfer to daily life | 1 |
| | To express yourself | 1 |
| | Sedation | 1 |

As can be seen in the table, 10 of the participants stated that the visual arts course has an important role in providing students with responsibility. For example, P1 says "If we give an example for painting-work course, responsibility is important for the course. It is the student's responsibility to provide the necessary materials for the course. Responsibility should not be compromised in order not to interfere with the functioning of the course. Similarly, P18 "The course will be systematic and regular with the transfer of responsibility to the student. The student learns a sense of responsibility while painting and can produce beautiful works by working regularly.

Seven of the participants stated that the visual arts course taught patience. For example, P3 "The value of patience in visual arts is the most transmitted value to the student. Because if a long-term picture is made, the student should take care to complete his work regularly, cleanly and patiently. Other values such as this are transferred to the students during the application process.

Two of the participants stated that the visual arts course has a fast and permanent learning function in the transfer of value. For example, P4 says "Values can be visualized in the mind because of the use of visual intelligence, and quick values can be revived and permanency increases.

Three of the participants stated that the visual arts course teaches respect and tolerance. For example P5 "The values that must be present in the artist's soul are transmitted. Everyone involved in this work must have patience, respect and tolerance. In fact, it reinforces the feelings that exist in man. Respecting the pressure of the external environment, respect, patience and tolerance he expressed his thoughts.

One of the participants emphasized the time management. P8, "is important to finish the work with patience and deliver it on time because it is a more practical lesson and emphasized the time management.

One of the participants, P9, "is that the visual arts provide self-expression. The ability to articulate the values in a visual way can show that values can be more than drawing. Students can express themselves in this way."

One of the participants, P16, based on the calming characteristic of art, believes in the role of values in student behavior. I think it has a calming role because it is a way to art imagination. I think it is likely that a person who has calmed will be compatible and more pleasant, understanding and patient daha.

Two of the participants think that the visual arts course will not contribute to the value transfer process.

Table 2

The Role of Visual Arts Course in Value Transfer

| Themes | Categories | Frequency |
|---|---|-----------|
| Different Aspects of Visual Arts Course in Value Transfer Process | To be more permanent in memory | 3 |
| | Having a practical course | 5 |
| | Active use of emotions and internal reflect the world | 7 |
| | Free being | 3 |
| | Use of visual intelligence | 1 |
| | A course of interest to students | 2 |
| | being | |

As can be seen in the Table, 3 of the participants stated that the visual arts course is more permanent in memory than the other courses in the value transfer process. For example, the P10 says, kal Visually better in memory.

Five of the participants pointed out that visual arts course is a practical course different from other courses in the value transfer process. For example, P8 says, iye Other courses are more knowledge-based, more theoretical. But visual arts is a practical field that is more appealing to the eyes and enriched by different techniques.

Seven of the participants emphasized that the visual arts course has the ability to reflect the active use of emotions and the inner world in the process of value transfer. For example, P11 ere Visual arts is the transfer of feelings and thoughts, feelings. For example, when I tell the world I want to be, it makes me a virtuous person.

Three of the participants pointed out that the visual arts course had a free space. For example, P16 says, der The visual arts lesson is not a mold like the other. There are no sentences to be memorized, and it is subjective, free.

Two of the participants stated that the visual arts course, which is different from the other courses, attracted the attention of the students. For example, P19 benim is a course with more content than the theoretical lesson because it is a lesson of children of primary school age more and more lovingly will do, he said.

Different Aspects of Visual Arts Course in Other Value Transfer Process

Table 3

Theme of Methods and Techniques that can be used in Visual Arts Course in Value Transfer

| Themes | Categories | Frequency |
|--|---------------------------------|-----------|
| Theme of Methods and Techniques that can be used in Visual Arts Course in Value Transfer | Teacher behavior | 1 |
| | Presentations and applications | 6 |
| | Long-term detailed studies | 1 |
| | Team work | 2 |
| | Values subject to students give | 6 |
| | Game, activity and variety | 2 |
| | use of materials | |
| | Cartoons and animated cartoons | 1 |

As it is seen in Table 3, it is stated that the most important technique in the visual arts course is the teacher's example behavior as in all courses. P5, for example, expressed his thoughts by saying, taklit Because the behavior of the teacher in the classroom is imitated by the students, they should pay attention to the behaviors of the teachers and set an example for the students.

Six of the participants pointed out that presentations and implementation activities could be carried out during the value transfer process. For example, P 16 says, ler Show, watch, practice. The examples that are contrary to the values are shown first. Then samples that are compatible with the values measure are displayed and monitored. Then students may be asked to apply.

One of the participants, P3, believes that long-term detailed studies can be performed to transfer the values to the students. He expressed his thoughts by saying, ile Students can be given long-term, detailed and large-scale studies.

Two of the participants believe that group work may be beneficial in the value transfer process. For example, P6 resim In the Union, a cooperation can be made with the help of a collaborative work. In this way, the child can improve his / her team and communicate with people.

Six of the participants gave the students issues related to the value and suggested to make pictures on these subjects. For example, P19 stated his thoughts on this subject by saying: iler Students can draw imaginary pictures that contain topics related to values.

Two of the participants think that it is useful to use games, activities and various materials in the value transfer process. For example, P11 expressed his views on the subject by saying, ler Methods such as question and answer, play, material support can be used.

P12 thinks that cartoon and animation cartoons can be used in this process. His thoughts on this subject are as follows: hayat Visual arts can be used in many techniques and methods that include values by making small touches to our daily lives. Among these application methods; It is possible to explain the values with visual art

by using many techniques and methods such as small caricature cartoons, drawing on the walls, drawing with weighted books, and animation cartoons.

Table 4

The Effect of Using Visual Arts Course on Value Transfer to Students' Attitudes and Behaviors

| Themes | Categories | Frequency |
|---|--|-----------|
| The Effect of Using Visual Arts Course on Value Transfer on Students' Attitudes and Behaviors | Students' artistic skills increase | 5 |
| | Students' views and thoughts angle enrichment | 2 |
| | Learned values survive implementation | 6 |
| | Lessons and daily life increased responsibility and discipline | 4 |

As it is seen in Table 4, five of the participants believe that the use of the visual arts course in the transfer of value will enable the students to increase their artistic skills. For example, K18 expressed his thoughts on this subject by saying: arm Students use solid art to make themselves more artistic.

Two of the participants believe that the use of the visual arts course in the transfer of value will enable students to enrich their thoughts and perspectives. K15, for example, said: bu I think they are a lesson that they find themselves in, and they are alone with. Therefore, by giving them the opportunity to think more calm and rational individuals may emerge, ve he explained.

He emphasized that the use of visual arts in transferring six of the participants had the greatest effect on the attitudes and behaviors of the students. For example, K12 views ar First of all, they attract students' attention. Then they can adopt in their lives by adopting them hayat.

Four of the participants stated that value teaching helped students to increase their responsibilities and discipline in classes and daily life. For example, K10 etkil I think it affects positively. The student gains responsibility. Learn to be more disciplined. In this way, it learns to use the materials correctly both in the course and in other courses and to arrive on time. Thus, a more efficient course environment can occur.

Table 5

Theme of Contribution of Visual Arts Course to Students' Moral Development

| Themes | Categories | Frequency |
|---|---|-----------|
| Contribution of Visual Arts Course to Students' Moral Development | Making heart feel | 1 |
| | Contributing to the self | 1 |
| | Learning to respect and respect for differences breaking the judgment | 2 |
| | Ensuring harmony and peace | 1 |
| | Accelerating moral development is positivem influence | 6 |

As seen in Table 5, the use of visual arts in values education also contributes to the moral development of the students in various aspects. Participants K1 said, "Morality is a spiritual situation. Art education gives people heart feelings. It even changes the point of view of an object." Bakış

K4 from the participants mentioned the function of the visual arts to contribute to the self. He expressed his opinions on this subject by saying "In my opinion, the works and narrations about our cultural values work and contribute to his self."

Two of the participants think that the visual arts course may have the function of learning respect for the differences and breaking the prejudice. K9, for example, expresses his thoughts by saying, "By creating a visual perception, a negative perspective can be directly changed to different ideas, prejudices can be broken."

Six of the participants emphasized that the visual arts course has the function of positively affecting the moral development of the students. For example, the K7 says, "It is easier to teach children about the issues in terms of morality. In addition, this lesson contributes to the moral development by learning the moral values of the students. in the form of."

In addition, eight of the participants think that the visual arts course will not contribute to the moral development of the students. For example K2 thoughts on this topic "I don't think it's a contribution. Art is for art."

Discussion and Conclusion

Five different themes emerged as a result of interviews with visual arts teachers to examine the role and effectiveness of the visual arts course in value transfer; The role of the visual arts course in the transfer of value, the different aspects of the visual arts course in the value transfer process, the methods and techniques that can be used in the visual arts course in the transfer of value, the effect of the use of the visual arts course in the value transfer on the students' attitudes and behaviors, the contribution of the visual arts course to the moral development of the students. Schools address students' cognitive and affective learning. (Lickona, 1992). The realization of the values education addressing the affective field is provided by all teachers in the schools and the educational curriculum of each course (Aktepe & Yel, 2009; Şimşir & Dilmaç, 2016). Williams stated that the values education should take place in all areas of the school curriculum (Halstead and Taylor, 1996). Dilmaç (2015) emphasized that art education courses are among the ones that support values education.

As a result of the research, the theme of the role of visual arts course in the transfer of value; taking responsibility, teaching patience, learning fast and being permanent, teaching respect and tolerance, time management, transferring to daily life, self-expression and calming. According to the results of Ayaydın (2010); applications of art education to children learn the visual language of art, original thinking ability, use a different way of communication to the verbal language, protection of mental health, the formation of art pleasure, strengthening of physical development, acceleration of mental development, development of imagination, building a useful playground, culture and the formation of self-confidence. Similarly, Baysal and Samancı (2010) found that the social studies lesson gained the values of sensitivity, responsibility, solidarity, cooperation, tolerance, industriousness and respect for the environment as a result of the study conducted with 4th and 5th grade students within the scope of social studies course.

The acquisition of basic values is expressed as one of the general objectives of the Basic Law of National Education (MONE, 1973). The transfer of these values to students is carried out through various courses (Şimşir and Dilmaç, 2016). For example; 1-8. The aim of the Class Visual Arts course is to make cooperation, sharing, taking responsibility, learning to respect the work of yourself and others, and gaining the awareness of recognizing national and universal values (MEB, 2006b). As can be seen, the aim of the visual arts curriculum is paralleled by the views of teachers.

The theme of the visual arts course in the process of value transfer; being more permanent in memory, being an applied course, active use of emotions and reflecting the inner world, being free, using visual intelligence, being a lesson that attracts students. Kurtdede Fidan's (2009) teacher candidates in order to reveal their views on teaching the value of the most important thing for the value of the study revealed that the value is to live. In the visual arts course, students learn their values by living. Özer and Kızıltuğ (2017) emphasized that music, which is another branch of art, has an important role in the transfer of values. Through this course, students emphasize that the aesthetic perception of students develops and the value transfer is more permanent.

The theme and methods used in the course of value transfer in visual arts. The sample behavior of the teacher, presentations and applications, long-term detailed studies, group work, to give students a topic about values, play, activity and use of various materials, cartoon and animated cartoon films are composed of. In the literature, there are studies carried out within the scope of various courses with similar activities with the activities in the visual arts course if there is no study about values education in the art course. Kahrıman's (2014) elementary school 3rd year students Life Science course, "My Unique Home" subjects in the theme of the drama method and the current program according to the students in the classroom, communication skills, empathic trend skills, to determine whether the effect on the value of his work The students' social values and communication skills scores showed that the drama method was more effective.

The theme of the effect of benefiting from the visual arts course on the attitudes and behaviors of students; Improve students 'artistic skills, students' thoughts and look.

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Pedagogical Formation Students' Science-Pseudoscience Beliefs

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Abstract

The concept of pseudoscience is generally defined as claims offered for scientific views but lack any supportive evidence or are hardly reasonable. Although it is necessary to examine the science-pseudoscience beliefs of all individuals in general terms, it is seen that the teacher candidates are included as participants in the studies carried on in Turkey with respect to the distinction between science and pseudoscience. Yet, the pseudoscience beliefs of pedagogical formation students having the potential to become a teacher in the future should be examined as well. From this point of view, this paper aims at determining the beliefs of formation students on distinction between science and pseudoscience. Mixed method has been preferred in the paper. The participants cover a group of 107 individuals who continue their education of formation at a state university of Turkey. The data have been collected from the participants through open-ended questions and using the "Science-Pseudoscience Distinction Scale". Descriptive and statistical analyses as well as content analysis have been applied on the relevant data. The relevant analysis results have indicated that pseudoscience beliefs of the formation students are high. It has been suggested at the end of the study to perform implementations of discussed science activities with the formation of students.

Key Words

Pedagogical formation • Pseudoscience • Science

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Exposure of individuals to too many pieces of information in daily life and fast consumption of the information accessed reduce the individuals' appetite for questioning reliability of the information. Failure of individuals to question the source of information accessed from time to time could lead to undesirable conditions as well. The Ministry of Culture and Tourism has compiled the common superstitions in Turkey on its website and indicated that many of such beliefs has no concern with science, reason, modernity and religious belief. It has further been underlined that such beliefs could not be eradicated in mankind's heart, brain or conscience. On the other hand, Topuz's (2012) research conducted with university students suggests that the proportion of faithfulness of particularly girl students to incantation, astrology, psychic power and classical (non-religious) paranormal beliefs named as superstition is high. It has been suggested in the studies carried on abroad that large groups believed in fake science, superstition, lucky numbers and paranormal events including telepathy in the western society as well (Preece & Baxter, 2000). It has been suggested in the study conducted by Kallery (2001) with preschool education teachers that the teachers recognized both astrology and astronomy as science and made no discrimination between science and pseudoscience. It has been detected in the study conducted by Sjödin (1995, as cited in Lundström & Jakobsson, 2009) with high school students that the students adopted certain thought structures including reincarnation, spirit reading or moving objects like telekinesis. Unlike such thought structures; there is a majority of people who admit the effects of science on human life and welfare. The Ministry of National Education (MoNE, 2018) opted for a program change stipulating to educate all individuals as science readers and writers as of the academic year of 2004-2005, with a vision that will reveal scientific thinking. Through the teaching programs renewed in 2018; it has been emphasized on creation of models and products by the students, design of project, promotion of products, expressing themselves verbally, visually and in writing and looking through problems with an interdisciplinary point of view. Consequently, the young generations to be educated are expected to understand science, to believe in importance of science and to overcome with many problems through scientific methods.

Sagan (1995) regards science as a candle that enlightens the dark and states that individuals could have the skill of critical thinking through scientific methods. Science consisting of systematic knowledge sets searches the answers of the questions in the physical universe and serves for freeing research and researchers of prejudices and patterns through peculiar methods and techniques (Beyerstein, 1996). Popper (1963) states that science begins with questions whereas Çepni (2019) remarked diversity, newness and sorting out as the characteristics of science. Özgelen (2013), on the other hand, defined the elements making up science as knowledge, scientific process skills and nature of science. According to the nature of science, scientific knowledge could change and be falsified, the existing theories could be destroyed, scientific knowledge is based on evidences and scientific knowledge is open to innovations (Lederman, 2007). The nature of science has been regarded as the whole of epistemology of science, method of obtaining knowledge and the values and beliefs in development of scientific knowledge (Abd-El-Khalick et al., 1998). Consequently the condition referred to as science and nature of science makes one conclude that scientific knowledge could change by time, there is no single way of performing science, that science took material as basis and science and technology mutually influence each other (McComas et al., 1998). Lack of such characteristics defining science exposes it to the risk of pseudoscience.

The concept of pseudoscience is generally defined as claims which are offered for scientific opinions but which lack supportive evidence or are far from being reasonable (Shermer, 1997). Such claims essentially lack a paradigm or argument, knowledge cannot be developed, consequently knowledge cannot be explained

sufficiently (Afonso & Gilbert, 2010). It is suggested that the concept of pseudoscience is sometimes confused with the concept of non-science because of such characteristics of pseudoscience. Indeed, the concept named as non-science is such contents the ontological and epistemological assumptions of which are different from those of natural sciences, which have different subjects and concepts and consequently which do not claim to be scientific. However the concept of pseudoscience generally covers the contents which claim to be scientific though it fails to respond the criteria of being scientific (Es & Turgut, 2018). Derksen (1993) made definitions that could refer to pseudoscience in his item titled “the seven sins of pseudo-science”. Accordingly, pseudoscience persons contribute to production of pseudoscience as well, experimental data are reflected all the time as truths in pseudoscience, one generally disregards the fact that pseudoscience data are wrong, what makes the basis for people to believe in pseudoscience is their tendency to believe in miracles, sometimes pseudoscience makes use of official methods, pseudoscience theories are not verified completely and pseudoscience persons make extreme claims.

The distinction between science and pseudoscience cannot usually be made with clear borders because whether any knowledge is scientific or not may sometimes be related to continuity of knowledge. Jones (2002) explains this with the example of acupuncture therapy because while the spinule therapy performed to stimulate certain spots under the skin was regarded once as pseudoscience, this practice performed with careful controls today is scientifically recognized though limitedly. Although the distinction line between science and pseudoscience cannot be clearly drawn in certain cases, there certain evidences indicating that any knowledge is pseudoscience. Those evidences were summarized by Afonso and Gilbert (2010) as failure to offer confirmative evidences, relying on a single theory or failure to extend the current theory, failure to perform control works and insufficiency of the language used for determining the relevant phenomena. Allchin (1996), on the other hand, mentioned that the opinions derived from the latest current studies carried on and certain psychological factors could change the science-pseudoscience consideration. Consequently it is actually difficult to make distinction between science and pseudoscience contrary to what is supposed. Those difficulties have made it required to discuss on how to decide about the distinction between science and pseudoscience. Smith and Scharmann (1999) suggested to ask the question of “what are the characteristics which make an issue discussed more scientific or less scientific” as the basic question in the discussions to be held in this regard rather than asking the question of “is the issue discussed scientific or not?”. Consequently this perspective offered by Smith and Scharmann focuses on the characteristics qualifying science rather than drawing the boundaries between science and pseudoscience.

Although examination of all individuals' science-pseudoscience beliefs is required in general, it is suggested that teacher candidates involved with the programs of natural sciences and classroom teaching are included as participants in the studies carried on in Turkey with respect to distinction between science and pseudoscience. Different results have been obtained in those studies carried on with different groups. While it is suggested in the study conducted by Ayvaci and Bağ (2016) with classroom teachers that the candidates' pseudoscience beliefs are insufficient and that they are sufficiently equipped with scientific knowledge; it has been seen research that Turgut et al. (2016) study preschool teacher candidates that the teacher candidates had difficulty in making the distinction between science and pseudoscience and that they failed to determine the criteria of being scientific. The effects of an intervention program covering scientific criteria on the opinions of the candidates about science and the nature of science were examined in another study conducted with classroom teacher candidates. The

results obtained indicated that the intervention program applied to the candidates has been effective in defeating the pseudoscientific knowledge claims (Es & Turgut, 2018). The relation between the scientist images of the candidates and their science-pseudoscience beliefs was examined in the study conducted by Camci-Erdogan (2019) with classroom teacher candidates. The results obtained indicated that the candidates had stereotypical perceptions about scientists and it was observed that the candidates who received course of scientific research methods had lower pseudoscience beliefs. This study conducted indicated that the course of scientific research methods offered to the candidates was effective and it was concluded that those candidates were more successful in distinction between science and pseudoscience as well. On the other hand, in another study conducted with classroom teacher candidates on pseudoscience, it was suggested that vast majority of the teacher candidates who participated in the study believed in good luck and dream interpretations, half of them believed in horoscopes and again the vast majority regarded astrology as a branch of science (Şenler & İrven, 2016). In the study conducted with natural science teachers for the purpose of revealing the perceptions on distinction between science and pseudoscience; it was suggested that the candidates were at naïve level with respect to accuracy of knowledge, that they generally restricted content of science with experimentally and proof and that they were insufficient with respect to the distinction between science and pseudoscience (Turgut, 2009). It was also suggested in the study conducted with natural science teachers by Uçar and Şahin (2018) that the candidates were insufficient with respect to distinction between science and pseudoscience.

It has been found out that limited number of studies had been conducted on distinction between science and pseudoscience according to the studies accessed in the relevant literature and the studies conducted with teacher candidates. Nevertheless only the graduates of faculty of education could be employed as teachers in Turkey. The bachelors who received education in different fields have the opportunity to be employed as teachers after education of pedagogical formation of approximately one year, offered to them. However it is still unknown what the thought structures of those students who receive pedagogical formation different from or similar to the students of faculty of education. In the relevant literature, with regard to pedagogical formation students, generally, attitudes towards education or teaching profession (Demircioğlu & Özdemir, 2014; Eraslan & Çakıcı, 2011), self-efficacy beliefs (Bakaç & Özen, 2017; Çocuk, Yokuş, & Tanrıseven, 2015), motivations (Altinkurt, Yılmaz & Erol, 2014), teaching profession competencies (Süral & Sarıtaş, 2015), teaching profession anxiety (Uluyol & Şahin, 2018) or their perspectives on the concepts of teaching, student and school (Özdemir & Erol, 2015) are discussed and analyzed. However, it is not known what these students have their cognition structure or their views on the existence of scientific knowledge or science. Thus, it is seen that this is the first study in terms of the examination of science- pseudo-science beliefs of pedagogical training students in Turkey. From this point, it has been aimed in the relevant study to examine science-pseudoscience beliefs of teacher candidates who were graduated from different undergraduate programs and currently continue with their education of pedagogical formation. For this purpose, the study has tried to search for answers to the following sub-problems:

1. What is the level of science-pseudoscience beliefs of the students who receive education of pedagogical formation?
2. What are the opinions of the students who receive education of pedagogical formation on discrimination between science and pseudoscience?

Method

Research Model

Mixed method has been used in this study examining the science-pseudoscience beliefs of the students of pedagogical formation. The mixed method tries to solve the problems not only through quantitative or only through qualitative approaches but using the synthesis of both approaches (Creswell & Clark, 2011). Consequently this study has tried to reveal the science-pseudoscience beliefs of the students of pedagogical formation using both quantitative and qualitative data as well. For this purpose, the scale was used in the quantitative part of the study, and the data are collected using open ended questions in the qualitative part.

Study Group

The study has been conducted with students of pedagogical formation whose science-pseudoscience beliefs had not been discussed before but who have the potential to be the teachers of the future. The students involved in the present study are in the last semester of their education of pedagogical formation which lasts for two semesters. The data were collected from the students studying in a big state university of Turkey in the academic year of 2020-2021. Within this scope, the demographic data of the participants involving in the study are presented in Table 1.

Table 1

Demographic Information

| Department | Age | | | | | Total |
|---------------------------------|-------|-------|-------|-------|------|-------|
| | 20-25 | 26-31 | 32-37 | 37-42 | 43 ≥ | |
| Arabic | 28 | 4 | 0 | 0 | 0 | 32 |
| Justice | 2 | 3 | 1 | 1 | 2 | 9 |
| Religious Culture and Ethics | 3 | 2 | 1 | 6 | 5 | 17 |
| History | 12 | 2 | 0 | 0 | 0 | 14 |
| Turkish Language and Literature | 5 | 1 | 3 | 1 | 0 | 10 |
| Philosophy | 8 | 0 | 2 | 0 | 0 | 10 |
| Child Development and Education | 4 | 1 | 0 | 0 | 0 | 5 |
| Information Technologies | 0 | 2 | 0 | 0 | 0 | 2 |
| Mathematic | 3 | 1 | 2 | 0 | 1 | 7 |
| Accounting | 0 | 1 | 0 | 0 | 0 | 1 |
| Total | 65 | 17 | 9 | 8 | 8 | 107 |

According to Table 1, totally 107 students participated in the study. Students of the department of Arabic constitute a large portion of those students (f=32) whereas it is observed that students of other departments participated less. Furthermore a large portion of the students (f= 65) are within the age group of 20-25 years whereas there are less students in the age groups of 37-42 and 43≥. Additionally, 83 female and 24 male participants participated in the study.

Data Collection Tools

Science-Pseudoscience Distinction Scale. Data collection tool is the “Science-Pseudoscience Distinction Scale” developed by Outhoudt (2008) and adapted to Turkish by Kirman Çetinkaya et al. (2013). 5-point Likert-type scale consists of four factors: Knowledge levels of pseudoscience (KLP), knowledge levels of the scientific process (KLSP), demarcating between science and pseudoscience (DBSP), pseudoscientific beliefs (PB). There

are seven items in the factor of the scale named KLP, seven items in the factor of KLSP, six items in the factor of DBSP and three items in the factor of PB. 1., 3., 7., 9., 11., 16., 18., 21., 22., and 23. items of the scale are reverse coded. The reliability of the scale was calculated by the adapters to be .75. The Cronbach Alpha value of the scale was found to be .92 in this study.

Open Ended Question Form. The other data collection tool used in the study is open ended question form. This form covers the subjects of natural stones considered to qualify pseudoscience and what scientific knowledge is. A careful process of literature review was carried on before the relevant questions are prepared and then expert opinion was referred to. Accordingly, assistance of an expert conducting studies in qualitative field and an expert who has conducted studies on pseudoscience was received and the questions were given their final forms. The relevant questions were applied to two students studying at bachelor's level in the faculty of education before being applied to the study group and understandability of the questions was examined.

After giving the interview form its final form it was applied online using Google forms. Also, written permission was granted from the Ethical Committee of Bartın University (Protocol number. 2020-SBB-0228).

Analysis of Data

The data obtained from the quantitative part of the study were analyzed with SPSS 18.0 program. Normality test of the data transferred to the program was performed and then descriptive and statistical analyses were started. The point value corresponding to each interval of 5-point scale (I definitely disagree, I disagree, I'm indecisive, I agree, I definitely agree) were calculated for the scale used within this scope. However the scoring of [Ayvaci and Bağ \(2016\)](#) was used to determine pseudoscience belief levels of students. Accordingly, the point intervals were determined as 5.0 – 4.3 for “very high”, 4.2 – 3.5 for “high”, 3.4 – 2.7 for “I have no idea”, 2.6 – 1.9 for “low” and 1.8 – 1.0 for “very low” and the assessment was performed accordingly. Independent samples t-test was applied in the study in addition to the descriptive and statistical analyses.

Content analysis has been used for the qualitative data of the study. Within this scope, the data obtained from the students have been coded and themes have created. However assistance of other researchers was received for the relevant data in this stage and he was asked to code the data. The proportion of harmony of the codes determined by the researchers was calculated in conformity with the formula of [Miles and Huberman \(1994\)](#) in this stage and the proportion of harmony was determined as 100%. An online meeting was held for the codes with dissensus and shared decisions were reached. In this manner, four themes were reached with respect to natural stones and seven themes were reached with respect to the title of scientific knowledge.

Findings

The findings reached from the data obtained within the scope of the study are presented under two titles as quantitative and qualitative findings.

Quantitative Findings on Science-Pseudoscience Discrimination

The scores of the students of pedagogical formation from the science-pseudoscience scale were calculated separately for the scale in general terms and on the basis of the factors. The findings for those values are presented in Table 2.

Table 2

Descriptive Statistics

| | N | Number of Items (k) | Min Score | Max Score | Mean | Mean/k | Sd |
|--------------|-----|---------------------|-----------|-----------|-------|--------|-----|
| DBSP | 107 | 6 | 1.57 | 4.71 | 26.53 | 3.79 | .28 |
| KLSP | 107 | 7 | 1.67 | 5.00 | 22.56 | 3.76 | .44 |
| KLP | 107 | 7 | 2.00 | 5.00 | 9.99 | 3.33 | .52 |
| PB | 107 | 3 | 1.71 | 4.29 | 20.58 | 2.94 | .24 |
| Total | 107 | 23 | 2.43 | 4.13 | 79.58 | 3.46 | .32 |

When Table 2 is examined, it is observed that the item average for the scale in general terms is 3.46. The answers that the students give to the science-pseudoscience scale is within the range of “I have no idea” according to this average. When the answers are examined according to the factors of the scale; it is observed that the students answered “I highly agree” ($X=3.79$ and $X= 3.76$) for DBSP and KLSP factor, “I have no idea” ($X= 3.33$ and $X=2.94$) for KLP and PB factors. The answers given by the students to the scale are summarized in Table 3 on gender basis.

Table 3

Scores from the Scale by Gender

| | Gender | N | X | S | t | Sd | p |
|--------------|--------|----|------|-----|--------|-----|-----|
| DBSP | Female | 83 | 3.75 | .54 | -1.334 | 105 | .18 |
| | Male | 24 | 3.92 | .46 | | | |
| KLSP | Female | 83 | 3.76 | .56 | .059 | 105 | .93 |
| | Male | 24 | 3.75 | .95 | | | |
| KLP | Female | 83 | 3.31 | .70 | -.450 | 105 | .65 |
| | Male | 24 | 3.38 | .78 | | | |
| PB | Female | 83 | 2.92 | .48 | -.641 | 105 | .52 |
| | Male | 24 | 3.00 | .55 | | | |
| Total | Female | 83 | 3.45 | .30 | -1.06 | 105 | .30 |
| | Male | 24 | 3.52 | .39 | | | |

Independent samples t-test was performed to compare the scores of the female and male students' answers to the science-pseudoscience scale in Table 3. There is no meaningful difference between the scores of the female and male students both in the factors of the scale and in the scale in general terms ($p > .05$) according to the results of the test performed. The size of the differences of the averages (mean difference = $-.079$) are very small. However looking through the size of the difference between the groups ($\eta^2 = 0.48$), the effect is observed to be quite high (Cohen, 1988, p.284). Namely no meaningful difference can be reached for science-pseudoscience consideration in terms of gender whereas it is clearly observed that gender reveals a variance of 48% for science-pseudoscience. Consequently, it is accepted that the size of the sample in the study is quite effective on effect size. However it is deemed necessary to deeply examine those results obtained in the study. Consequently this paper tries to examine qualitative data on the basis of such information obtained.

Qualitative Findings on Science-Pseudoscience Discrimination

This part of the paper presents the analysis of the data reached through a form consisting of open ended questions in order to allow more detailed examination of the qualitative data obtained from the students. The thoughts of the students about what scientific knowledge is and about natural stones were questioned in this form. Firstly, the students were asked whether natural stones are really effective on human health. The answers

received from the students within this scope have been categorized under the titles of “definitely effective”, “definitely not effective”, “may be effective under certain circumstances” and “I have no idea” (Table 4). The students who give the answer of “definitely true” generally mentioned the issue of creation of the universe and thought that each substance in the world served for a specific purpose and stated that the stones are useful for humanity. The students who do not believe that stones have any effect on human health on the other hand generally defined this situation as superstition. The students who answer in the theme of “may be true” with respect to whether stones have any effect on human health related the effects of stones on human health rather with psychological condition. Accordingly, if a person believes that the stones are useful, he/she could recover and if he/she believes that the stones are not useful he/she will not be healed. Namely the condition of stones providing benefit or not was associated with the individual’s belief. Finally some of the students were indecisive and did not express any opinion for this reason. However when their expressions are examined, it is observed that there are also expressions close to “may be true”.

Table 4

Effect of Stones on Human Health According to the Students

| Theme | f | Sample Expression |
|-------------------------|----|---|
| Definitely True | 32 | “I think that natural stones are effective on human health. We regard them as simple stones but I think they are no longer stones when we use them and observe their benefits”, “Yes. I believe that stones have extraordinary power”, “I think that natural stones are definitely useful. I don’t know why but maybe because they are natural stones”. |
| Definitely False | 27 | “I never believe that natural stones have extraordinary powers like this”, “It cannot be proved whether they are true without conducting any scientific research”, “Superstition”, “It cannot be true. I don’t believe in such superstitions. If what they say were true, the world would be a much better place, everybody would use those stones”. |
| May Be True | 36 | “I think that it may be true, because those stones are composed of specific minerals and I consider that they have different energies and guess that this energy could help with treatment of a disease”, “I believe that this is completely psychological. If you believe that you will be well if you carry this stone, you’ll be well psychologically”, “It may be, I’m convinced that existence of any living or non-living thing in the nature has some purpose and reason”. |
| I Have No Idea | 12 | “I cannot suggest any opinion about its truth but I need to examine the research conducted on the issue”, “Stones are told to have magnetic or other energies. But I don’t have any idea about how its effect could be”, “I’m indecisive in this regard; maybe because persons believe that it will be good psychologically or they may heal because the substance they contain”. |

The students were further asked what scientific knowledge is in the form composed of open ended questions. Majority of the students (f = 43) stated that science is definite knowledge accuracy of which is evidenced. Still majority of the students (f = 29) mentioned that scientific knowledge could be achieved through experiment and stated that assumption should exist in order to achieve scientific knowledge (f = 10). However very few students mentioned changeable nature of scientific knowledge (f = 5). Additionally, reliability of knowledge (f= 9),

existence of logical and reasonable knowledge ($f = 9$), knowledge having cause and effect relation ($f=6$) was mentioned with respect to scientific knowledge (Table 5).

Table 5

Characteristics of Scientific Knowledge According to Students

| Characteristics of Scientific Knowledge | f* |
|---|----|
| Having changeable structure | 5 |
| With accuracy evidenced by scientists and being definite | 43 |
| Giving the same result when repeated under the same circumstances | 9 |
| Reaching the method of solution on the basis of assumptions | 10 |
| Having logical and acceptable knowledge structure | 9 |
| Having knowledge structure with cause and effect relation | 6 |
| Achieving knowledge through experiments | 29 |

*The number f is higher than the number of participants since more than one answer is given.

Discussion

Both quantitative and qualitative data collection tools were used in this paper examining science-pseudoscience beliefs of students of pedagogical formation and certain results were obtained. Quantitative data indicated that the answers of the students to the pseudoscience scale applied to them remained at the level of “I have no idea”. Those results obtained resemble the results obtained in the study of [Camci-Erdogan \(2019\)](#). Nevertheless the results obtained in the relevant study indicated that the course of scientific research methods have effect on pseudoscience beliefs. Consequently one can say that the course of scientific research methods have effect on the students' points of view with respect to science, working method of scientists and achieving scientific knowledge. It is observed that explaining the developments related to history of science in the literature and mentioning the working methods of science are effective on beliefs about scientific knowledge ([Alkış Küçükaydın & Gökbulut, 2020](#)). In the study conducted by [Es and Turgut \(2018\)](#) with classroom teacher candidates, the candidates were given research works on astrology, reflexology, healing stones, acupuncture, ufology, graphology, parapsychology and iridology for one week for each and they were asked to assess the knowledge in those fields in the context of science-pseudoscience. The candidates participating in the study have been observed to have created pseudoscience awareness. The results obtained from the present study and the findings indicated in the relevant literature indicate that one should particularly dwell on pseudoscience beliefs.

When the data collected within the scope of the study were examined in terms of gender, it was found out that there is no statistically meaningfulness in the scores achieved for female and male students. However when the total score is examined on gender basis, it was found out that the effect size is quite high. This indicates that this study should essentially be performed on a bigger sample. Consequently more comprehensive data could be achieved in studies to be performed on a bigger sample.

The students were asked open ended questions for the purpose of achieving more detailed results apart from the quantitative data achieved in the study. The results obtained indicated that students generally could not make distinction between science and pseudoscience. It has been observed in the study conducted by [Afonso and Gilbert \(2010\)](#) on groundwater identification that the participants generally had insufficient level of scientific knowledge. This means that the students are vulnerable to pseudoscience. According to Afonso and Gilbert, vulnerability of students to pseudoscience arises from their insufficient comprehension about nature of scientific

knowledge. Similarly, the studies conducted by [Ayvaci and Bağ \(2016\)](#), [Kallery \(2001\)](#) with teacher candidates and tutors of teachers suggested that pseudoscientific beliefs were strong. It was suggested in the study by [Lundström and Jakobsson \(2009\)](#) where they examined pseudoscientific beliefs related to human body that students think the lunar phases have an effect on human health and female and male students have different pseudoscientific beliefs. Another remarkable finding in the study is that any student successful in natural science classes trusts pseudoscientific knowledge as well at the same time. This indicates that teaching critical thinking skills is important even when natural sciences are taught at schools. At that point, the relevant literature suggests that it is necessary to focus on detailed learning rather than superficial learning in science teaching and to make students comprehend the distinctions among theorem, proposal or hypothesis ([Martin, 1994](#)). [Turgut \(2009\)](#) on the other hand stated in this regard that the classroom discussions through contextual relations including astronomy-astrology.

When the students' answers to the question of what scientific knowledge is are examined; it has been detected that very few students underlined changeable nature of scientific knowledge and consequently many students told that the it is the knowledge confirmed by scientists and definite knowledge. Still, majority of the students accepted scientific knowledge as knowledge achieved through experimental ways. Although similar results were achieved in the relevant literature ([Turgut, 2009](#)). Also [Turgut et al. \(2016\)](#) reported in the study conducted with preschool teacher candidates that the candidates rather associated scientific knowledge with experiment and observation and rejected the idea that science is a method of knowing. [Afonso and Gilbert \(2010\)](#) underlined that students failed to develop a critical point of view toward pseudoscience if they are insufficient in terms of scientific knowledge. Insufficient level of students with respect to scientific knowledge, particularly the idea that scientific knowledge could only be achieved through experiment indicates that they have traditional science belief. According to [Beyerstein \(1996\)](#), distance of individuals to scientific literacy prompts them to pseudoscience. For this reason, it is necessary for the society to take serious decisions on extending science literacy. As a matter of fact [Şenler and İrven \(2016\)](#) suggested in their study with classroom teacher candidates that pseudoscience belief of the students who participate in the courses of history of science and nature of science is lower compared to the other classes. Consequently it is observed that the education offered to teacher candidates contribute to development of scientific opinion.

Limitations and Recommendations

The paper conducted with students of pedagogical formation has certain restrictions. Firstly, data were collected over a quite small sample within the scope of this paper. This may be regarded as a potential danger for the study at the same time. For this reason, the researchers who will conduct studies on this subject are recommended to reach students of formation within the whole country and to theoretically examine the effect size obtained within the scope of this study. Furthermore the students are asked open ended questions using an online form within the scope of the study. This study where face-to-face interviews cannot be held because of Covid-19 pandemic could be repeated with focus group meetings. This may allow examining the restricted information obtained through open ended questions in more detail. Additionally, it has been observed that students of formation had high pseudoscience belief within the context of the paper. This is regarded as a risk for the students of the teachers of the future. The relevant literature indicates that belief of students in scientific knowledge is observed to be increased through scientific research methods and history of science. It is deemed

necessary on this basis for students of formation to include such a course in the curriculum or to involve the content of learning critical science in the contents of other courses in the recent period.

Ethics Approval

I declare that the research was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. Also, written permission was granted from the Ethical Committee of Bartın University (November 2020 date and Protocol number. 2020-SBB-0228).

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Research Article

Comparing Experiences of Counseling Mentor Award Winners with Professional Guidelines

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Abstract

Mentorship award winners from the American Counseling Association (ACA) and Association for Counselor Education and Supervision (ACES) provided their experiences with mentorship. We compared both qualitative and quantitative responses to alignment with the ACES research mentorship guidelines, Rheineck Mentoring Model, previous research, and best practices. Participants reported ethical and cross-cultural considerations with mentees; with counselor educators still struggling with what mentorship looks like and how to provide effective mentorship around publication and research, specifically scientific integrity. Findings indicate alignment with the best practices in the profession, but outline a need for research mentorship for developing professionals.

Key Words

Counseling • Mentor • ACES research mentorship guidelines • Rheineck mentoring model • Social justice

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Benefits and cautionary tales of engaging in mentoring relationships, both formal and informal, have long been described in counseling literature (Black et al., 2004; Briggs & Pehrsson, 2008; Casto et al., 2005; Schwiebert et al., 1999; Walker, 2006; Warren, 2005). The range of mentorship topics varies from general research mentorship in counselor education (Briggs & Pehrsson, 2008), strategies for helping students through mentorship (Black et al., 2004), mentoring women in academia (Casto et al., 2005; Hammer et al., 2014; Levitt, 2010; Rheineck & Roland, 2008; Schwiebert et al., 1999; Solomon & Barden, 2016), and multicultural applications (Bemak & Chung, 2011; Walker, 2006), to guidelines and principles of best practice (Borders et al., 2011; Detweiler Bedell et al., 2016). Subsequently, threaded throughout the literature are mentorship models and frameworks.

Three of these models focus on the multicultural aspects of mentorship. Shultz and colleagues (2001) provided a mentoring model for students of color. To meet the needs of diverse student populations, Shultz et al. (2001) designed, implemented, and published the first-year findings of their mentorship-infused program. The second multicultural model, the Rheineck Mentoring Model (Rheineck & Roland, 2008), focused on women in counselor education in their work. Following an exploratory study focusing on both personal and professional mentoring needs of female doctoral students (Rheineck & Roland, 2008), came the development of the Rheineck Mentoring Model. Finally, Solomon and Barden (2016) created a self-compassion framework for counselor educator mothers, encouraging mentoring for psychological well-being, while recognizing barriers faced by females in a higher education setting. The framework provides a feminist cultural perspective to recruit and retain women in counselor education (Solomon & Barden, 2016).

In 2012, the Association for Counselor Education and Supervision (ACES) endorsed guidelines for research mentorship, providing an overview and suggestions for future use (Borders et al., 2012). A recent content analysis examining trends of mentorship in higher education within professional counseling journals called for additional empirical research on existing mentorship guidelines and models created for the counseling field (Rausch et al., 2019).

There are quite a few publications in the area of mentorship in the past 20 years (Rausch et al., 2019). Specifically, there are numerous non-research articles on the subject, with limited empirical research on mentorship. An essential piece of the non-research mentorship publications is the emphasis on models and guidelines for effective mentorship. The researchers intend to add to the empirical research on what is effective mentorship based on what the best mentors in the field of counselor education experience as effective practices.

Effective mentorship is critical to study because mentorship is the strongest predictor of identity development in Master-level counselors-in-training, with the advisor-advisee relationship predicting professional identity development (Ewe & Ng, under review). In doctoral programs, mentorship is linked to identity development (Limberg et al., 2013). Limberg et al. (2013) found that through qualitative analysis, mentorship with faculty and mentors contributes to professional identity development in doctoral students studying to become counselor educators. Creating an identity as a counselor and counselor educator is conclusively impacted through the existence of a mentorship relationship at both the master's and doctoral levels.

Professional Guidelines and Research

The authors in this research used the ACES guidelines for mentorship (Borders et al., 2012), the Rheineck Mentoring Model (Rheineck & Roland, 2008), and additional areas from professional research including multicultural, social justice, ethical, and beneficial aspects of mentorship (Bemak & Chung, 2011; Detweiler Bedell et al., 2016; Haizlip, 2012) as the theoretical foundation for the basis for inquiry in the instrumentation. The ACES guidelines for mentorship outline mentor and mentee characteristics of an effective research mentorship. Briefly summarized, the mentor is expected to be a competent and ethical researcher, demonstrate 17 personal characteristics or traits, and can recognize one's limitations in the relationship. The mentee is expected to be an ethical researcher, an effective learner, and forthcoming about one's needs in the relationship (Borders et al., 2012). The emphasis in this model is limited to a research mentorship and only categorizes one type or one part of a dynamic mentoring process.

In Rhineck and Roland's (2008) exploratory research, the researchers create a model with both personal and professional domains of a mentoring relationship between women. While this is the only empirical evidence of what specific gender needs are present among women in academia, it is only considering one part of the gender spectrum in counselor education. Haizlip (2012) provided an inclusive model of mentorship based on addressing racial disparity but specifically focuses on the African American counselor educator.

The implications from the research, as mentioned earlier, and conceptual models support our argument for additional empirical research on existing mentorship guidelines and models created for the counseling field. The aforementioned models and research support specific aspects of identity (i.e., gender; race) in the mentorship relationship that are important to consider. Other models only address research (i.e., Borders et al., 2011) over service and teaching. There is limited empirical evidence on what is relevant today (e.g., race, gender, research, or something else) in the mentorship relationship among counselor educators.

The following research questions guided our current study:

Research Question 1: How do the experiences of recipients of the ACA and ACES mentor awards align with research?

Research Question 2: How do the experiences of recipients of the ACA and ACES mentor awards align with the ACES guidelines for research mentorship?

Research Question 3: How do the experiences of recipients of the ACA and ACES mentor awards align with the Rheineck Mentoring Model?

Method

Study Group

The participant sample was obtained through the lists of ACA and ACES mentor award winners on the websites of each of the professional counseling organizations. From the ACA David K. Brooks Distinguished Mentor Award winner list, beginning in 1999 and ending in 2016, 19 potential participants were listed. Of the potential participants from the ACA award, three are deceased, and three were unable to be located, resulting in a possibility of 13 participants (11 male, two female). The other mentorship award comes from the regional divisions of the Association for Counselor Education and Supervision. Due to the availability of funding from

the research grant, we selected from the Southern, North Central, and Western Associations for Counselor Education and Supervision, seven possible participants from 2012-2017 (four female, three male); adding these participants to the ACA Mentor Award participants, we created an overall sample of 20. The ACES mentor award winner sample was not all-inclusive; we will discuss this limitation later.

The response rate for the survey was 50%. Of the 10, seven chose to identify a gender (male = 4, female = 3). The sample includes eight full professors, and one of each of the following: associate professor, research associate, retired faculty, clinical faculty, tenure-track, and higher education administration, with participants choosing all applicable professional ranks.

Data Collection Tools

Participants responded to survey questions via a Qualtrics link. The research team designed the survey questions, which focused on three areas of interest: ACES guidelines for mentorship (n = 14; [Borders et al., 2012](#)), the Rheineck Mentoring model (n = 6; [Rheineck & Roland, 2008](#)), and additional areas from professional research including multicultural, social justice, ethical, and beneficial aspects of mentorship (n = 7; [Bemak & Chung, 2011](#); [Detweiler Bedell et al., 2016](#); [Haizlip, 2012](#)). The skip-logic function provided efficiency and direction for the responses, with each participant completing a maximum of 25 responses.

Procedure

This research was made possible by a grant through the Translational Research Program at a southeastern CACREP-accredited university. The organization awards this grant to a student who is currently being mentored by a professor. For this project, the first author chose to provide mentorship to a school counseling student who was interested in better understanding the internal grant process and who was engaged in a mentorship content analysis with the first author. We received the designation of exempt status by the university's institutional review board before engaging in recruitment.

Each individual was sent a recruitment email three times at one-week intervals over three weeks. We removed the names of individuals contacting the Principal Investigator for payment from further recruitment emails. We contacted mentor award winners without email addresses listed online via social media site LinkedIn, or other mentors were utilized to provide email addresses for recruitment efforts. We offered participants a stipend of \$30.00 for participation. Of the potential 20 participants, 10 provided full responses--a response rate of 50%. Participants were able to log into the survey and save their results, allowing them three weeks to potentially complete the survey.

Data Analysis

First, we used descriptive statistics to provide data regarding gender, rank, status, mentorship groups, whether they received research mentorship outside of the classroom, areas in which they received mentorship (promotion and tenure, research methodology, data analysis, scientific integrity, publishing, research collaboration, teaching, service, networking, branding, other topics), and whether they received formal training in mentorship. The second set of data includes information related to the ACES guidelines for research mentorship ([Borders et al., 2012](#)). These statistics incorporated areas which they intentionally provide mentorship (hands on role modeling, exposure to various research methods, understanding the research process,

intentional and timely feedback, networking opportunities, professional etiquette assistance, research advice, teaching advice, strong communication skills, promotion of scientific integrity, self-understanding, work-life balance, academia-motherhood balance, emotional support, developmental challenge, nurturing/caring attitude, availability, encouraging autonomy, ethical behavior modeling, inform of limitations as a mentor, power differential discussion). Each of these align with various areas of the ACES guidelines.

The next statistics focused on the Rheineck Mentoring Model for women, beginning with familiarity with the model. The skip logic function provided those identifying as a male to skip the remaining questions associated with the model, as [Rheineck and Roland \(2008\)](#) designed the model for woman-to-woman mentorship. Mentor award winners provided data as to areas of focus for woman-to-woman mentorship, including a focus on the grad school and professional transitions. Based on results from [Rheineck and Roland \(2008\)](#), we also asked participants about the words mentees use to describe them (e.g., challenging, affirming, safe, supportive, helpful, informative, open, inspiring, and reassuring). Additionally, we asked them about the level of importance they place on female mentees.

The final set of descriptive statistics includes two questions incorporating themes from previous research in the field. The first question involves mentoring a student of color or cross-gender/cultural background. The second, whether the mentor ever experienced having a mentee as a student.

Following the descriptive statistical analysis, we used a copy of the interview questions, which included coding for each item. The ACES research mentorship guidelines, Rheineck Mentoring Model, and other research articles which informed the study ([Bemak & Chung, 2011](#); [Briggs & Pehrsson, 2008](#); [Solomon & Barden, 2016](#)) were all coded initially, and portions of each of the three areas specifically align with the interview questions. We assigned codes (letter of the alphabet followed by a number) to portions of published previous research findings, then listed this code next to the survey question which aligned with the research. We examined the results of our data using the code book, compared it to the previous research findings, and reached 100% interrater agreement with the separate coding processes among team members.

Qualitative responses from participants were not coded. [Gurwitsch \(1967\)](#) explained the concept of intentionality impacting perception. As the members of the research team perceive things differently based on “wishing, willing, or judging,” removing the possible bias of team members’ perception by including the participants unaltered words helps create the most concrete method of explanation—in their own words ([Gurwitsch, 1967, p. 128](#)). Therefore, no coding process occurred for qualitative responses; they are reported verbatim.

Findings

Research Question 1: How do the experiences of recipients of the ACA and ACES mentor awards align with research?

The first set of survey questions incorporated information from previous findings in the study of mentorship as well as adherence to the ACES research guidelines (Appendix A). The majority of participants provided mentorship for master’s students (26.32%), followed closely by doctoral students and pre tenured faculty (23.68% each), and other mentored groups included are tenured faculty (18.42%), undergraduate students (5.26%) and colleagues (2.63%). In this sample, 70% report specifically receiving research mentorship outside

of class time as a pre-tenured counselor educator, with 51.14% responding that the mentorship they received focused on their research needs, as opposed to the needs of their mentor. Responses to the question “Please check which type(s) of mentorship you received as a pre-tenured counselor educator” are in Table 1.

Table 1

Types of Mentorship Received by Mentors

| Mentorship Type | Frequency | Percent | Cumulative Percent |
|------------------------------------|-----------|---------|--------------------|
| Promotion & Tenure Guidance | 3 | 10.71 | 10.71 |
| Research Methodology & Assistance | 4 | 14.29 | 25 |
| Data Analysis Help | 3 | 10.71 | 35.71 |
| Mentorship on Scientific Integrity | 2 | 7.14 | 42.85 |
| Publishing Assistance | 4 | 14.29 | 57.14 |
| Research Collaboration Help | 3 | 10.71 | 67.85 |
| Teaching | 3 | 10.71 | 78.56 |
| Service | 2 | 7.14 | 85.7 |
| Networking | 3 | 10.71 | 96.41 |
| Branding | 1 | 3.57 | 99.98 |
| Other | 0 | 0 | 99.98 |
| Total | 28 | | 99.98 |

Participants indicating they did not receive research mentorship outside of class time (30%) responded that research mentorship was not available to them (80%) or that their colleagues no longer did research (20%). This sample of mentor award winners indicates that 90% did not receive formal or intentional training to become a mentor. The participant indicating they had received training stated:

‘I have attended various workshops on mentoring and have enrolled in a certificate program as part of a fellowship program. I have also been selected as a research mentor in several grant-funded programs where I received specific training on mentoring.’

Research Question 2: How do the experiences of recipients of the ACA and ACES mentor awards align with the ACES guidelines for research mentorship?

Participant responses indicate intentionality with their mentorship choices. The most common responses to the areas which participants intentionally include in their mentorship work included hands-on role-modeling, providing constructive and timely feedback, creating professional networking opportunities, strong communication, and being available to their mentee (90%). Frequency of responses to all included mentorship areas is in Table 2.

Table 2

Intentional Mentorship Skills Utilized

| Mentorship Provided | Frequency | Percent |
|---|-----------|---------|
| Hands-on role modeling | 9 | 90 |
| Exposing mentee to various research methods | 6 | 60 |
| Helping to understand all aspects of the research process | 7 | 70 |
| Providing constructive and timely feedback | 9 | 90 |
| Create professional networking opportunities | 9 | 90 |
| Professional etiquette assistance | 6 | 60 |
| Research advice | 7 | 70 |
| Teaching advice | 6 | 60 |
| Strong communication | 9 | 90 |
| Promote scientific integrity | 4 | 40 |
| Help with self-understanding | 6 | 60 |
| Help with personal and professional life balance | 8 | 80 |
| Help with the specific balance of academia and motherhood | 6 | 60 |
| Help when they emotionally "feel down" | 7 | 70 |
| Challenging the mentee developmentally | 8 | 80 |
| Nurturing/Caring Attitude | 7 | 70 |
| Being available to my mentee(s) | 9 | 90 |
| Encouraging autonomy | 6 | 60 |
| Modeling ethical behavior | 8 | 80 |

Participants noted sharing research expertise, including research design, data collection, and management, evaluation, data analysis, dissemination of results/findings, ways to plan a study, qualitative and quantitative research designs, and writing for publication. However, participants also included sharing expertise in navigating academia, overall professional development, and topical expertise; one participant reported not identifying as a strong researcher.

Three questions centered on the idea of holding intentional discussions with mentees. When asked whether they inform mentees of their limitations as a research mentor, 90% responded that they had; the same percentage responded they had discussed the power differential of the mentor/mentee relationship with their mentee. Participants also hold conversations addressing cultural differences in the mentorship relationship. When asked to describe ways mentors address these differences, they noted this conversation as a "fundamental step in building an effective mentoring relationship," listing discussion of the culture of their mentees, acknowledging and discussing differences, indicating the desire to learn more about the mentee in order to build a personal and professional relationship, demonstrate curiosity about different factors, and asking questions about the worldview of their mentee.

The final set of questions incorporates additional research on cross-cultural and social justice mentorship, ethics, benefits of mentorship, and where the counseling field needs to grow in terms of mentorship. All participants report mentoring a student or students of color or a cross-gender or cross-cultural background. Responses to the specific question, "What strategies have you used when mentoring students of color, and/or cross-cultural backgrounds?" included the theme of discussing similarities and differences present in the

mentoring relationship, preparing mentees for racism in higher education (e.g., social marginalization, implicit hostility), build trusting and safe relationships, be respectful, consciousness of bias, offer support, and attempt to understand their experiences. One question inquired about specific strategies or goals used to provide social justice mentorship, with participants responding, “My role is sometimes to advocate for my mentee to minimize the adverse effects of institutional bias,” “I encourage them to seriously consider if they think my views could be embraced or at the least, respected before they sign on in the mentoring relationship,” and, “Explaining how faculty might prejudge their abilities.” Two participants responded with questions regarding social justice, including, “What is social justice? Everyone has their own ideas on that, so it is hard for me to respond,” and,

‘I am more ‘ignorant’ than ‘learned’ of social justice...for me, it is all about championing my mentees. This means ensuring my mentees are treated fairly. Thus, I advocate on mentee’s behalves for many issues, from pay to housing needs. My focus is on ‘attempting’ to treat each person as I wish to be treated, and when I can step up to the plate on their behalf, I am honored to do so.’

In response to a question regarding the ethical dilemma of having a mentee who also is enrolled in a course taught by their mentor, 60% of participants responded this has occurred. Strategies for handling this type of ethical dilemma included being clear about roles and boundaries, following University ethical codes and practices, and trying not to appear to favor the student with their time.

Three questions involved the benefits to mentorship--personal, professionally, and for their mentees. Participants felt they benefit from mentorship by teaching diverse ways of thinking, expanding understanding of the human condition, learning from their mentees, experiencing the feeling of honor due to mentorship, respecting differences, watching mentees grow and mature, and learning about themselves. Professional benefits include becoming a more effective instructor, advisor, and scholar; influencing the profession; staying up-to-date on professional issues; learning new areas of research and inquiry; learning about the field; having co-authors and presenters creates ease of distributing research and receiving awards and recognition. Third, participants report the benefits for graduate students include gaining knowledge about what can happen in their future helps reduce errors in decision-making, allowing their career to blossom, inspiration, learning how to apply for positions and how to publish, career goal clarity, creating and sustaining hope, having an ally, understanding how their self impacts their professional life, increased confidence in skills, and understanding their role as an educator and the role of research in professional development.

The final question, “Where does the counseling field need to grow, in terms of mentorship?” provided several responses, which fell into two areas: increasing mentorship and specific ways to improve personal mentorship. Participants felt that increasing theory, models, and pedagogy for training others to be mentors were important. Many mentioned the need for increased mentorship (80%), particularly due to being a “relationship-oriented profession.” Specific suggestions include recognizing work/life balance and not penalizing for outside obligations and the use of Dr. Michael Karcher’s work on the benefits of mentoring.

Research Question 3: How do the experiences of recipients of the ACA and ACES mentor awards align with the Rheineck Mentoring Model?

The second set of questions pinpoint areas consistent with the Rheineck Mentoring Model, limiting participants to answer questions regarding woman-to-woman mentorship (Rheineck & Roland, 2008). Accordingly, 50% of the respondents had provided woman-to-woman, 10% had not, and 40% do not identify as a woman. Of those respondents, 75% stated they are “completely unaware” of the Rheineck and Roland Mentoring Model for mentoring female doctoral students, with 25% responding they are “very familiar” with the model.

Self-understanding is a theme of the model, and two questions focused on this theme. The answers to the question, “When mentoring female doctoral students, how much assistance do you believe you provided in self understanding related to graduate school transition?” were split between “quite a bit” and “a lot” (50% each), with no participants responding “some,” “very little,” or “none.” The second question involved self-understanding related to the professional transition for female doctoral students, to which participants responded with the same answers, “quite a bit” (50%), and “a lot” (50%).

Rheineck and Roland (2008) found that female mentees describe the work of their mentor in various ways. When asked which words our participants felt their mentees might use to describe them, as aligned with Rheineck and Roland (2008), they responded consistently. The results are in Table 3.

Table 3

Mentee Descriptions of Mentor

| Mentor Traits | Frequency | Percent |
|---------------|-----------|---------|
| Challenging | 5 | 100 |
| Affirming | 4 | 80 |
| Safe | 4 | 80 |
| Supportive | 4 | 80 |
| Helpful | 3 | 60 |
| Informative | 5 | 100 |
| Open | 4 | 80 |
| Inspiring | 4 | 80 |
| Reassuring | 3 | 60 |

Participants also place importance on the developmentally specific needs of female mentees in woman-to-woman mentorship relationships. In response to the question, “How much importance do you place on the developmentally specific needs of female mentees?” 50% of the participants stated, “quite a bit,” with 25% responding “some” and 25% choosing “a lot.” The answers “very little” and “none” were not chosen by any of the participants.

Discussion

Research Question 1: How do the experiences of recipients of the ACA and ACES mentor awards align with research?

For this study, 70% of participants reported receiving research mentorship as a pre-tenured counselor educator, which is similar to what [Briggs and Pehrsson \(2008\)](#) found, as 77% of their participants reported receiving research mentorship. While 30% of participants of the [Briggs and Pehrsson \(2008\)](#) study reported that this mentorship focused on their needs, we had 57% report the mentorship focused on their needs. Previous research, which guided our questions, led us to ask about the types of research mentorship our participants received. Participants in this study were similar to previous research findings in that more participants in this study reported receiving guidance about promotion and tenure than mentorship on scientific integrity ([Briggs & Pehrsson, 2008](#)); however, participants were dissimilar in that more received research methodology assistance than guidance about promotion and tenure, and the same amount who received guidance about promotion and tenure also received data analysis help (30%). [Hill and colleagues \(2005\)](#) found 70% of their participants reported little or no research collaboration; this coincides with the low number of participants in this study reporting receiving help with research collaboration (10.71%). Previous research points to publishing as the highest source of stress, which [Borders et al. \(2012\)](#) suggested may coincide with a lack of effective mentoring. Participants in this study indicated the highest levels of mentoring in the area of research methodology and publishing assistance (14.29%, each); however, the percentage reporting this type of research mentorship can be considered low. Additionally, 80% of the mentorship award winners participating in this study reported research mentorship was not available to them, with 90% reporting they received no formal training to become a mentor.

[Solomon and Barden \(2016\)](#) created a framework for the mentorship of counselor educators who are also mothers. Their work, along with [Williams \(2005\)](#), suggested counselor educator mothers, or other mothers in academia, experience barriers to success after asking for flexible schedules, extending the tenure clock, or requesting parental leave as a result of becoming pregnant or expanding their families with the addition of children. When asked whether they have ever helped “mentees who are struggling with the specific balance of academia and motherhood,” 60% responded that they had. This area of mentorship may serve as a future area of specific mentorship, as a study by [Mason et al. \(2013\)](#) suggested that for individuals with children under the age of six years old, men were 38% more likely to receive tenure than women.

[Bemak and Chung \(2011\)](#) approached mentorship from a social justice counseling and advocacy perspective, moving students from an intellectual to an action-oriented focus for working with social injustice across levels ([Bemak & Chung, 2007](#)). Mentor award winner participants from this study aligned with the call from [Bemak and Chung \(2011\)](#), with 100% responding that they have mentored students of color or cross-gender/cross-cultural backgrounds. The responses from our participants regarding specific cross-gender or cross-cultural strategies they infuse in their mentorship work most naturally aligned with the recommendation from [Bemak and Chung \(2011\)](#) to “build partnerships” (p.216); however, the open-ended nature of our question may have hindered participants from responding more specifically to the other social justice recommendations. The themes present in our responses included inclusion, support, respect, and creating safe relationships.

Research Question 2: How do the experiences of recipients of the ACA and ACES mentor awards align with the ACES guidelines for research mentorship?

There are two main sections outlined in the ACES research mentorship guidelines: characteristics of mentors, and characteristics of mentees (Borders et al., 2012). Each section is then separated into specific areas such as knowledge and skills, ethical research behaviors, and personal characteristics for mentorship (Borders et al., 2012). The responses from this study indicate an alignment with several areas of the ACES research mentorship guidelines, including modeling ethical behavior (80%; Characteristic 2.h.), informing mentees of their limitations as a research mentor (90%; e.g., Characteristic 4.a.), challenging the mentee developmentally (80%; Characteristic 3.m.), being available to mentee (90%; Characteristic 3.a.), providing critical feedback (90%; e.g., Characteristic 3.k.), discussing the power differential within the relationship (90%; e.g., Characteristic 2.e.), and addressing cultural differences (90%; e.g., Characteristic 3.q.; Borders et al., 2012).

Only one area of the ACES research mentorship guidelines where our participants did not align as strongly involved promoting scientific integrity (40%; Characteristic 2.h.). Also, one respondent indicated, “I don’t do specific research mentoring. The mentoring that I do is devoted to overall professional development.”

Research Question 3: How do the experiences of recipients of the ACA and ACES mentor awards align with the Rheineck Mentoring Model?

When asked about providing woman-to-woman mentorship, 40% of our sample responded, “yes.” Of those participants responding “yes,” 75% were completely unaware of the Rheineck Mentoring Model, with 25% responding they were “very familiar” with it. Rheineck and Roland (2008) found 1st- and 3rd-year doctoral students prioritizing receiving help with self-understanding both related to the graduate level and professional level transitions. The mentors from our study, though the majority were unfamiliar with the Rheineck Mentoring Model, responded they assisted with self-understanding at the graduate level transition and professional transition (50% “quite a bit” and 50% responding, “a lot”). Participants from the Rheineck and Roland (2008) study mentioned valuing assistance with professional etiquette, research advice, and teaching advice. The mentors in this study responded they provided assistance and advice in all three areas--60%, 70%, and 60%, respectively. Also, Rheineck and Roland (2008) found that participants requested help when they were “feeling down,” an area also captured with our participants at 70% agreeing this is something they offer as a mentor. Our female respondents also suggested they place at a minimum “some” importance on the developmentally specific needs of female mentees (25%), with the majority responding “quite a bit” (50%); this relates to the findings of Rheineck and Roland (2008), which suggest that mentors are critical to the personal and professional growth of female students. The final aspect of the Rheineck Mentoring Model captured in this research involves the terms participants from the Rheineck and Roland (2008) study used to describe their mentors. Each of these terms was selected by our mentors, with “challenging” and “informative” the terms were chosen most often from our participants (90%).

Limitations

As is common with research, this study is not without limitations. The first limitation involves the imprecision of our measures. As with descriptive research, we sought to understand participant experiences with mentorship better, but with a survey instrument created by the research team, we cannot be positive the questions

were interpreted or perceived in an intended manner. This could lead to responses from participants which do not reflect the spirit of the survey.

Secondly, the sample size was not all-inclusive of every winner of the ACA and ACES regional and national mentor awards. The research funding limited the number of potential participants, and we had a 50% response rate. Additionally, the time constraints on the funding did not allow a second distribution of the survey to additional participants based on remaining funds. This limitation results in the loss of capturing all mentor award winners from these two counseling organizations. This limits our external validity, and while we can learn from the experiences of our participants, we do not have enough data to warrant generalizability.

Implications for Counselor Educators

The lessons we may take away from the ACA and ACES mentorship award winners are numerous. Firstly, counselor educators are still struggling with what mentorship looks like and how to provide effective mentorship around publication and research, specifically scientific integrity, based on the results from Research Question 1. Even though [Borders et al. \(2012\)](#) provided the profession with concrete steps on what mentorship looks like, the professional struggles with implementing those recommendations. Perhaps this can be attributed to the variation among the types of universities that house counselor education programs. Often in universities that are not R1 designated, the emphasis is on teaching rather than publication for promotion and tenure. As a result, there may be neglected emphasis on research. However, the authors would argue that scientific integrity is important for promoting the field of counselor education within universities and colleges.

Secondly, as for what mentorship looks like, the authors think addressing this issue is imperative in doctoral-level programs. With the emphasis on supervision in counselor education, mentorship seems like a natural adjunct to the learning process. While the leap seems intuitive, the counselor education field needs an agreed-upon comprehensive operationalized definition of mentorship. This issue is cited again and again in the literature ([Black et al., 2004](#); [Borders et al., 2011](#)). In this definition, the authors argue that the themes identified in this research are important to include: inclusion, support, respect, and creating safe relationships.

In sum, this study presented the experiences of mentorship award winners in the counseling profession, yet in the helping profession, particularly, mentorship practices can occur naturally without the relationship defined as one of mentoring. The participants in this study adhered to many of the best practices and guidelines outlined by [Borders et al. \(2011\)](#), [Bemak and Chung \(2011\)](#), and [Rheineck and Roland \(2008\)](#), whether or not they were intentionally adhering to these practices and models. Further empirical research is warranted, as the benefits to both mentor and mentee are numerous.

Ethic Approval

We declare that the research was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. There is no conflict of interest in the research. The study approved by August University Institutional Review Board (05.02.2018, 1160846-3).

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Research Article

Relationship between Self-Esteem and Life Satisfaction: A Meta-Analysis Study

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Abstract

The aim of this study is to examine the relationships between self-esteem and life satisfaction through meta analysis. For this purpose, studies were examined and those that fit the criteria were included in the study. Accordingly, 74 articles including numerical data, which were published in refereed scientific journals, in Turkish and English between 2010 and 2020, were included in the study. The effect sizes of the research were done using the Comprehensive Meta-Analysis software. 111 effect sizes were obtained from 74 different studies included in the study. A heterogeneous distribution was determined in the included studies ($Q = 1835.56 > 135.48$). The effect size value according to the sample group as a result of the moderator analysis was calculated as 0.39 for adolescents and 0.43 for adults. Although the strength of the relationship between variables was higher in adults, it was observed that it did not change significantly ($p > 0.05$). The average of effect sizes in the study was calculated as 0.42. These data indicate that there is a positive, moderately effective and significant ($p < 0.05$) effect between life satisfaction and self-esteem. Results were discussed in the light of the literature.

Key Words

Self-esteem • Life satisfaction • Meta-analysis

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Self-esteem is a popular and important construct in social sciences and everyday life (Blascovich & Tomaka, 1991). This important structure is one of the most researched variables in the fields of counseling and psychology (Doğan & Eryılmaz, 2013; Güloğlu & Kararmak, 2010). Even though there are many studies on the subject, there is no widely accepted, standard, general definition of self-esteem (Aktaş, 2011).

James (1890) defined self-esteem as self-esteem=success/expectation. Rosenberg (1965) expressed self-esteem as an individual's positive and negative attitudes towards himself. Coopersmith (1967) defined self-esteem as an individual's evaluation of himself/herself as a competent, valuable and important person. Branden (2001) stated that self-esteem is the sum of self-confidence and self-esteem, which he defines as a sense of personal competence and personal worth. Balat and Akman (2004) expressed self-esteem as an evaluation of the information in the self-concept.

Rosenberg (1965) states that self-esteem consists of two dimensions: high and low self-esteem. In this context, he stated that individuals with high self-esteem feel themselves valuable and respected; individuals with low self-esteem are not satisfied with themselves and reject themselves. Consistent with Rosenberg; Baumeister, Campell, Kruger, and Vohs (2003) emphasized that individuals with high self-esteem have good relationships, make positive impressions on people, and are willing to speak in a group. Plummer (2007) stressed that individuals with low self-esteem give little value to their abilities, often deny their success, and have difficulties in setting goals and solving problems.

When the studies in the literature were examined, a positive significant relationship was found between self-esteem and subjective well-being (Doğan & Eryılmaz, 2013), self-efficacy (Yıldırım & Atilla, 2020), academic achievement score and competitiveness (Yenidünya, 2005). A negative relationship was observed between self-esteem and body image (Oktan & Şahin, 2010), social media addiction (Hawi & Samaha, 2017), internet addiction (Yıldırım, 2016), social adaptation (Pehlivan, 2017), loneliness (Güloğlu & Kararmak, 2010; McWhirter, Besett-Alesch, Horibata, & Gat, 2002). In addition, perceived social support and self-esteem were found to have a direct effect on students' patience levels (Koç & Coşkun, 2019), and variables of self-esteem and social connectedness on the social anxiety variable (Kurtyılmaz, Can, & Ceyhan, 2017). In addition, in studies conducted, relationship was found between self-esteem and social relationships (Harris & Orth, 2019), depression (Carvalho et al., 2016; Yaygır, 2018), happiness (Cheng & Furham, 2002), negative automatic thoughts (Director & Nuri, 2017), loneliness (Tohumcu, 2018; Zhao, Zhang & Ran, 2017) and life satisfaction (Hawi & Samaha, 2017; Karademir, Türkçapar, Ulucan, & Bahadır, 2013; Rey, Extremera & Pena, 2011; Yıldırım, 2017; Yanar, Kızılırmak, & Denizli, 2018; Yıldız & Baytemir, 2016).

Life satisfaction has been defined as a subjective assessment of a person's quality of life in general or specific domains (Diener, Suh, Lucas, & Smith, 1999). Life satisfaction is based on the comparison of individuals' judgments about the level of satisfaction they provide, the current course and the standards (not imposed from outside) that the individual has set for himself (Diener, Emmons, Larsen, & Griffin, 1985). It shows a conceptual evaluation or judgment of the individual's own life (Özdevecioğlu & Aktaş, 2007). It is also the degree of positive evaluation of the overall quality of his life as a whole (Veenhoven, 1991). In other words, life satisfaction represents an evaluative judgment (Pavot & Diener, 2013).

Stating that there is a large literature on life satisfaction, Appleton and Song (2008) suggest that life satisfaction has six different components. These components are income level, occupation and social status of

the person, opportunities he/she has, welfare conditions, current state policy, environment, family and social relations. Dockery (2004) evaluated factors such as stable personality traits, marital status, social support networks, life events, health status, lifestyle, job status, and socioeconomic status as factors affecting life satisfaction.

When the studies in the literature were examined, it was observed that there was a positive relationship between life satisfaction and psychological resilience (Ülker, Tümlü, & Receptoğlu, 2013), optimism and happiness (Gülcan & Nedim Bal, 2014), endurance and wisdom (Hayat, Khan, & Sadia, 2016). It has been observed that there is a negative relationship between life satisfaction and work-family conflict (Özdevecioğlu & Aktaş, 2007), loneliness (Hasanoğlu, 2019; Yılmaz & Altınok, 2009), burnout (Ünal, Karlıdağ, & Yoloğlu, 2001), negative automatic thoughts (Bulut, 2007). In addition, there are studies showing that there is a significant relationship between life satisfaction and hopelessness (Akandere, Acar, & Baştuğ, 2009), and awareness (Agarwal & Dixit, 2017).

Chen, Tu and Wang (2008) found in their study that neuroticism has a negative effect on life satisfaction, but openness and conscientiousness have a positive effect. Çıkrıkçı and Odacı (2016) revealed in their study that metacognitive awareness and self-efficacy are important predictors of life satisfaction in adolescents. Nam (2020) concluded in his study that resilience, mindfulness and neurotic personality trait variables significantly predicted life satisfaction. Extremera and Rey (2016) found in their study that positive and negative affect completely mediates the connection between emotional intelligence and life satisfaction.

In this study, it was aimed to examine the relationships between self-esteem and life satisfaction with meta-analysis method. Many studies on both self-esteem (Doğan & Eryılmaz, 2013; Güloğlu & Kararmak, 2010) and life satisfaction (Appleton & Song, 2008) were found in the reviewed literature. In this context, it is thought that it would be beneficial to consider the studies in the literature in a holistic manner. Besides, some studies in the literature indicate that there is a positive relationship between self-esteem and life satisfaction (Freire & Ferreira, 2019; Rey et al., 2011; Yıldırım, 2017), while some studies indicated a negative relationship (Seshadri et al., 2019). In this context, this study is considered to be important in terms of putting an end to the contradictory findings and integrating the results of the published studies and creating a framework. It is also thought that this study will make a significant contribution to the literature by filling the gap in the literature.

Method

Meta-analysis method was used in this study. Meta-analysis is a method of combining the results of multiple independent studies conducted on a specific subject and performing the statistical analysis of the obtained research findings (Dinçer, 2014). The main findings of the meta-analysis method consist of effect size, heterogeneity test results and publication bias findings. The effect sizes of the research were made using Comprehensive Meta-Analysis software.

Area Scan

The data source of the study consists of articles on self-esteem and life satisfaction. In the survey, the words "self-esteem and life satisfaction" were used as key words in Turkish and English. 111 correlation values obtained from 74 studies that meet the inclusion criteria of the study were included in this meta-analysis.

Inclusion Criteria

The criteria sought in studies to be included in meta-analysis:

1. Articles must be published in peer-reviewed scientific journals.
2. Articles contain numerical data that will enable the calculation of the effect size.
3. The language of the articles is Turkish or English.
4. Articles published between 2010-2020.

In the meta-analysis study, 111 effect sizes were calculated from 74 studies that met these criteria.

Coding of Studies and Reliability of Coding Process

Correlation values were used as effect size type in the meta-analysis study. Sample size and correlation values were obtained from each study to calculate the effect size of the study. The sample type and publication year of the studies included in the meta-analysis was determined as the moderator variable.

The study was coded by two independent coders in order to ensure the reliability between the coders, and the Cohen Kappa coefficient was used to evaluate the harmony between the coders. In the study, Cohen Kappa coefficient was found as $\kappa = 0.90$.

General Features of the Studies Included in the Study

74 studies included in the study were conducted between 2010-2020. 23 of the studies consist of adolescents and 51 adults. When the publication years of the studies included in the meta-analysis are examined, 3 of the from 2010, 8 from 2011, 7 from 2012, 11 from 2013, 10 from 2014, 8 from 2015, 7 from 2016, 7 from 2017, 2 t from 2018, 3 from 2019, 8 from 2020.

Findings

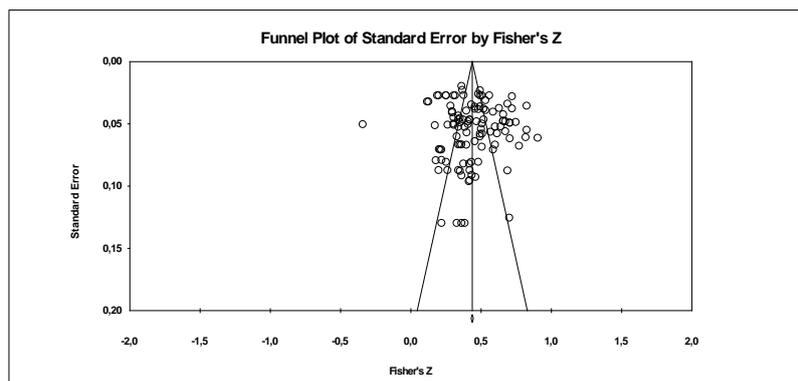
In this section, publication bias, homogeneity test results, combined effect sizes of the studies and analysis results according to moderator variables are given.

Publication Bias

Funnel plot, Orwin Fail-Safe N, Tau-square coefficient (τ^2) and Duval and Tweedie's Trim and Fill method were used in the study to test the publication bias.

Figure 1

Funnel Plot



As can be seen in Figure 1, it is seen that 111 effect sizes included in the study are equally distributed on both sides of the vertical line. The fact that 111 effect sizes that make up the data set are evenly distributed in the upper region shows that there is no publication bias.

Table 1

Test Data

| Publication Bias Test | Criteria | Value |
|--------------------------------------|--------------|-----------|
| Orwin's Fail-Safe N | for 0.01 | 4738 |
| Egger's regression intercept | p (1-tailed) | 0.16 |
| Tau- square coefficient (τ^2) | p (1-tailed) | 0.49 |
| Duval ve Tweedie's Trim and Fill | 17 | 0.42/0.45 |

According to the Orwin's Fail-Safe N calculation made to test the publication bias, the number of studies that could bring the Fisher's Z value to 0.01 and effect size was calculated 0.00 is the as 4738. The fact that this number is quite large indicates that there is no publication bias. According to Egger's regression intercept $p = 0.16$ and Tau-square coefficient (τ^2) analysis, $p = 0.49$ value was not found to be statistically significant ($p > .05$). The value of Egger's regression intercept, which are not statistically significant, indicates that there is no publication bias (Sedgwick, 2013). According to the result of Duval and Tweedie's trim and fill method, when 17 peer studies are included, it is seen that the average effect size found as a result of meta-analysis changes to 0.45. Since this change is insignificant, the reported impact magnitude can be considered reliable.

Analysis Findings on the Effect Size

In this study, between self-esteem and life satisfaction were made a heterogeneity test and random effects model the results of the analyzes are shown in Table 2.

Table 2

Effect Size Findings

| Model | k | ES | %95 C. I. | | Heterogeneity | | |
|---------------|-----|------|-----------|-------|---------------|-------|----------------|
| | | | Lower | Upper | Q-value | P | I ² |
| Random effect | 111 | 0.42 | 0.39 | 0.45 | 1835.56 | 0.000 | 94.00 |

Based on the relationship between self-esteem and life satisfaction, the Q value was found to be 1835.56 for 110 df in the heterogeneity test of the studies included in the study. Since the total heterogeneity value calculated exceeds the value in the chi-square table, it can be said that the studies ($1835.56 > 135.48$) show heterogeneous distribution (Higgins & Thompson, 2002). It is seen that the I² value is high (94.00%). In addition, a p value less than 0.05 means that the studies show heterogeneous distribution. (Petiti, 2000).

According to the random effects model, the lower limit of the 95% confidence interval was calculated as 0.39 and the upper limit 0.45 and the average effect size 0.42. These data indicate that there is a positive, moderately effective and significant ($p < 0.05$) effect between life satisfaction and self-esteem.

Moderator Analysis

In the study, the strength of the relationship between self-esteem and life satisfaction was examined according to the sample group and the publication. Findings obtained are shown in Table 3.

Table 3

Moderator Variables

| Moderator | k | ES | %95 C.I. | | P | Q _b | P |
|--------------|----|------|----------|-------|------|----------------|------|
| | | | Low | Upper | | | |
| Sample Group | | | | | | | |
| Adolescent | 39 | 0.39 | 0.34 | 0.44 | 0.00 | 1.74 | 0.19 |
| Adult | 72 | 0.43 | 0.40 | 0.47 | 0.00 | | |
| Work Year | | | | | | | |
| 2010-2014 | 50 | 0.41 | 0.36 | 0.46 | 0.00 | 0.29 | 0.59 |
| 2015-2020 | 61 | 0.43 | 0.39 | 0.46 | 0.00 | | |

As seen in Table 3, the effect size value was calculated as 0.39 for adolescents and 0.43 for adults according to the sample group in which the study was conducted. Although the strength of the relationship between self-esteem and life satisfaction was higher in adults, it was observed that it did not change significantly ($p > 0.05$). When the strength of the relationship between self-esteem and life satisfaction is examined by study year, the variance between studies is not statistically significant.

Discussion

This meta-analytical study statistically explained the results of studies examining the relationship between life satisfaction and self-esteem. In this study, examining the relationship between self-esteem and life satisfaction in scientific journals, 74 studies were reviewed. To decide whether these studies were publication bias, Funnel Plot, Orwin's Fail-Safe N Calculation, Egger's regression intercept, Tau-square Coefficient and Duval and Tweedie's Trim and Fill method were used. And, it was found that there was no publication bias. Moreover, heterogeneity results show that these studies are heterogeneously distributed ($Q=1853.56$; $p < 0.1$). 111 correlation values from these 74 studies were included in the analysis. As a result of the analysis, the effect size value was found to be 0.42. According to this result, we can say that there is a middle relationship between life satisfaction and self-esteem (Ellis, 2010). This result is consistent with the Schutte and Malouff (2018) meta-analysis research on the positive well-being of individuals. They found the effect size as 0.32. In previous studies, a positive relationship was found between life satisfaction and self-esteem (Arslan, 2019; Perez-Fuentes et al., 2019; Lau et al., 2020). Individuals with high self-esteem have more positive life satisfaction than individuals with low self-esteem (Freire & Ferreira 2019; Rey et al., 2011; Zhang & Leung, 2002). Moreover, Liang et al. (2020) found that individuals with high self-esteem have higher happiness from life in migrated individuals. But, Seshadri et al. (2019) found a significant negative relationship between life satisfaction and self-esteem of adolescent boys who migrated. And, they explained that there was no significant relationship between life satisfaction and self-esteem in young women who migrated.

Researchers also examined variables that mediate the relationship between life satisfaction and self-esteem. Studies have shown that gender (Boden et al., 2008; Freire & Ferreira, 2019; Kling et al., 1999; Moksnes &

Espnes, 2013), age (Butkovic vd., 2019; Zhang & Leung, 2002), internet usage (Blachino et al., 2016; Blachino et al., 2019), attitude of parent (Milevsky et al., 2006), social status (Zhang & Leung, 2002), health conditions (Moksnes & Espnes, 2013) and aesthetic operations (Papadopulos et al., 2018) play a mediating role in the relationship between life satisfaction and self-esteem. Diener and Diener (2009) found that their self-esteem and life satisfaction was affected by the societies and economic circumstances of the society in which people live. Also, self-esteem and life satisfaction have been found to be strongly affected by close relationships (Milevsky, 2005; Perez-Fuentes et al., 2019).

Since life satisfaction is a multifaceted construct, the relationship between life satisfaction and various variables has been explored in some studies (McGillivray et al., 2009). In these relationships, self-esteem of individuals has been found to have a mediating role in achieving the desired satisfaction in their lives (Butkovic et al., 2019). For example, self-esteem has been shown to have a mediating effect on the relationship between individuals' life satisfaction and levels of cheerfulness (Lau et al., 2020; Li et al., 2018). Perez-Fuentes et al. (2019) found that the parenting styles influence the life satisfaction of adolescents and self-esteem plays a mediating role in this effect. Arslan (2019) found that self-esteem plays a mediating role in the relationship between individuals' social alienation and life satisfaction. Moreover, self-esteem is effective in the relationship between emotional intelligence and life satisfaction (Rey et al., 2011; Zarei et al., 2019). Cao and Liang (2017), in their study with substance addicts, found that self-esteem plays a mediating role in the relationship between individuals' perceived social support and life satisfaction.

Understanding the relationship between self-esteem and life satisfaction of individuals at every stage of life is important for the development of psychological interventions (Butkovic et al., 2019; Cuomo, 2020; Moksnes & Espnes, 2013). By reaching a general opinion by analyzing the studies on the relationship between self-esteem and life satisfaction, this study is projected to be a guide for future studies on this topic.

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