The Effects of the Positive Psychology-Based Online Group Counselling Program on Mothers Having Children with Intellectual Disabilities

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Abstract
The purpose of the current study is to examine the effects of the Positive Psychology-Based Online Group Counselling Program (PPBOGCP) on the psychological well-being, self-compassion and hope levels of the mothers having children with intellectual disabilities. The current study is a mixed-design research having quantitative and qualitative dimensions. The quantitative dimension of the study was designed in a quasi-experimental design based on the experimental, placebo and control group pre-test, post-test and follow-up test model. The study group is comprised of a total of 35 participants. While in the experimental group, the 10-session PPBOGCP developed by the researcher was implemented, a 10-session group counselling was conducted in the placebo group. No study was conducted with the individuals in the control group. As the data collection tools, the Psychological Well-Being Scale, Self-Compassion Scale and Dispositional Hope Scale were used in the current study. The quantitative analyses were conducted in SPSS 17 program package while the qualitative data were analyzed with the content analysis technique. According to the findings of the current study, the PPBOGCP created significant differences in the psychological well-being, self-compassion and hope levels of the mothers having children with intellectual disabilities according to the intervention time effect ($p < 0.05$). It was observed that the data obtained in the individual interviews were collected around the categories of “Learning how to cope with, recognizing the sources of support, perceiving positively-acceptance, empathy and development”.

Keyword Positive psychology · Online group counselling · Intellectual disability · Psychological well-being · Self-compassion · Hope

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1 Introduction

Parents feel happy when a new individual will join the family, which is the smallest unit of the social system. Many dreams, wishes, future plans are created over the newborn baby. However, individuals may come into the world with some disabilities. One of these is intellectual disability. Intellectual disability is a type of disability which is characterized by limitations in many areas observed in mental functions and adaptive behaviours and is seen in cognitive, social and practical adaptive skills. This disability appears before the age of 18 (American Association on Intellectual and Developmental Disabilities-AAIDD, 2010). As a result of the effects it creates on the individual, mental disability also causes some difficulties for the person or persons who will provide the care for the disabled individual. It has been observed that the physical, emotional, social, economic burden and the need for time of the family increase with the increasing level of the seriousness of the mental disability. These effects cause the roles and responsibilities of family members to change. These changes can be in areas such as family roles, private living spaces, social environments, expectations, plans, business life (Deniz et al., 2009). As a matter of fact, the diagnosis of intellectual disability is a difficult and stressful situation for the family.

People who take care of the individual with some disabilities become prone to feelings such as hopelessness and depressive mood as a result of the troubles, worries and unknowns they have experienced (Atagün et al., 2011). In addition, parents try to cope with the situation they live in but by constantly asking questions such as “What are we going to do now?” and “How will we find solutions?” Parents also question their children’s future lives and try to find answers to the questions such as “Who will take care of their children when they are unable to care for them themselves?” Parents have negative expectations for the future due to factors such as concerns about the extent to which the child can become self-sufficient as a result of the education and intervention programs, uncertainties about who will take care of the child, especially when the parents are not alive, and the inadequacy of the existing services (Küçüker, 2001). For these reasons, the present and future anxiety about the child in families with a child having a disability also affects the hope levels of the parents regarding their life expectancy.

Synder (2002) defines hope as an individual’s ability to produce alternative ways to achieve desired goals and to feel the necessary motivation to make use of these ways. Individuals with a high level of hope believe that they can find many options to reach their goals. Individuals who are at this level of hope motivate themselves to believe that positive things will happen in the future. Thus, it is thought that being hopeful and optimistic about the future and having positive attitudes towards themselves and their environment will also positively affect the psychological well-being levels of the parents having a child with intellectual disabilities and their struggle to deal with the difficulties they encounter. As a matter of fact, Holdcraft and Williamson (1991) accepted hope as a force in promoting well-being, while Gall et al. (2005) found that hope was directly related to the physical and psychological aspects of well-being.

Psychological well-being is defined as the individual’s awareness of his or her own capacity and using this capacity functionally to the greatest extent to achieve his/her goals (Ryff, 1989a). In the 6-Dimensional Model of Psychological Well-Being put forward by Ryff (1989a), what is emphasized is that the individual should accept himself/herself first, establish and maintain positive relationships, be autonomous, ensure environmental control in accordance with his/her own needs, have a meaning in his/her life and be open to personal development.
Parents often receive reactions from their environment indicating that they cannot control their children and are not good parents (Gray, 1993; Mak & Kwok, 2010). These negative reactions of others are often internalized as self-blame because they feel that they cannot be an effective parent (Fernandez & Arcia, 2004). In addition, this situation is evaluated by the environment as a personal success or failure of the mother (Avşaroğlu & Gilik, 2017). This, in turn, undermines the self-compassion levels of parents. Self-compassion can be defined as being aware of the feelings that cause pain and distress, approaching the feelings of failure and inadequacy created by these situations with compassionate and loving attitudes, and accepting that negative experiences are a part of human life (Neff, 2003a). People may experience negative emotions such as pain, sadness, failure and burn-out in life. In such cases, the opportunity to cope with negative emotions in life can be provided by developing self-compassion.

Self-compassion, which is based on the approaches of Buddhist philosophy, has a long history and creates awareness that will increase well-being in individuals, expresses the attitudes and behaviors of individuals towards themselves (Salzberg, 1997). According to Neff and Vonk (2009), self-compassion; It explains the ability to see the truth about personal failures and to realize that the negative feelings and thoughts that arise are related to that situation and to keep them in balance. According to Avşaroğlu and Güleş (2019), the self-compassion and compassion levels of mothers having children with special needs significantly predict their life satisfaction.

According to Stewart (1986), in counselling sessions, parents are helped to interact with their children, achieve harmony within the family, and become fully functional individuals. This requires systematic and professional assistance to parents in coping with the problems they will experience from the moment they are announced that they have a disabled child (Batık, 2012). In addition to the individual psychological help, the importance of group counselling practices that allow reaching more than one person at the same time, sharing common problems, and not feeling alone, has increased recently. Group therapy focuses on mental or psychiatric problems, while group counselling includes practices for individuals who have a common concern about normal or developmental problems that are not pathological (Ivey et al., 2019). Group counselling can help mothers having children with intellectual disabilities to develop positive thoughts, feelings, expectations and perceptions towards themselves and their children, to accept their children, to gain the understanding that I am not alone, and to re-determine their hopes for the future realistically (Ersanlı & Kutlu, 1998).

With the declaration of the Coronavirus (Covid-19) epidemic as a global pandemic by the World Health Organization (WHO, 2020) on March 11, 2020, many countries have suspended face-to-face education practices and switched to the distance education period. Within the framework of the measures of the Covid-19 epidemic, with the start of the 2020–2021 academic year with the distance education method, it was decided to carry out the application part of the research with the online videoconference method. Online psychological counseling is defined as the interview process in which a professional counselor comes together with one or more clients on certain platforms with technology tools such as the internet, telephone, computer (Li et al., 2013).

1.1 The Purpose of the Research

When the relevant literature is reviewed, it is seen that many problem-oriented studies have been conducted on the psychological problems experienced by mothers of children with
intellectual disabilities (Çengelci, 2009; Keskin et al., 2012; Meirsschaut et al., 2010). Positive psychology has been found to help individuals to develop resilience and contentment, satisfaction (past), flow, emotional pleasures, joy and happiness (now), hope, optimism and confidence at subjective level and to gain a new psychological perspective by focusing on positive personality characteristics, love and professional capacity, interpersonal ability, courage, forgiveness, aesthetic sensitivity, perseverance, originality, future-oriented ideas, high ability and wisdom in a general sense (Seligman and Csikszentmihaly, 2000). In this connection, it is thought that research emphasizing strengths, well-being and hope will provide mothers having intellectual disabled children with the opportunity to cope with problems.

The current study aimed to increase the self-compassion, hope and psychological well-being of mothers with intellectual disabled children with a positive psychological-based group counseling method developed online. Within the framework of this purpose, it is aimed to enable individuals to discover and develop their strengths and focus on positive developments in their lives. As seen in meta-analysis studies, multiple intervention programs based on positive psychology produce effective results (Parks et al., 2012). In this sense, the content of the program has a structure that includes interventions for self-compassion and hope, which address the sub-dimensions of psychological well-being (self-acceptance, autonomy, environmental control, relationships with others, life purpose, personal development).

The hypothesis regarding the quantitative dimension of the current study is as follows:

\( H_1 \) Individuals participating in the PPBOGC program (experimental group) will have a significant increase in their.

\( H_2 \) Psychological well-being,

\( H_3 \) Self-compassion,

\( H_4 \) Hope scores compared to those who did not participate in this program (placebo and control group), and this increase will continue to be effective in the follow-up measurements to be made 2 months after the completion of the application.

In the qualitative dimension of the study, an answer to the following question was sought:

(1) What are the gains of the participants taking part in the PPBOGC program at the end of the application?

2 Method

2.1 Research Design

The current study, which examines the effects of the positive psychology-based group counselling program on the psychological well-being, self-compassion and hope levels of the mothers having children with intellectual disabilities, is a mixed-design research having quantitative and qualitative dimensions. In the quantitative dimension of the study, a 3 × 3 factorial quasi-experimental design based on the experimental, placebo and control group pre-test, post-test and follow-up test was used. In this design, the first factor represents the experimental treatment groups (experimental, placebo, and control groups), and the second factor represents repeated measures of the dependent variable (pre-test, post-test, and
follow-up test) (Büyüköztürk, 2002). In the qualitative dimension of the study, the phenomenological design based on individual interview data was used to determine the experiences and gains of the participants in the experimental group during the group counselling process and to support the quantitative findings.

As seen in Table 1, the PPBOGCP developed by the researcher and consisting of 10 sessions was applied to the participants in the experimental group. In parallel with the experimental group, ten-session group guidance on addictions (alcohol, tobacco, technology, substance, drugs, shopping) was conducted with the participants in the placebo group. No intervention was made to the control group. After the sessions were completed, the scales were applied to the experimental, placebo and control groups as post-tests. Two months after the application of the post-tests, the same scales were applied to all the groups as follow-up tests in order to test whether the effect of positive psychology-based group counselling on the mothers’ psychological well-being, self-compassion and hope levels was independent from the time effect and was long-lasting.

### 2.2 Study Group

The study group of the current research is comprised of 35 individuals who were selected from among the mothers of 114 individuals who had moderate and severe intellectual disabilities and were educated in the 2019–2020 school year on the basis of the survey data and the research criteria. Sample selection was made from within the institution where the researcher works in terms of applicability. In order to determine the experimental, placebo and control groups, information about the purpose, duration and process of the study was given and the Psychological Well-Being Scale, Self-Compassion Scale and Dispositional Hope Scale were administered to the volunteers by the researcher himself.

When the preliminary measurements of the survey data obtained from 114 people were made, 39 people who fell one standard deviation below the arithmetic mean from the Psychological Well-Being, Self-Compassion and Dispositional Hope scales were randomly distributed to the experimental, placebo and control groups to be 13 in each group. Four people who stated that they would have difficulty in meeting the requirements of online interview during the process left the groups and the final form of the groups was as follows: 12 people in the experimental group, 11 people in the placebo group and 12 people in the control group.

| Groups            | Pre-test | Intervention                               | Post test | Follow-up test |
|-------------------|----------|--------------------------------------------|-----------|----------------|
| Experimental group| PWBS     | Positive Psychology-Based Group Counseling Program | PWBS      | PWBS           |
|                   | DHS      |                                            | DHS       | DHS            |
|                   | SCS      |                                            | SCS       | SCS            |
| Placebo group     | PWBS     | Group Guidance not Based on any Theory     | PWBS      | PWBS           |
|                   | DHS      |                                            | DHS       | DHS            |
|                   | SCS      |                                            | SCS       | SCS            |
| Control group     | PWBS     | No Intervention                            | PWBS      | PWBS           |
|                   | DHS      |                                            | DHS       | DHS            |
|                   | SCS      |                                            | SCS       | SCS            |

*PWBS* psychological well-being scale, *DHS* dispositional hope scale, *SCS* self-compassion scale
2.3 Characteristics of the PPBOGC Program

The PPBOGC program prepared within the context of the current study aims to improve the psychological well-being, self-compassion and hope levels of the mothers having children with moderate and severe intellectual disabilities. Ryff’s (1989a) Multi-dimensional Psychological Well-Being Model and Diener et al. (2010) psychological well-being studies were taken as the basis for the psychological well-being variable, Awareness-Based Self-Compassion Programs introduced to the literature by Kristin Neff (Bluth et al., 2016; Jazaieri et al., 2014; Neff & Germer, 2013; Shapira & Mongrain, 2010) were taken as the basis for the self-compassion variable and Snyder’s (2002) Hope Theory and Peseschkian’s (2002) studies were taken as the basis for the hope variable.

The sessions of the program have an infrastructure developed by the researcher on the basis of positive psychology in order to develop the strengths of individuals and help them focus on positive developments in life conditions by addressing the sub-dimensions of psychological well-being (self-acceptance, personal development, autonomy, relationships with others, environmental control, life purpose), self-compassion and hope.

In the development of the program, based on the above-mentioned approaches together with a comprehensive literature review, the needs of a mother having a child with intellectual disability were reviewed and a 10-week draft program was prepared. Sessions are arranged to last 60–90 min. The content of each session was arranged according to the stages of mood control, summary of the previous session, examination of assignments, session content, verbal evaluations, assignment of homework, summarization, general evaluation and ending. Then, necessary permissions were obtained from Osmangazi University Ethics Committee and İstanbul Provincial Directorate of National Education in order to conduct pilot and experimental applications of the study.

During the pilot application covering 10 sessions, variables such as the comprehensibility of the sessions, whether the activities used were functional, and whether the time was sufficient to reach the gains were examined. In the pilot application, the sessions were recorded with a tape-recorder and then transcribed. Through this method, supervision was received from the thesis advisor after each session and the sessions were finalized.

The researcher made some changes in the group counseling program as predicted by the thesis advisor, making use of the experiences, observations and feedback of the participants during the pilot application and gave the program its final shape.

In Table 2, the outline of the program is given:

2.4 Data Collection Tools

Quantitative and qualitative data collection tools used in the current study are given below.

2.4.1 Socio-Demographic Information Form

It is an information collection form prepared by the researcher in order to collect socio-demographic information about the participants and to identify various variables that may affect their psychological well-being, self-compassion and hope levels. In the form, there are questions to elicit information about the mother’s age, marital status, education level,
| Sessions                        | Goals and objectives                                                                 | Activities done                                                                 |
|--------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 1st session construction       | Construction of the Group  
2. Informing about the positive psychology-based group counselling application | 1. Reading the story “Patient standing on one leg” (Sari, 2015)                  |
| 2nd session strengths          | Enabling group members to recognize their strengths                                  | 1. Preparing your own poster activity  
2. Character strengths and virtues activity (Peterson & Seligman, 2004) |
| 3rd Session self-acceptance and acceptance of the past | Helping the individual to evaluate himself/herself and his/her past positively and accepting his/her negative sides with an awareness of them | 1. African shield activity (Robinson et al., 1994) |
| 4th Session getting to know feelings | 1. Group members’ getting to know their feelings and recognizing the emotional reflections of life events  
2. Increasing emotional expression and acceptance skills of group members by increasing their emotional and physical awareness of positive and negative emotions | 1. Positive emotion (Fredrickson, 2006)  
2. Emotion diary activity (Grenberg, 2004) |
| 5th session self-compassion    | 1. Ensuring that group members are free from self-judgmental criticism, have the ability to look at themselves positively, and accept that the problems they experience are a common part of humanity and that they are not alone  
2. Improving the mindfulness skills of group members | 1. The Activity of Behaviour Patterns in Social Relationships (Neff, 2017)  
2. The Critical, Criticized and Compassionate Observer Activity (Neff, 2017)  
3. Self-Compassion Break (Neff, 2017) |
| 6th session relationships with others | Recognizing social relationships/support mechanisms and understanding their positive effects | 1. Social atom activity (Altınay, 2016) |
| 7th session thanksgiving       | Increasing the positive life experiences of group members by making them aware of the beauties and positive things they already have | 1. Thanksgiving visit activity (Seligman et al., 2005)  
2. Thanksgiving diary activity |
| 8th session optimism           | Gaining the ability to look at problems from a positive perspective by making use of the healing power of optimism | 1. Dream story activity (Peseshkian, 1999)  
2. Yellow and Black Colour Cards |
| 9th session hopeful life       | Being able to produce ways to reach the desired goals and being motivated to take action by using these ways | 1. A Door Closes - A Door Opens activity (Rashid, 2008)  
2. Balance model activity (Peseshkian, 2002) |
| 10th session saying goodbye and ending | Evaluation of the gains of the group members during the sessions and ending the sessions with positive emotions | 1. Strengths discovery activity |
employment and economic status, and the number of children and the age and gender of the child with intellectual disability.

### 2.4.2 Psychological Well-Being Scales

The Turkish validity and reliability studies of the Psychological Well-Being Scales developed by Ryff (1989b) and used to determine the psychological well-being levels of the participants in the current study were conducted by Akın (2008). Based on the six-dimensional model of psychological well-being, Ryff (1989b) developed an 84-item measurement tool with six subscales and fourteen items in each subscale. High scores taken both from the whole scale and each subscale indicate that the individual has the characteristics defined in the whole scale or in the related dimension. When the correlations between the total scores and sub-scores taken from the Turkish version and original version of the psychological well-being scales were examined, it was calculated to be 0.94 for the autonomy sub-dimension, 0.97 for the environmental control sub-dimension, 0.96 for the positive relationships with others dimension, 0.97 for the personal development sub-dimension, 0.96 for the life purposes sub-dimension and 0.95 for the self-acceptance sub-dimension (Akın, 2008). The internal consistency coefficients of the scale were found to be 0.87 and 0.96 for the Turkish version, and the Cronbach alpha coefficient for this study was found to be 0.80.

### 2.4.3 Self-Compassion Scale

The validity and reliability studies of the Self-Compassion Scale (SCS), which was developed by Neff (2003b) and used to determine the self-compassion levels of the participants in the current study, were conducted by Deniz et al. (2008) on university students. The original Self-Compassion Scale consists of 26 items and 6 sub-dimensions. However, it was determined that the Turkish Self-Compassion Scale, unlike the original, showed a one-dimensional structure and at the same time, it consisted of 24 items with 2 items discarded (1st and 22nd items) because they were below 0.30 in the item-total correlation (Deniz et al., 2008). The internal consistency coefficient of the scale was calculated to be 0.89 and the test–retest correlation was calculated to be 0.83. The criterion-related validity of the Self-Compassion Scale was found to be $r = 0.62$ with the self-esteem scale, $r = 0.48$ with the negative affect scale, $r = 0.41$ with the positive affect scale and $r = 0.45$ with life satisfaction scale. In the current study, the scale was applied to 114 people and the Cronbach alpha coefficient was found to be 0.78.

### 2.4.4 Dispositional Hope Scale

In the current study, the Dispositional Hope Scale developed by Snyder et al. (1991) and applied to individuals aged 15 and over was used to determine the hope levels of the participants. Adaptation studies to Turkish culture were carried out by Bacanlı and Tarhan (2015) on university students. The scale has 12 items gathered under 2 sub-dimensions. With the sum of the scores obtained from the sub-dimensions, the total score from the scale is obtained. According to the adaptation study of Bacanlı and Tarhan (2015), 61% of the total variance was explained in the exploratory factor analysis of the scale. The following values were obtained from the confirmatory factor analysis; GFI = 0.96, AGFI = 0.92, RMR = 0.08, NNFI = 0.94, RFI = 0.90, CFI = 0.96 and RMSEA = 0.077. The internal consistency coefficient of the scale was found to be 0.84. In the test–retest measurements, a
high level of correlation was found at the level of $r=0.78$ for the pathways sub-dimension, at the level of $r=0.81$ for the agency sub-dimension and at the level of $r=0.86$ for the whole scale. In the current study, the scale was administered to 114 people and the Cronbach alpha coefficient was found to be 0.91 for the whole scale, 0.89 for the pathways sub-dimension, and 0.76 for the agency sub-dimension.

2.4.5 Semi-Structured Interview Form

Within the context of the current study, a semi-structured interview form consisting of one main question and three sub-questions prepared by the researcher was used in order to evaluate the effectiveness of the program at the end of the experimental application and to explain the quantitative findings. With the interview form, it was aimed to obtain supporting data regarding the problems of the study.

For the content validity of the questions in the semi-structured interview form, the questions in the interview form were determined by taking the opinions of three experts in the field of guidance and psychological counselling. In order to check the comprehensibility of the interview questions, a pilot study was conducted with 3 participants who were not in the study group. At the end of the examinations, taking into account the level of the participants, care was taken to ensure that the questions were not too many and long, and the interview form was given its final form.

2.5 Data Analysis

After the collection of the data from the survey application, pre-test, post-test and follow-up test applications for the quantitative analysis of the current study, SPSS 17 program package was used and the significance level was taken as 0.05. During the analysis of the data, first, the statistics of normal distribution were examined to determine whether to use parametric or non-parametric tests. In the analyses used to determine whether the data were distributed normally, skewness and Kurtosis values were used and as the group size is smaller than 50, Shapiro–Wilk normality test was used. Levene’s test was used to examine the homogeneity of variance regarding the measurement distributions of the groups (Büyüköztürk, 2017).

As a result of the preliminary analyses, the use of parametric tests was deemed to be appropriate and it was decided to use the “Two-Factor Analysis of Variance for Repeated Measurements on a Single Factor” technique, which allows unrelated measurements of the treatment groups and repeated measurements for time-dependent changes, and is also used to test the time*intervention joint effect (Büyüköztürk, 2016). At the stage of using this technique, attention was paid to the assumptions of homogeneity of the variances of the groups and sphericity, and alternative adjustments were made in cases where the assumptions could not be met.

Before evaluating the effectiveness of the experimental procedure, the “One-Way Analysis of Variance (ANOVA)” was used to examine whether the pretest measurements of the experimental, placebo and control groups regarding the Psychological Well-Being, Hope and Self-Compassion variables showed a significant difference.

In order to examine the behavioural and emotional outputs of the PPBOGC process, content analysis was preferred in the data analysis part of the individual interviews held at the end of the sessions. In the data analysis stage, firstly, the data obtained from the participants were read and coded one by one, and secondly, the codes were classified according to
their similarities and differences and themes were formed. Third, the suitability of themes and codes was revised. Finally, the themes were finalized and the themes were interpreted. Numerical values such as percentages or the proportion of the responses to the total were not used.

3 Findings

3.1 Findings From the Quantitative Analyses and Their Interpretations

Quantitative data of the study were collected through the Psychological Well-Being, Self-Compassion and Dispositional Hope Scales administered to the experimental, placebo and control groups as pre-test, post-test and follow-up test. Before the analyses, the suitability of the pre-test, post-test and follow-up test scores of the participants in the experimental, placebo and control groups for the parametric assumptions was examined. Normality assumptions were examined by calculating skewness and kurtosis values, then Shapiro–Wilk test data were also given because the sample size was smaller than 50 (Büyüköztürk, 2017). The obtained values are presented in Table 3.

When the descriptive statistics given in Table 3 are examined, it is seen that most of the skewness and Kurtosis values calculated with the data obtained from the administration of the SC, DH and PWB scales to the experimental, placebo and control groups as pre-test, post-test and follow-up test were found to be within the acceptable range of ±2 for social sciences (George & Mallery, 2010). In addition, according to Kline (2015), values in the range of ±3 for skewness and in the range of ±10 for Kurtosis indicate that the values are within the ranges of normal distribution.

In order to evaluate the assumption of normal distribution in a holistic way in the measurements made, it was decided to examine the significance values. Since the sample size is smaller than 50 (Büyüköztürk, 2017), the Shapiro–Wilk test data are also included in Table 4.

When Table 4 is examined, it is seen that the values obtained for the dependent variable for all the groups do not show a statistically significant difference \( p > 0.05 \). As a

| Measure- | Scale | Experimental group (n = 12) | Placebo group (n = 11) | Control group (n = 12) |
|----------|-------|-----------------------------|------------------------|------------------------|
|            | Skew  | Kurt | Skew  | Kurt | Skew  | Kurt |
| 1         | PWBS  | 0.88 | −0.54 | −1.5  | 0.45  | −1.31 | 0.66 |
|           | DHS   | −0.6 | −0.13 | −0.17 | −0.60 | 0.04  | −0.81 |
|           | SCS   | 0.64 | 0.21  | 1.23  | 0.70  | 0.24  | −0.93 |
| 2         | PWBS  | −0.36 | −1.04 | 2.55  | 3.10  | −0.79 | −0.22 |
|           | DHS   | −0.23 | −0.87 | −1.17 | 0.46  | −0.66 | −0.51 |
|           | SCS   | 0.29 | −0.97 | −1.03 | 0.20  | −0.49 | 0.64 |
| 3         | PWBS  | 0.13 | 0.18  | 0.39  | −0.43 | −0.23 | −0.70 |
|           | DHS   | −0.08 | 1.11  | 0.68  | 0.87  | 0.05  | 0.56 |
|           | SCS   | −1.27 | −0.11 | 1.67  | 1.03  | 0.29  | 0.19 |

The Kurtosis and skewness coefficients given in the table are the values obtained by dividing them by their standard errors. Skewness and kurtosis values that are not within the range of ±2 are written in bold.

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result of the evaluation of the obtained results together with the values given in Table 4, it was accepted that the scores obtained from the Psychological Well-Being (PWB), Self-Compassion (SC) and Dispositional Hope (DH) scales showed a normal distribution for all the groups.

Another assumption that must be satisfied for the use of parametric tests is the assumption of homogeneity of variance (Büyüköztürk, 2016). The homogeneity of variance of the scores taken from the administration of the PWB, SC and DH scales as pretest, posttest and follow-up test to all the groups was examined with the Levene test, and the results are given in Table 5:

When the values obtained by the experimental, placebo and control groups regarding the homogeneity of variance given in Table 5 as a result of the administration of the scales as pre-test, post-test and follow-up test were examined, it was determined that there was no significant difference between the variances of the groups in general, except for the measurements of F = 5.132, p < 0.05 for PWBS, F = 5.039, p < 0.05 for SCS and F = 4.213, p < 0.05 for SCS. In other words, the variances of the scores of

Table 4  Shapiro–Wilk normality test values calculated for the data obtained from the administration of the SC, DH and PWB scales to the experimental, placebo and control groups as pre-test (1), post-test (2) and follow-up test (3)

| Measurements | Scale | Experimental group (n = 12) | Placebo group (n = 11) | Control group (n = 12) |
|--------------|-------|----------------------------|-----------------------|-----------------------|
|              | W     | sd  | p    | W     | sd  | p    | W     | sd  | p    |
| 1            | PWBS  | 0.945 | 12 | 0.565 | 0.920 | 11 | 0.317 | 0.902 | 12 | 0.166 |
|              | DHS   | 0.957 | 12 | 0.738 | 0.962 | 11 | 0.802 | 0.954 | 12 | 0.699 |
|              | SCS   | 0.964 | 12 | 0.844 | 0.957 | 11 | 0.737 | 0.947 | 12 | 0.587 |
| 2            | PWBS  | 0.935 | 12 | 0.440 | 0.840 | 11 | 0.031* | 0.952 | 12 | 0.671 |
|              | DHS   | 0.934 | 12 | 0.428 | 0.912 | 11 | 0.259 | 0.949 | 12 | 0.628 |
|              | SCS   | 0.945 | 12 | 0.559 | 0.902 | 11 | 0.195 | 0.984 | 12 | 0.995 |
| 3            | PWBS  | 0.974 | 12 | 0.947 | 0.969 | 11 | 0.872 | 0.922 | 12 | 0.304 |
|              | DHS   | 0.925 | 12 | 0.331 | 0.918 | 11 | 0.298 | 0.969 | 12 | 0.905 |
|              | SCS   | 0.894 | 12 | 0.133 | 0.921 | 11 | 0.330 | 0.950 | 12 | 0.635 |

*p < 0.05

Table 5  The results of the variance homogeneity (levene) test obtained from the administration of the scales as pre-test, post-test and follow-up test to the experimental, placebo groups and control groups

| Scales | Measurements | n  | Sd1 | Sd2 | F     | p    |
|--------|--------------|----|-----|-----|-------|------|
| PWBS   | Pre-test     | 35 | 2   | 32  | 1.988 | 0.154 |
|        | Post-test    | 35 | 2   | 32  | 5.132 | 0.012*|
|        | Follow-up    | 35 | 2   | 32  | 1.635 | 0.211 |
| DHS    | Pre-test     | 35 | 2   | 32  | 2.216 | 0.125 |
|        | Post-test    | 35 | 2   | 32  | 0.572 | 0.57  |
|        | Follow-up    | 35 | 2   | 32  | 0.644 | 0.532 |
| SCS    | Pre-test     | 35 | 2   | 32  | 2.182 | 0.129 |
|        | Post-test    | 35 | 2   | 32  | 5.039 | 0.013*|
|        | Follow-up    | 35 | 2   | 32  | 4.213 | 0.024*|

*p < 0.05
the experimental, placebo and control groups regarding the dependent variables show homogeneity across the measurements in general.

In the preliminary analyses made before testing the hypotheses, it was observed that the resulting distribution was close to the normal distribution when the total scores of PWBS, SCS and DHS were evaluated holistically in terms of between-groups and temporal evaluation. At the same time, when considered in terms of the Psychological Well-Being, Hope and Self-Compassion variables, it was determined that the variances of the groups showed a homogeneous distribution. Thus, the use of parametric tests was deemed to be appropriate and it was decided to use the “Two-Factor Analysis of Variance technique for Repeated Measurements on a Single Factor”, which is used to test the time*intervention joint effect, which also allows unrelated measurements of the treatment groups and repeated measurements for time-dependent changes (Büyüköztürk, 2016).

In order to be able to use the Two-Factor Analysis of Variance technique for Repeated Measurements on a Single Factor, some criteria should be met. These are the homogeneity of the variances of the groups and the sphericity assumption. In cases where these assumptions were not met, alternative adjustments were made.

Before evaluating the effectiveness of the experimental procedure, whether the pre-test measurements of the experimental, placebo, and control groups regarding the Psychological Well-Being, Dispositional Hope, and Self-Compassion variables showed a significant difference was examined by “One-Way Analysis of Variance (ANOVA)” and the results are given in Table 6.

As can be seen in Table 6, there is no significant difference between the pre-test PWBS scores, the pre-test DHS scores and the pre-test SCS scores of the three groups (\( p > 0.05 \)). When this is evaluated along with the above criteria, it can be said that all the three groups are equal in terms of PWBS total score, DHS total score and SCS total score, that is, equivalence was achieved in terms of pretest scores for the experimental application.

In the following sections of the study, the findings from the testing of the hypotheses determined in accordance with the purpose of the study will be presented. Findings for each variable will be titled and reported separately.

| Scales | Groups | n  | Χ   | Sd  | Source of variation | SS   | Df | MS  | F     | p     |
|------|--------|----|-----|-----|---------------------|------|----|-----|-------|-------|
| PWBS | Experimental | 12 | 253.41 | 7.80 | Between group       | 24.36 | 2  | 12.18 | 0.229 | 0.797 |
|      | Placebo | 11 | 254.63 | 8.78 | Within group        | 1704.37 | 32 | 53.26 |       |       |
|      | Control | 12 | 255.41 | 4.87 | Total               | 1728.74 | 34 |       |       |       |
| DHS  | Experimental | 12 | 31.75 | 1.42 | Between group       | 14.25 | 2  | 7.12  | 1.841 | 0.175 |
|      | Placebo | 11 | 33   | 1.84 | Within group        | 123.91 | 32 | 3.87  |       |       |
|      | Control | 12 | 33.16 | 2.48 | Total               | 138.17 | 34 |       |       |       |
| SCS  | Experimental | 12 | 61.33 | 7.85 | Between group       | 68.19 | 2  | 34.09 | 1.115 | 0.34  |
|      | Placebo | 11 | 64.09 | 4.20 | Within group        | 978.49 | 32 | 30.57 |       |       |
|      | Control | 12 | 64.41 | 3.34 | Total               | 1046.68 | 34 |       |       |       |

SS sum of squares, MS mean square, Df degree of freedom, F F-test
3.1.1 Quantitative Analyses and Findings Related to the Psychological Well-Being Variable

Under this heading, analyses carried out to examine the effect of the PPBOGC program on psychological well-being are included. In this connection, in order to test the first hypothesis of the study;

H1: “Individuals participating in the PPBOGC program (experimental group) will have a significant increase in their psychological well-being scores compared to those not participating in this program (placebo and control groups). This increase will continue to be effective in the follow up measurements to be made after 2 months.” In order to test the related hypothesis, both between-groups and within-groups measurements were made.

Before starting to test the hypothesis, first, the results related to the mean scores and standard deviations obtained from the pre-test, post-test and follow-up test measurements by the experimental, placebo and control groups regarding the PWBS total score are given in Table 7.

When the pre-test, post-test and follow-up test scores of the experimental, placebo and control groups regarding the PWBS total score were examined in Table 7, it was observed that some changes occurred in the arithmetic means. Whether this change was statistically significant or not was evaluated with ANOVA for repeated measurements and the results are given in Tables 8 and 9. Since the Mauchly sphericity assumption was satisfied in the values given in Table 8, the results of the Sphericity Assumed analysis are included.

As the Mauchly sphericity assumption has been satisfied in the analysis results given in Table 8 (p = 0.371 > 0.05), Sphericity Assumed values are presented in the between-groups and within-groups analyses. As can be seen in the analysis results, it was determined that the PWBS total scores of the participants in the experimental, placebo and control groups varied significantly in the pre-test, post-test and follow-up test measurements, and the partial eta square values were found to be at a large effect level (F(2,32) = 40.78; p < 0.05, η² = 0.718). In addition, regardless of the groups, it was determined that the pre-test, post-test and follow-up test mean scores of the PWBS total score measurements varied significantly from each other, and partial eta square values were found to be at a large effect level (F(2,32) = 24.28; p < 0.05, η² = 0.431). In other words, these results showed that the psychological well-being levels of the participants varied depending on the experimental procedure, regardless of the group. At the same time, it was seen that the joint effect of measurement*groups was significantly different (F(2,32) = 31.96; p < 0.05). When evaluated according to the eta square statistics, it was seen that the joint effect of the

Table 7: Descriptive Statistics based on the pre-test, post-test and follow-up test measurements regarding the PWBS total scores of the experimental, placebo and control groups

| Scale       | Groups      | n  | Pre-test | Post-test | Follow-up Test |
|-------------|-------------|----|----------|-----------|----------------|
|             |             |    | X        | Sd        | X              | Sd              | X              | Sd              |
| PWBS-total scores | Experimental | 12 | 253.41   | 7.80      | 304.00         | 21.77           | 302.7          | 18.1            |
|             | Placebo     | 11 | 254.63   | 8.78      | 249.45        | 17.54           | 250.8          | 13.6            |
|             | Control     | 12 | 255.41   | 4.87      | 255.75        | 8.57            | 255.7          | 9.9             |

Sd standard deviation
measurement*groups was at a large effect level ($\eta^2 = 0.666$). In other words, these results showed that the psychological well-being scores of the participants in the experimental, placebo and control groups obtained in the pre-test, post-test and follow-up test measures varied. In order to determine the source of the difference, the “Bonferroni correction for multiple comparisons” test was performed. The obtained results are given in Table 9.

When the values based on the binary comparisons of the measurements taken simultaneously from the experimental, placebo and control groups are evaluated as a whole, it is seen that the means obtained by the experimental group from both the post-test and follow-up test measurements are higher than the means of the placebo and control groups from the post-test and follow-up test measurements. When the differences between the follow-up test measurements of the groups were evaluated, it was observed that the psychological well-being levels of the individuals in the experimental group varied significantly within the 2-month follow-up period after the completion of the experimental process from those of the individuals in the placebo and control groups. In other words, two months after the completion of the experimental application, it was seen that the significant effect of the application on the psychological well-being levels of the individuals in the experimental group continued compared to the individuals in the placebo and control groups. When the within-groups measurements were examined, it was seen that the post-test and follow-up test scores of the experimental group regarding the PWBS total score varied significantly from their pretest scores. In addition, it was observed that there was no difference between the pre-test, post-test and follow-up test measurements of the PWBS total scores of the placebo and control groups.

These findings revealed that the hypothesis “Individuals participating in the PPBOGC program (experimental group) will have a significant increase in their psychological well-being scores compared to those who did not participate in this program (placebo and control groups), and this increase will continue to be effective in the follow-up measurements to be made 2 months after the completion of the application” was supported.

### 3.1.2 Quantitative Analyses and Findings Related to the Self-Compassion Variable

Under this heading, analyses carried out to examine the effect of the PPBOGC program on self-compassion levels are included. In this connection, in order to test the second hypothesis of the study;

| Source of variation | SS     | Df | MS       | F      | p      | $\eta^2$ |
|---------------------|--------|----|----------|--------|--------|---------|
| Between group       | 12,082.616 | 34 | 4339.114 | 40.78  | 0.000  | 0.718   |
| Groups (E/P/C)      | 8678.228 | 2  | 4339.114 | 40.78  | 0.000  | 0.718   |
| Error (Measure)     | 3404.388 | 32 | 106.387  |        |        |         |
| Within group        | 26,869.216 | 70 |          |        |        |         |
| Measure (P/P/F)     | 5427.235 | 2  | 2713.618 | 24.28  | 0.000  | 0.431   |
| Measure*Groups      | 14,289.653 | 4  | 3572.413 | 31.96  | 0.000  | 0.666   |
| Error               | 7152.328 | 64 | 111.755  |        |        |         |

SS sum of squares, Df degree of freedom, MS mean square, F F-test, $\eta^2$ partial eta square
Table 9  Results of the binary comparison (With Bonferroni Correction) conducted on the PWBS total scores obtained from the administration of the scale to the experimental, placebo and control groups as pre-test, post-test and follow-up test

|                  | Experimental group |                      | Placebo group |                      | Control group |                      |
|------------------|--------------------|----------------------|---------------|----------------------|---------------|----------------------|
|                  | Pre-test           | Post-test            | Follow-up     | Pre-test             | Post-test     | Follow-up            |
|                  | Mean Dif.(I-J)     | Mean Dif.(I-J)       | Mean Dif.(I-J)| Mean Dif.(I-J)       | Mean Dif.(I-J)| Mean Dif.(I-J)       |
| Experimental     |                    |                      |               |                      |               |                      |
| Pre-test         |                    |                      |               |                      |               |                      |
| Post-test        | −50.58*            | −49.33*              | 1.250         |                      | 54.54*        |                      |
| Follow-up        |                    |                      |               |                      | 51.93*        | 48.25*               |
| Placebo          |                    |                      |               |                      |               |                      |
| Pre-test         |                    |                      |               |                      | 5.18          | 3.81                 |
| Post-test        |                    |                      |               |                      | −1.36         |                      |
| Follow-up        |                    |                      |               |                      |               | −47*                 |
| Control          |                    |                      |               |                      | −0.333        | −0.333               |
| Pre-test         |                    |                      |               |                      | 0.000         |                      |
| Post-test        |                    |                      |               |                      |               |                      |
| Follow-up        |                    |                      |               |                      |               |                      |

*p < 0.05
H2: “Individuals participating in the PPBOGC program (experimental group) will have a significant increase in their self-compassion scores compared to those not participating in this program (placebo and control groups). This increase will continue to be effective in the follow-up measurements to be made after 2 months.” In order to test the related hypothesis, both between-groups and within-groups measurements were made.

Before starting to test the hypothesis, first, the results related to the mean scores and standard deviations obtained from the pre-test, post-test and follow-up test measurements by the experimental, placebo and control groups regarding the SCS total score are given in Table 10.

When the pre-test, post-test and follow-up test scores of the experimental, placebo and control groups regarding the SCS total score were examined in Table 10, it was observed that some changes occurred in the arithmetic means. Whether this change was statistically significant or not was evaluated with ANOVA for repeated measurements and the results are given in Table 11 and Table 12. Since the Mauchly sphericity assumption was satisfied in the values given in Table 11, the results of the Greenhouse–Geisser corrected analysis are included.

As the Mauchly sphericity assumption has been satisfied in the analysis results given in Table 11 (p = 0.001 < 0.05), Greenhouse–Geisser values are presented in the between-groups and within-groups analyses. As can be seen in the analysis results, it was determined that the SCS total scores of the participants in the experimental, placebo and control groups varied significantly in the pre-test, post-test and follow-up test measurements, and

| Table 10 | Descriptive statistics based on the pre-test, post-test and follow-up test measurements regarding the SCS total scores of the experimental, placebo and control groups |
|----------|--------------------------------------------------------------------------------------------------|
| Scale    | Groups                  | n   | Measurements | Pre-test | Post-test | Follow-up test |
|          |                        |     |             | X        | Sd        | X            | Sd    |
| SCS      | Experimental           | 12  | 61.33       | 7.85     | 81.91     | 6.51         | 82   | 6.67 |
|          | Placebo                | 11  | 64.09       | 4.20     | 63.54     | 7.27         | 64.27| 5.25 |
|          | Control                | 12  | 64.41       | 3.34     | 63.91     | 2.87         | 63.91| 3.05 |

| Ss standard deviation |

| Table 11 | Results of the repeated measurements ANOVA conducted on the total SCS scores obtained from the administration of the scale as pre-test, post-test and follow-up test to the experimental, placebo and control groups |
|----------|--------------------------------------------------------------------------------------------------|
| Source of variation | SS | Df | MS | F | p  | η² |
| Between group | 1368.52 | 34 | 481.849 | 38.08 | 0.000 | 0.704 |
| Groups (E/P/C) | 963.697 | 2 | 481.849 | 38.08 | 0.000 | 0.704 |
| Error (Measure) | 404.823 | 32 | 12.651 |
| Within group | 5064.963 | 70 | 707.159 | 19.17 | 0.000 | 0.375 |
| Measure (P/P/F) | 1030.696 | 1.458 | 794.017 | 21.53 | 0.000 | 0.574 |
| Measure*Groups | 2314.585 | 2.915 | 740.017 | 21.53 | 0.000 | 0.574 |
| Error | 1719.682 | 64 | 26.870 |

SS sum of squares, Df degree of freedom, MS mean square, F F-test, η² partial eta square
Table 12 Results of the binary comparison (With Bonferonni Correction) conducted on the SCS total scores obtained from the administration of the scale to the experimental, placebo and control groups as pre-test, post-test and follow-up test

|                      | Experimental group              | Placebo group                  | Control group                |
|----------------------|---------------------------------|--------------------------------|-----------------------------|
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |
|                      | Pre-test Mean Dif.(I-J)         | Post-test Mean Dif.(I-J)       | Follow-up Mean Dif.(I-J)    |

*Experimental*

|                | Pre-test | Post-test | Follow-up |
|----------------|----------|-----------|-----------|
| Pre-test       | −20.58*  | −20.66*   | 18.37*    |
| Post-test      | −0.08    |           |           |
| Follow-up      | 17.72*   |           | 18*       |

*Placebo*

|                | Pre-test | Post-test | Follow-up |
|----------------|----------|-----------|-----------|
| Pre-test       | 0.54     | −0.18     |           |
| Post-test      |          | −0.72     |           |
| Follow-up      |          |           | 18.08*    |

*Control*

|                | Pre-test | Post-test | Follow-up |
|----------------|----------|-----------|-----------|
| Pre-test       | 0.50     | 0.50      | 0.00      |
| Post-test      |          |           |           |
| Follow-up      |          |           |           |

*p < 0.05
the partial eta square values were found to be at a large effect level \( (F(2,32) = 38.08; \ p < 0.05, \ \eta^2 = 0.704) \). In addition, regardless of the groups, it was determined that the pre-test, post-test and follow-up test mean scores of the SCS total score measurements varied significantly from each other, and partial eta square values were found to be at a large effect level \( (F(2,32) = 19.17; \ p < 0.05, \ \eta^2 = 0.375) \). In other words, these results showed that the self-compassion levels of the participants varied depending on the experimental procedure, regardless of the group. At the same time, it was seen that the joint effect of measurement*groups was significantly different \( (F(2,32) = 21.53; \ p < 0.05) \). When evaluated according to the eta square statistics, it was seen that the joint effect of the measurement*groups was at a large effect level \( (\eta^2 = 0.574) \). In other words, these results showed that the self-compassion scores of the participants in the experimental, placebo and control groups obtained in the pre-test, post-test and follow-up test measures varied.

In order to determine the source of the difference, the “Bonferroni correction for multiple comparisons” test was performed. The obtained results are given in Table 12.

When the values based on the binary comparisons of the measurements taken simultaneously from the experimental, placebo and control groups are evaluated as a whole, it is seen that the means obtained by the experimental group from both the post-test and follow-up test measurements are higher than the means of the placebo and control groups from the post-test and follow-up test measurements. When the differences between the follow-up test measurements of the groups were evaluated, it was observed that the self-compassion levels of the individuals in the experimental group varied significantly within the 2-month follow-up period after the completion of the experimental process from those of the individuals in the placebo and control groups. When the within-groups measurements were examined, it was seen that the post-test and follow-up test scores of the experimental group regarding the SCS total score varied significantly from their pre-test scores. In addition, it was observed that there was no difference between the pre-test, post-test and follow-up test measurements of the SCS total scores of the placebo and control groups.

These findings revealed that the hypothesis “Individuals participating in the PPBOGC program (experimental group) will have a significant increase in their self-compassion scores compared to those who did not participate in this program (placebo and control groups), and this increase will continue to be effective in the follow-up measurements to be made 2 months after the completion of the application” was supported.

### 3.1.3 Quantitative Analyses and Findings Related to the Hope Variable

Under this heading, analyses carried out to examine the effect of the PPBOGC program on hope levels are included. In this connection, in order to test the third hypothesis of the study;

\( H_3 \): “Individuals participating in the PPBOGC program (experimental group) will have a significant increase in their hope scores compared to those not participating in this program (placebo and control groups). This increase will continue to be effective in the follow-up measurements to be made after 2 months.” In order to test the related hypothesis, both between-groups and within-groups measurements were made.

Before starting to test the hypothesis, first, the results related to the mean scores and standard deviations obtained from the pre-test, post-test and follow-up test measurements by the experimental, placebo and control groups regarding the DHS total score are given in Table 13.
When the pre-test, post-test and follow-up test scores of the experimental, placebo and control groups regarding the DHS total score were examined in Table 13, it was observed that some changes occurred in the arithmetic means. Whether this change was statistically significant or not was evaluated with ANOVA for repeated measurements and the results are given in Table 14 and Table 15. Since the Mauchly sphericity assumption was satisfied in the values given in Table 14, the results of the Sphericity Assumed analysis are included.

As the Mauchly sphericity assumption has been satisfied in the analysis results given in Table 14 \((p=0.657>0.05)\), the Sphericity Assumed values are presented in the between-groups and within-groups analyses. As can be seen in the analysis results, it was determined that the DHS total scores of the participants in the experimental, placebo and control groups varied significantly in the pre-test, post-test and follow-up test measurements, and the partial eta square values were found to be at a large effect level \((F(2.32)=67.50; p<0.05, \eta^2=0.808)\). In addition, regardless of the groups, it was determined that the pre-test, post-test and follow-up test mean scores of the DHS total score measurements varied significantly from each other, and partial eta square values were found to be at a large effect level \((F(2.32)=20.15; p<0.05, \eta^2=0.386)\). In other words, these results showed that the dispositional hope levels of the participants varied depending on the experimental procedure, regardless of the group. At the same time, it was seen that the joint effect of measurement*groups was significantly different \((F(2.32)=23.25; p<0.05)\). When evaluated according to the eta square statistics, it was seen that the joint effect of the measurement*groups was at a large effect level.

**Table 13** Descriptive statistics based on the pre-test, post-test and follow-up test measurements regarding the DHS total scores of the experimental, placebo and control groups

| Scale         | Groups | n  | Measurements          | Pre-test | Post-test | Follow-up test |
|---------------|--------|----|-----------------------|----------|-----------|----------------|
|               |        |    |                       | X        | Sd        | X              | Sd        | X              | Sd        |
|               |        |    | DHS-total scores      |          |           |                |           |                |           |
| Experimental  | 12     |    | 31.75                 | 1.42     | 43.83     | 3.15           | 44.41     | 4.07           |
| Placebo      | 11     |    | 33                    | 1.84     | 31        | 4.24           | 32.63     | 3.17           |
| Control      | 12     |    | 33.16                 | 2.48     | 33.41     | 3.11           | 34        | 2.62           |

Sd standard deviation

**Table 14** Results of the repeated measurements ANOVA conducted on the total DHS scores obtained from the administration of the scale as pre-test, post-test and follow-up test to the experimental, placebo and control groups

| Source of variation | SS     | Df | MS    | F  | p   | \(\eta^2\) |
|---------------------|--------|----|-------|----|-----|------------|
| Between-group       | 1819.63| 34 | 57.39 | 0  | 0.000 | 0.808     |
| Groups (E/P/C)      | 407.615| 2  | 203.808| 67.50| 0.000 | 0.808     |
| Error (Measure)     | 96.607 | 32 | 3.019 |    |      |           |
| Within-group        | 5064.963| 70 |       |    |      |           |
| Measure (P/P/F)     | 371.669| 2  | 185.835| 20.15| 0.000 | 0.386     |
| Measure*Groups      | 857.820| 4  | 214.455| 23.25| 0.000 | 0.592     |
| Error               | 590.141| 64 | 9.221 |    |      |           |

SS sum of squares, Df degree of freedom, MS mean square, F F-test, \(\eta^2\) partial eta square
Table 15 Results of the binary comparison (With Bonferonni Correction) conducted on the DHS total scores obtained from the administration of the scale to the experimental, placebo and control groups as pre-test, post-test and follow-up test

|                | Experimental group | Placebo group | Control group |
|----------------|--------------------|---------------|---------------|
|                | Pre-test           | Post-test     | Follow-up     | Pre-test           | Post-test     | Follow-up     |
|                | Mean Dif.(I-J)     | Mean Dif.(I-J)| Mean Dif.(I-J)| Mean Dif.(I-J)     | Mean Dif.(I-J)| Mean Dif.(I-J)|
| Experimental   |                    |               |               |                    |               |               |
| Pre-test       | −12.08*            | −12.66*       |               |                    |               |               |
| Post-test      |                    | −0.58         |               |                    |               |               |
| Follow-up      |                    |               | 12.83*        | 11.78*             | 10.41*        |
| Placebo        |                    | 0.200         | 0.36          |                    | 10.41*        |
| Post-test      |                    |               | −1.63         |                    |               |
| Follow-up      |                    | 0.25          | −0.83         | −0.58              |               |
| Control        |                    | 0.25          | −0.83         | −0.58              |               |

*p < 0.05
In other words, these results showed that the self-compassion scores of the participants in the experimental, placebo and control groups obtained in the pre-test, post-test and follow-up test measures varied.

In order to determine the source of the difference, the “Bonferonni correction for multiple comparisons” test was performed. The obtained results are given in Table 15.

When the values based on the binary comparisons of the measurements taken simultaneously from the experimental, placebo and control groups are evaluated as a whole, it is seen that the means obtained by the experimental group from both the post-test and follow-up test measurements are higher than the means of the placebo and control groups from the post-test and follow-up test measurements. When the differences between the follow-up test measurements of the groups were evaluated, it was observed that the dispositional hope levels of the individuals in the experimental group varied significantly within the 2-month follow-up period after the completion of the experimental process from those of the individuals in the placebo and control groups. When the within-groups measurements were examined, it was seen that the post-test and follow-up test scores of the experimental group regarding the DHS total score varied significantly from their pre-test scores. In addition, it was observed that there was no difference between the pre-test, post-test and follow-up test measurements of the DHS total scores of the placebo and control groups.

These findings revealed that the hypothesis “Individuals participating in the PPBOGC program (experimental group) will have a significant increase in their hope scores compared to those who did not participate in this program (placebo and control groups), and this increase will continue to be effective in the follow-up measurements to be made 2 months after the completion of the application” was supported.

### 3.2 Findings from the Qualitative Analysis and their Interpretations

In this part of the study, the data obtained through individual interviews conducted with participants in the experimental group who participated in the positive psychology-based group counselling program are presented. Individual interviews were conducted with 10 participants by telephone, and the interviews were audio recorded. The interview participants were asked the following questions in the interview:

(a) What changes did the group counselling application you took part in cause in you?
(b) What did you recognize about yourself?
(c) What did you recognize about your relationships with your environment?
(d) What changes occurred in your perception of your life?

The data obtained from the interviews were analyzed with content analysis and the obtained findings are presented in Table 16.

As can be seen in Table 16, the opinions expressed during the interviews by the participants who took part in the positive psychology-based group counselling application were gathered around the categories (themes) of “Learning how to cope with, Recognizing the sources of support, Positive perception-acceptance, Empathy and Development”. Thus, it can be argued that the individuals participating in the experimental group were positively affected by the PPBOGC program and that the data are therapeutically meaningful.
According to the results of the current study, the PPBOGC program was found to have significant effects on the psychological well-being, self-compassion and hope levels of the mothers having children with intellectual disabilities. In other words, it can be said that the

| Themes                          | Statements from the interview participants                                                                                                                                 |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning how to cope with      | It raises our awareness. In fact, we do not see what is in front of our eyes. Because of our children, we are no longer able to see the good. We are learning to see the good sides. The “Balance” activity we did last, for example, I realized that I did not distribute my energy in a balanced manner. I even applied this to my friends later. We learned to look at the bright side (K5) I really learned to let go. I learned to ignore things (K6) We look at life negatively like this, more pessimistic. But I learned to look optimistically, at peace with life. I learned that I need to distance myself from the troubled people in my life (K8) |
| Recognizing the sources of support | I remembered my past experiences. I thought about what they taught me. My mind was always busy with something. We need to think about what the result will be when we adopt an optimistic view and what will happen when we adopt a pessimistic view. We need to be content with what we have. When I saw other people, I recognized I was in better conditions. I realized that I never thought of myself. I’ve always ignored myself. I cared about others too much. I need to find ways of feeling better. House cleaning was a routine chore (K4) |
| Empathy                        | First of all, your questions were very good for me psychologically. I eagerly awaited Thursday. I realized my shortcomings. I also got to know my friends better. For example, it was in a program, we were saying, “have you ever put yourself on the shoes of the other side?” It was really nice. We learned that bad temper harms its possessor most. I used to try to empathize; now I look at my environment more empathetically. Also, we should not seek for the negative sides rather positive sides of a person. It made me feel like a special person. I questioned myself (K7) We were already special mothers there. We were people understanding each other I felt more relaxed. I learned how to accept the existing conditions. I learned to accept as it is, rather than rebelling. Everyone has their own character. We need to be in the middle; we need to see everything (K10) |
| Development                    | I have completed my missing parts. We talked about everything and I was relieved. It does not come to my mind any more (K9) |
| Positive perception-acceptance | It made me have a positive outlook on life. Whatever happens to you, you will live. You have to live. You will accept. Somehow we have to live this life (K1) You realize that you are alive. You feel like you have to hold on to life. It came to me in my bad times. It supported me: I got rid of my stress. When I saw the problems of my friends, I thought my conditions are good. I listened to the problems of my friends. I thought there were people who were in worse conditions than me. I learned to look positive (K3) |
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PPBOGC program was effective in increasing the psychological well-being, self-compassion and hope levels of the mothers in the experimental group compared to the mothers in the placebo and control groups. It was seen that the answers given in the interviews by the participants in the experimental group of the study to determine the gains they achieved at the end of the PPBOGC program were gathered around the categories (themes) of “Learning how to cope with, Recognizing the sources of support, Positive perception-acceptance, Empathy and Development”. Thus it was concluded that the individuals participating in the experimental group were positively affected by the PPBOGC program and the data were therapeutically meaningful.

When the literature was reviewed, similar findings were found to support the significant effect of the PPBOGC program on the measures of psychological well-being (Carr et al., 2020; Chakhssi et al., 2018; Drozd et al., 2014; Huber et al., 2017; Koydemir & Selüşık, 2016; Weiss et al., 2016; Zadeh & Sajjadian, 2016). In the study in which internet-based positive psychology interventions were examined by creating experimental and control groups, Drozd et al. (2014) found positive and promising effects of interventions that addressed gratitude, pleasant activities, strengths, mastery, optimism, flow, and mindfulness, on well-being, supporting the findings of the current study. Koydemir and Selüşık (2016) observed a significant increase in the psychological well-being of the participants in the 8-week strength-based intervention program built on the use of character strengths, flow and gratitude. Zadeh and Sajjadian (2016), in their study based on pretest, posttest and follow-up test design, reported that positive group interventions had significant effects on psychological well-being, resilience and happiness.

In meta-analysis studies on the effects of positive psychology interventions, studies supporting the research findings were also found. Weiss et al. (2016) investigated 27 studies having a total of 3579 participants and focused on the effect of positive psychology interventions and discovered that there were small positive effects of positive psychology interventions on the psychological well-being of the participants. In a meta-analysis study by Carr et al. (2020) in which they examined 347 studies with more than 72,000 participants, positive psychology interventions were found to have small to moderate effects on positive concepts such as psychological well-being (g = 0.39), strengths (g = 0.46), quality of life (g = 0.48). According to Myrick (1997), group counselling provides the individual with more support than he/she can get from his/her environment, as it allows intense interaction. Individuals feel that they are not alone by taking part in groups where common problems are discussed. The parents of individuals with intellectual disabilities can find a way out in coping with the problems with the professional support they receive.

When the studies encountered in the literature were examined, it was seen that the experimental programs developed were focused on strengths, gratitude, developing positive relationships, optimism and hope in line with the interventions of the PPBOGC program. Unlike other studies, the program’s addressing past achievements, developing self-compassion and raising awareness of emotions are strong components that explain the significant effect. On the other hand, it is thought that the importance attached to using character strengths both as a session and as homework in all the sessions had an important role in the effect on well-being. On the other hand, according to Ryff (1989a), one of the important indicators of psychological well-being is the ability to create a purpose for life, which was discussed in the 1st and 9th sessions of the PPBOGC program. The goals determined according to Peseschkian’s (2002) balance model show that individuals should live their lives in a balanced way in terms of body, success, relationship and spirituality, so that they can be healthy and productive (Aypay & Kara, 2018). For this reason, it is thought that the development of the participants’ ability to set goals in the specified life
areas is important. In addition, the continuation of the significant effect in 2-month follow-up period can be explained by the fact that the program has a structure of 10 sessions and 10 weeks and includes many positive psychology interventions.

Given that self-compassion is a changeable feature that offers a potential coping resource for parents (Neff & Germer, 2013), the purpose of the current study is to increase the self-compassion levels of the mothers having children with intellectual disabilities. When the studies encountered in the literature were examined, similar studies were found that supported the significant effect of the PPBOGC program on the concept of self-compassion (Bazzano et al., 2013; Bögels et al., 2010; Dijikstra et al., 2019; Duran, 2014; Finlay-Jones et al., 2017; Neff & Faso, 2014; Neff & Germer, 2013).

In the study conducted by Bögels et al. (2010) in which they examined the effects of mindfulness-based interventions on the self-compassion levels of the parents having children with autism, positive increases were observed. Bazzano et al. (2013), on the other hand, found that mindfulness training for the parents of children with intellectual disabilities increased self-compassion and well-being and reduced stress. In another experimental study, the effect of the 8-session psycho-education program developed by Duran (2014) on the self-compassion and subjective well-being levels of the parents having children with intellectual disabilities was examined, and it was observed that the self-compassion levels of the parents increased at the end of the study. The content of the programs developed based on self-compassion primarily includes the awareness of the individual’s emotions, the awareness of the inherent good aspects and the awareness of other people’s experiences. The fact that the PPBOGC program includes these contents in 10 sessions with various activities and that the qualitative results are gathered around the categories of “empathy, development, acceptance and awareness of support resources” shows that results are consistent with the literature. As a result, the structure of the PPBOGC program including these interventions showed that the effect on self-compassion was consistent with the existing research in the literature.

In the literature review, findings similar to the significant effect of the PPBOGC program on the hope levels of the participants were found (Alarcon et al., 2013; Batık, 2012; Celana et al., 2020; Farnam, 2016; Kulbaş, 2015; Neff & Faso, 2014). Kulbaş (2015) investigated the effects of group counselling on the hopelessness and self-efficacy levels of the mothers having children with autism and found as a result of the pretest and postest measurements that the hopelessness levels of the mothers decreased and their self-efficacy levels increased. According to the results of a positive psychology-based program on emotion recognition, created by Ananpatiwet and Blauw (2016) in Thailand to increase the happiness of the parents having children with autism spectrum disorder, it was observed that the parents’ hope improvement skills and acceptance of the disorder increased. In the content of the PPBOGC program, it was aimed for the mothers to recognize their emotions and to raise awareness of their positive and negative emotions. When we examined the qualitative findings of the current study, it was seen that a theme consisting of the mothers’ statements was “Acceptance”. As a result, the findings of the current study concur with the findings reported in the literature.

According to Alarcon et al. (2013) meta-analysis study on optimism and hope, it was seen that optimism and hope are related to each other as the indicators of psychological and physical well-being. One of the interventions addressed in the PPBOGC program is optimism and the other is life purpose and hope. When we examine the results of the current study, the interventions of the PPBOGC program comes to the fore in terms of increasing the hope levels of the mothers. Neff and Faso (2014), in their study on the parents having autistic children, show that high self-compassion level increases parents’ hope levels.
for the future. As a matter of fact, the compatibility between the results of the programs developed in the literature and the findings of the current research shows that the PPBOGC program is an effective program in increasing the hope levels of the mothers having children with intellectual disabilities.

In light of the results obtained in the current study, it can be argued that the PPBOGC program provided a development opportunity for mothers having children with intellectual disabilities and opportunities to recognize support resources, to cope with problems, to have a positive outlook, to empathize, to create goals, and to develop self-compassion. Here, it is thought that the holistic structure of the PPBOGC program, which includes many positive psychology concepts with proven effectiveness, its 10-session application process, and the possibilities such as universality, interpersonal relations and social support created by group psychological counselling were effective. As a result of the examinations, when the results obtained in the literature and the quantitative and qualitative findings of the current study were compared, it was seen that similar results emerged.

5 Limitations and Suggestions

One of the important limitations of the study is that the study group consisted of the mothers having children with moderate and severe intellectual disabilities who were attending a special education application school affiliated to the Ministry of National Education. In this context, it is suggested to conduct further studies on individuals selected from a larger sample, such as individuals with autism, down syndrome, and learning disability, in order to test the effectiveness of the program. Another limitation is that the study group consisted of only mothers. For this reason, researchers and practitioners are suggested to measure the effect of the PPBOGC program on fathers and other members of the family. The mothers in the experimental and placebo groups are the mothers who can provide the necessary environmental conditions and technological infrastructure. However, one of the limitations of online consultancy is the possibility of technological disruptions. For this reason, problems arose in the ability of 2 participants in the experimental group to attend 2 sessions. In future studies, it is recommended to test the effectiveness of the program with face-to-face studies. Finally, the monitoring of the PPBOGC program in a 2-month follow-up period is also a limitation. In this connection, it is thought that follow-up studies spread over a longer period of time will increase the effectiveness of the program.

6 Conclusion

When the quantitative and qualitative findings of the study were evaluated together, it was seen that the positive psychology-based group counselling program was effective in terms of improving the psychological well-being, self-compassion and hope levels of the mothers having children with intellectual disabilities.

Author Contributions Author Contributions ER designed, developed and implemented this research as part of his doctoral dissertation. NÖ ensured that a professional publication was included in the literature by transferring his expert knowledge at every stage of the research.
Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and comparable ethical standards. Eskişehir Osmangazi University Social and Human Sciences Scientific Research and Publication Ethics Committee declared in its letter dated 28.10.2020 numbered 2020–20, the compliance of the study with ethical standards.

Informed Consent Before the study, informed consent was obtained from each participant who will take part in the research process, which includes information to be able to meet and accept the online application requirements. Participants who did not give consent were excluded from the study.

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