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Evlilik Öncesi Müdahalelerin Evli Çiftlerde İlişki Memnuniyeti Üzerindeki Etkisi: Bir Sistematik Derleme ve Meta-Analiz Çalışması

The Effect of Pre-Marital Interventions on Relationship Satisfaction Among Married Couples: A Systematic Review and Meta-Analysis

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ÖZET

Amaç: Bu derlemenin temel amacı, evlilik öncesi çiftlere yönelik yapılan müdahalelerin evlendikten sonra kadın ve erkeğin ilişki memnuniyetine etkisini rutin durumla karşılaştırarak değerlendirmektir. İkinci amaç ise, ilişki memnuniyeti artırmaya yönelik yapılan evlilik öncesi müdahalelerin en etkin olanını belirlemek, etkili müdahalelerin uygulama süresi, formatı ve şekli, ana bileşenleri ve teorik çerçevenin kullanımı açısından temel özelliklerini saptamaktır.

Materyal ve Metot: Bu meta-analizde, Sistematik İncelemeler ve Meta-Analiz protokolleri için Tercih Edilen Raporlama Öğeleri beyan yönergelerine uygun olarak 5 arama motoru kullanılarak randomize kontrollü çalışmalar ve deneysel çalışmalar tarandı. Toplamda 886 evlilik öncesi süreçte olan katılımcı içeren 9 çalışma belirlendi. 3 çalışmada birden fazla grup olduğu için 14 sonucu birleştirmek için rastgele etkiler modeli ile CMA programında değerlendirilmiştir.

Bulgular: İlişki memnuniyetine etkisine bakan 9 çalışmada Q istatistiklerinin anlamlı olmadığı (p>.001, Q =42.289 ile df=13), I^2=69.25 olarak hesaplandığı ve ortalama etki büyüklüğü 0.020 (Random), %95 güven aralığı 0.149-0.022 olarak bulunmuştur (p=0,894).

Tartışma ve Sonuç: Evlilik öncesi çiftlere yönelik müdahalelerin evlilik sonrası ilişki memnuniyeti üzerindeki genel etkisi istatistiksel olarak anlamlı bulunmamıştır. Bununla birlikte, çalışmalar arasında gözlenen heterojenlik, müdahale etkilerinin program özellikleri ve katılımcıların bireysel ve bağlamsal özelliklerine göre farklılaşabileceğini düşündürmektedir. Evlilik öncesi müdahalelerin ilişki memnuniyeti üzerindeki uzun dönemli etkilerini ve etkililiğini belirlemek için metodolojik açıdan güçlü, standartlaştırılmış ve uzun süreli izlem içeren araştırmalara gereksinim vardır.

Anahtar Kelimeler: Evlilik öncesi müdahale, Evli çiftler, İlişki memnuniyeti, Meta-analiz

ABSTRACT

Objective: This review aims to evaluate the impact of premarital interventions on relationship satisfaction among married couples by comparing them with usual care. The secondary objective is to identify the most effective premarital intervention for increasing relationship satisfaction, and to determine the key characteristics of such interventions in terms of their duration, format, delivery method, core components, and theoretical framework.

Material and Methods: For this meta-analysis, randomised controlled trials and experimental studies were identified using five search engines in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A total of nine studies involving 886 participants in the premarital process were identified. As three studies included multiple groups, 14 outcomes were pooled using a random-effects model in the CMA programme.

Results: Of the nine studies examining the effect on relationship satisfaction, none of the Q statistics were significant ($p > 0.001$, $Q = 42.289$, $df = 13$). I^2 was calculated as 69.25%, the average effect size was 0.020 (random), and the 95% confidence interval was 0.149–0.022 ($p = 0.894$).

Discussion and Conclusions: The overall effect of premarital interventions on postmarital relationship satisfaction was not found to be statistically significant. However, the heterogeneity observed across studies suggests that the effects of these interventions may depend on the characteristics of the programme and its participants. Methodologically robust, standardised studies with long-term follow-up are needed to determine the long-term effects and effectiveness of premarital interventions on relationship satisfaction.

Keywords: Premarital intervention, Married couples, Relationship satisfaction, Meta-analysis

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INTRODUCTION

Marriage is recognised by the laws of every country and is considered the defining element of the family unit (1). It is a significant social institution that is closely linked to individuals' psychological well-being, life satisfaction and overall health (2). However, the sustainability of marriage as an institution in modern societies is facing serious challenges due to changing demographic structures, economic dynamics and evolving social norms.

Researchers have implemented various interventions related to marriage worldwide in response to changes in family formation and dissolution. These interventions are designed to monitor the effects on relationship satisfaction, conflict resolution and strengthening relationship bonds (3). In this context, pre-marital intervention programmes have been developed. These programmes offer structured interventions that focus on areas such as communication skills, conflict resolution, managing expectations, problem-solving and attitudes towards the relationship. The aim is to help couples start their married life feeling better prepared.

Various theoretical approaches, such as attachment theory, the family stress model and the vulnerability-stress-coping model, are used in the literature to explain the effect of different intervention programmes on relationship satisfaction (4). A previous meta-analysis of 47 studies in this field reported that premarital education programmes did not significantly improve relationship quality or satisfaction (5). However, approximately sixteen years have passed since the meta-analysis in question was published, during which time numerous new studies using different intervention models and methodological approaches have been published in various countries. Therefore, it is important to update the existing evidence, re-evaluate previous findings and determine the current effect size, both to update the body of scientific knowledge and to develop evidence-based family and marriage counselling practices. The aim of this study is to systematically synthesise the diverse and heterogeneous findings in the literature in order to determine the effect size of premarital intervention programmes on relationship satisfaction. The findings are expected to inform evidence-based decision-making processes regarding the planning, implementation and evaluation of premarital education and counselling programmes. They are also expected to serve as an important scientific reference for future intervention studies. In this context, the study aimed to answer the following question: 'What is the effect size of premarital intervention programmes on couples' relationship satisfaction after marriage?'

MATERIALS AND METHODS

Study Aims

The primary objective of this review is to evaluate the impact of premarital interventions on relationship satisfaction among married couples. The secondary objective is to identify effective premarital interventions aimed at increasing relationship satisfaction and determine their key characteristics in terms of the theoretical framework used.

Study Design

This study involved a meta-analysis. The researchers defined their review methods in advance and registered the protocol with the International Prospective Register of Systematic Reviews (PROSPERO) (registration number CRD42025127494). The study adhered to the guidelines outlined in the Cochrane Handbook, Version 6.2 (6), and the PRISMA 2020 checklist (7) was employed to ensure the systematic review and meta-analysis were reported in a transparent manner.

Type of Intervention

For this meta-analysis, any type of intervention administered to premarital couples was defined as an intervention type, compared to the control group. This study examined the effectiveness of interventions administered to premarital couples in various settings on their relationship satisfaction after marriage, as reported in experimental studies. The interventions were conducted either in groups or individually, either once or at multiple time points, either in person or by telephone, or with the support of e-technologies. Educational interventions consisted solely of structured, organised or goal-oriented programmes combining information and practical skills.

Population and Sample

This study was conducted between 15 December 2025 and 31 May 2026. Articles for inclusion in the study were searched for in the PubMed, Scopus, Web of Science, Google Scholar and Dergipark databases. The search period spans from the beginning of the database to 31 May 2026. The following keywords were used in the searches: 'premarital', 'pre-marital', 'pre-marriage', 'preparation for marriage', 'premarital intervention', 'premarital practice', 'relationship satisfaction' and 'satisfaction'. Reference lists, grey literature sources and major academic websites were reviewed for additional literature and known studies were included.

Inclusion Criteria

The inclusion criteria for the studies were determined according to the PICOS framework (6).

Participants (population): Couples in the premarital period.

Intervention: Structured interventions implemented before marriage, aimed at improving relationship skills or satisfaction.

Comparison: Couples who did not receive premarital counselling, those who received routine care, those on a waiting list and those in another comparison group.

Outcomes: Relationship satisfaction scores were assessed using a valid and reliable measurement tool after marriage.

Study design: Randomised controlled trials and experimental or quasi-experimental studies.

Exclusion criteria:

- Descriptive or purely observational studies.
- Publications for which the full text is not available.
- Studies published in languages other than Turkish or English;
- Studies in which the intervention was administered after marriage;
- Studies assessed as being of poor quality according to predefined quality assessment criteria.

Study Selection

To minimise the risk of potential bias in this meta-analysis, the researchers conducted a detailed literature review, study selection, data extraction and full-text study review independently. Following the removal of duplicate records and the completion of eligibility assessments, the number of records obtained from the screening was reduced to 84,325. After the study selection process, nine studies were included in the meta-analysis. As some of these studies involved more than one intervention or comparison, a total of 14 outcomes/effect sizes were evaluated. The study selection process is presented in the PRISMA 2020 flow diagram (Figure 1).

Two researchers (DA and KS) independently reviewed the full texts and data extraction forms of the nine included studies. Where necessary, the corresponding authors of the studies were contacted via email to obtain additional information regarding the relevant outcomes.

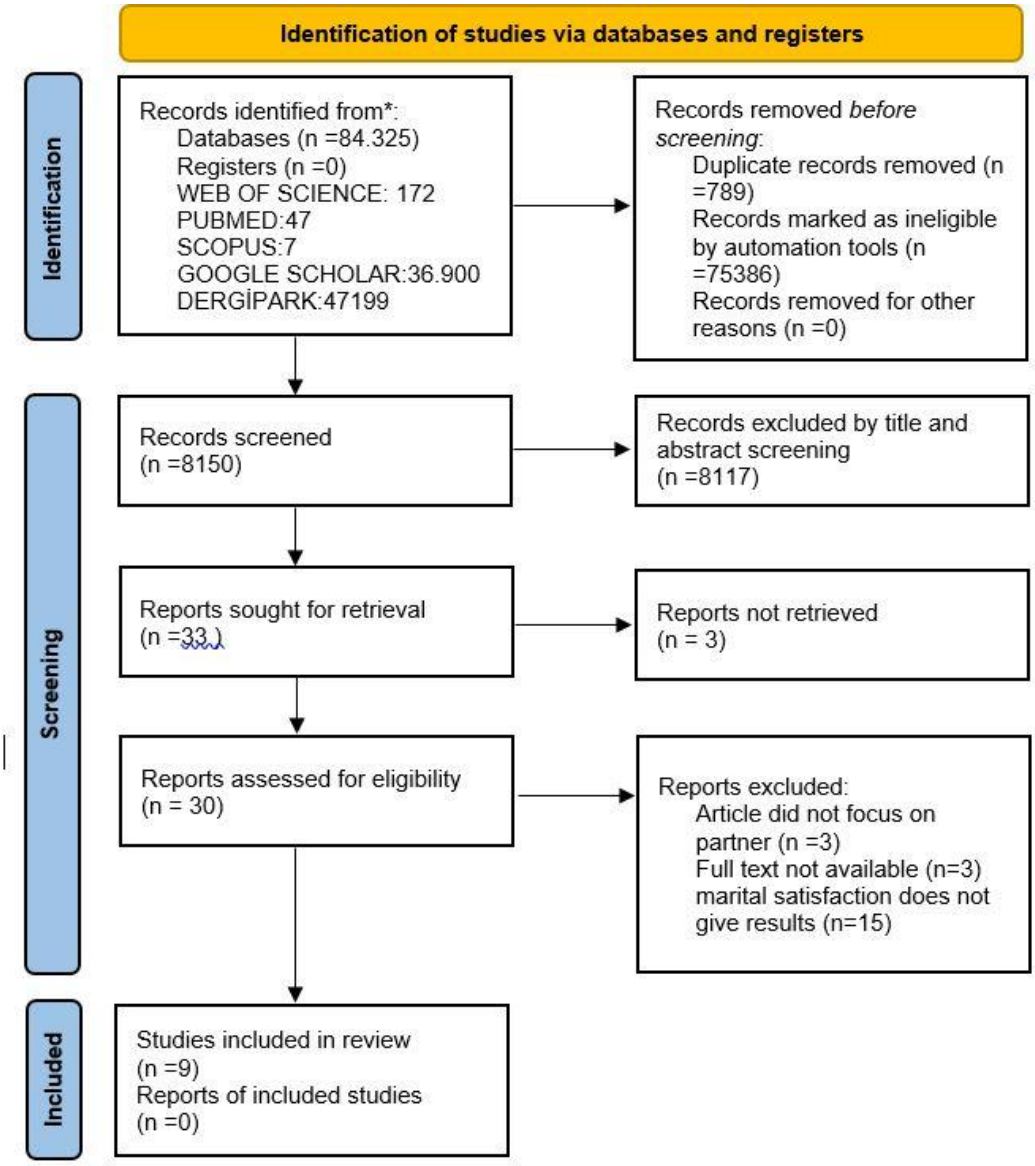


Figure 1. The PRISMA flow diagram. The current meta-analysis followed the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guideline (7).

Data Collection

In the initial phase, the researchers entered the key terms identified by them into databases at the title and abstract levels. EndNote X9 software was then used to identify and remove duplicate records. Two researchers then screened the titles and abstracts independently and excluded studies that did not meet the inclusion criteria. Following a full-text review, studies that met the inclusion criteria were included in the meta-analysis. Decisions regarding the inclusion or exclusion of studies were made independently by two researchers. Any disagreements were first resolved through discussion. In cases where consensus could not be reached, expert opinion was sought.

Risk of Bias Assessment

The risk of bias in the included studies was evaluated using the Cochrane Risk of Bias Tool (8) and the relevant methodological guidelines (9) for randomised controlled trials and quasi-experimental studies. The evaluation covered seven methodological areas: random sequence generation; allocation concealment; performance bias; detection bias; missing data bias; selective reporting bias; and other sources of bias. For each area, the risk of bias was classified into one of three categories: (1) low, (2) uncertain, and (3) high (see Figure 2). Three researchers (SK, DA and KS) conducted the risk of bias assessment for each study independently.

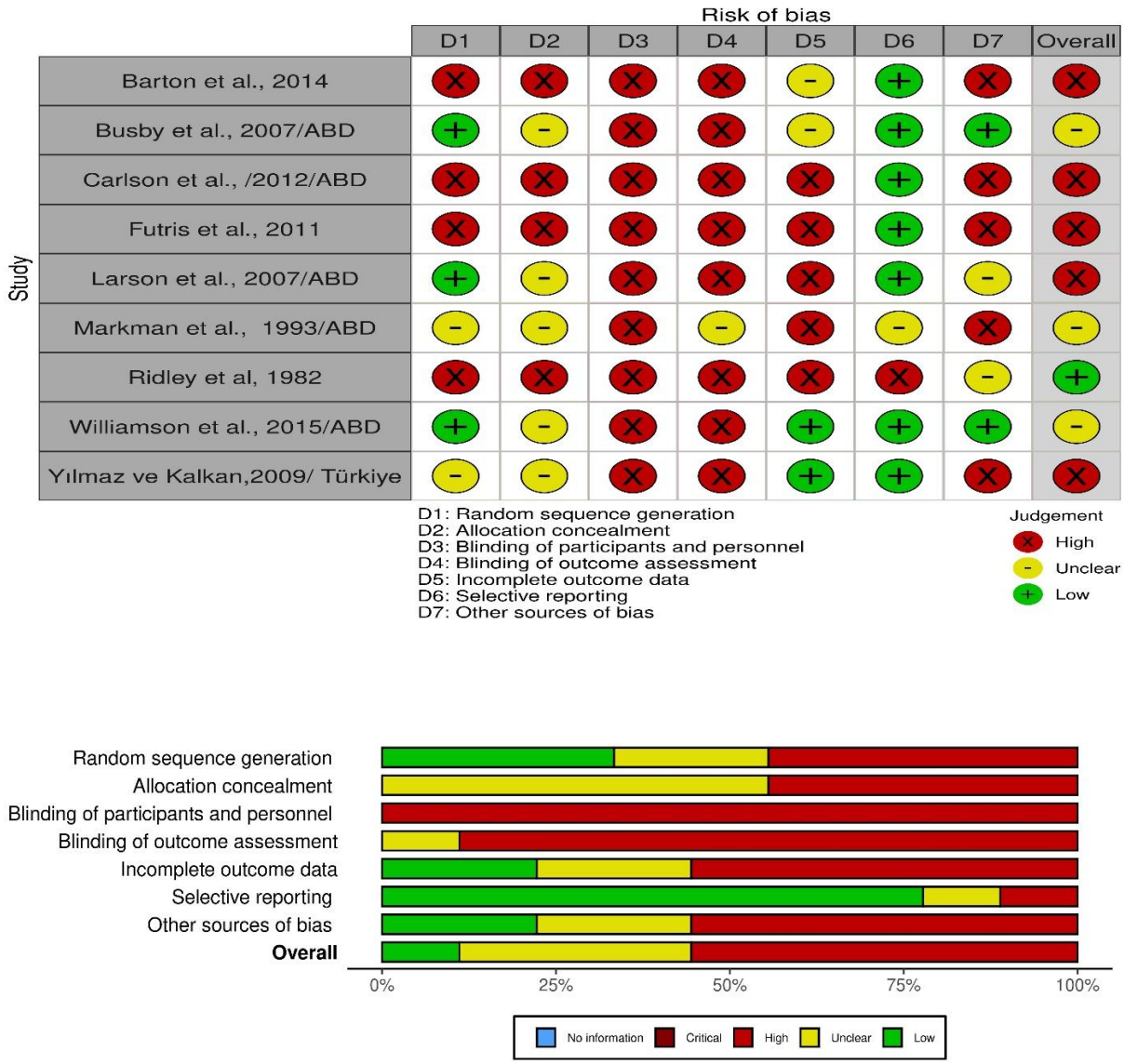


Figure 2. (a) Summary of the risk of bias. (b) Deviation risk chart.

Quality assessment

The methodological quality of the included studies was assessed by four independent researchers using the Joanna Briggs Institute (JBI) critical appraisal checklists. A validity and reliability study of the JBI tools in Turkish was conducted by Nahcivan and Seçginli, and the Cronbach's alpha coefficient was found to be moderate (10). The MAStARI (Meta-Analysis of Statistics Assessment and Review Instrument) checklist was applied to both experimental and quasi-experimental studies. In this checklist, each "Yes" response is scored as 1 point, while "No", "Not Specified" and "Not Applicable" responses are scored as 0 points. The total score ranges from 0 to 10. A high total score indicates a high level of methodological quality in the study. In this study, the inter-rater agreement kappa coefficient was calculated to be 0.94. Quality assessments were not conducted for studies in the grey literature or non-peer-reviewed reports.

Statistical Analysis

Independent variables and outcome measures

This study examined interventions administered during the premarital period as the primary independent variable influencing relationship satisfaction, the primary outcome measure. Subgroup analyses (ANOVA) were used to analyse the type of intervention, duration of implementation, content characteristics and number of studies, while meta-regression was used to examine the age of the couples. To this end, the researchers developed a standardised data collection form.

Effect size calculation

As the research question aimed to examine differences in post-marital relationship satisfaction scores between the experimental and control groups, the standardised mean difference (SMD) was chosen as the effect size measure. Well-known SMD indices include Cohen's d, Hedges' g and Glass's Δ.

The vast majority of included studies reported the mean (M), standard deviation (SD) and sample size (N) for both groups. This made it possible to calculate SMD values. Hedges' g was used as the effect size index in this meta-analysis because it corrects for bias arising from small sample sizes (11). As the study included two different treatment groups (A and B), the data were evaluated as two independent outcomes. Additionally, relationship satisfaction outcomes for women and men were analysed separately if they were reported in this way in the studies.

Data synthesis

A random effects model was used to pool the data. Subgroup analyses were performed using the Q_B statistic to determine the statistical significance of the observed variance across studies, as well as whether effect sizes differed by subgroup. As three of the studies in this

review included more than one application, multiple results were entered for these studies. A total of 14 results were analysed.

Publication bias was assessed using a funnel plot (12) and the cut-and-fill method (13). Given that there were nine studies, the Begg test and Egger's weighted regression method were also used.

Heterogeneity was assessed using the Q test and the I^2 statistic. When interpreting the I^2 value, the following thresholds were adopted as criteria for heterogeneity: 25% (low), 50% (moderate) and 75% (high). The level of significance was set at $p < 0.05$. As a high level of heterogeneity was detected in the results for men ($I^2 > 75\%$) (6), this was addressed as a limitation of the study.

All analyses were conducted using Comprehensive Meta-Analysis (CMA) software, version 3.0 (14).

RESULTS

Characteristics of Included Studies

The nine studies included in the analysis were published between 1982 and 2015. A total of 886 individuals in the premarital phase participated in the studies. The studies involved various relationship education and counselling interventions for couples in this phase. These interventions primarily focused on enhancing relationships, strengthening communication skills, managing conflict, solving problems, developing empathy, and encouraging openness. Various intervention programmes were utilised, including Relationship Enhancement (RE), PREPARE, PREP, CARE and RELATE. The interventions took the form of individual couple sessions, group-based training, therapist-guided exercises, self-directed activities and assessment-based interventions. The interventions ranged in duration from a single 2-hour session to programmes totalling 24 hours over 8 weeks. Information on the characteristics of the included studies is presented in Table 1.

Tablo 1. Characteristics of the Included Studies

Title of the study	Author of the study / year / country	Intervention name	Response time	Implementer
The relationship evaluation (relate) with therapist-assisted interpretation: Short-term effects on premarital relationships	Larson et al., 2007/ABD	Relationship Assessment Using Therapist-Guided Interpretation (RELATE)	2 hours	Postgraduate students
A Comparison of Cohabiting and Noncohabiting Couples	Carlson et al., /2012/ABD	Pre-marital couples' counselling based on the PREPARE model	8 sessions	Postgraduate student

Who Participated in Premarital Counseling Using the PREPARE Model				
Self-Directed, Therapist-Directed, and Assessment-Based İnterventions for Premarital Couples	Busby et al., 2007/ABD	Self-Directed, Therapist-Guided and Assessment-Based Intervention (RELATE)	6 hours for each intervention group	Facilitators, research assistant, family therapist
Risk Moderates the Outcome of Relationship Education: A Randomized Controlled Trial	Williamson et al., 2015/ABD	CARE, PREP and RA programmes	PREP: 16 lessons CARE: 16 lessons RA: Duration not specified	Master's and PhD students who have completed their training
Preventing Marital Distress Through Communication and Conflict Management Training: A 4-and 5-Year Follow-Up	Markman et al., 1993/ABD	Prevention and Relationship Enhancement Programme (PREP)	5 sessions of 3 hours each, totalling 15 hours	Undergraduate/postgraduate students
Relationship Enhancement With Premarital Couples: An Assessment Of Effects On Relationship Quality	Ridley et al., 1982/ABD	Relationship Enhancement (RE) = Relationship Development or Relationship Enrichment Relationship Discussion (RD) = Relationship Discussion	Each intervention group attended one session of three hours per week for eight weeks.	Postgraduate student
Changes Following Premarital Education for Couples with Differing Degrees of Future Marital Risk	Barton et al., 2014/ABD	PREPARE programme	An 8-hour group weekend workshop or joint sessions of 1–2 hours on six separate days	This is not stated in the study
The Impact of PREPARE on Engaged Couples: Variations by Delivery Format	Futris et al., 2011/ABD	PREPARE programme	Individual sessions: Once a week for 6 weeks, 90–120 minutes per session (total 9–12 hours) Weekend group workshop: A one-day, 8-hour group training session.	Certified (PREPARE) trainers

Note: As the study by Yılmaz and Kalkan (2009) is a thesis (grey literature), it has not been included in the table.

In Figures 3 and 4, publication bias in studies reporting findings on relationship satisfaction among women and men was examined.

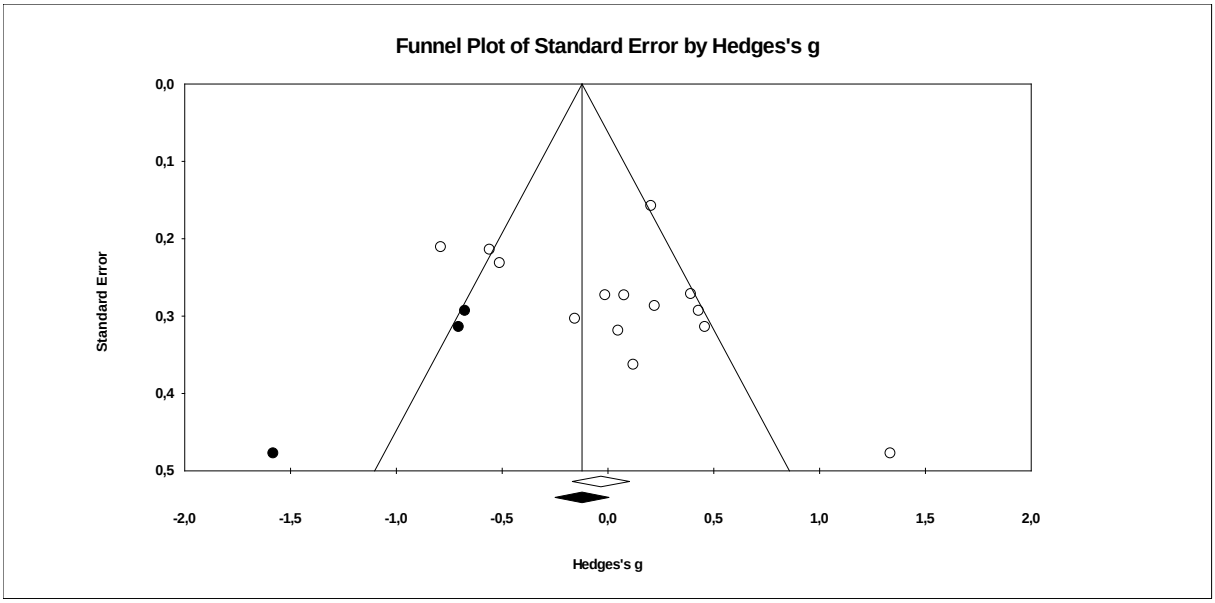


Figure 3. Funnel plot showing the results for women's relationship satisfaction (White circles represent observed studies, whilst black circles represent potential missing studies estimated using the cut-and-fill method)

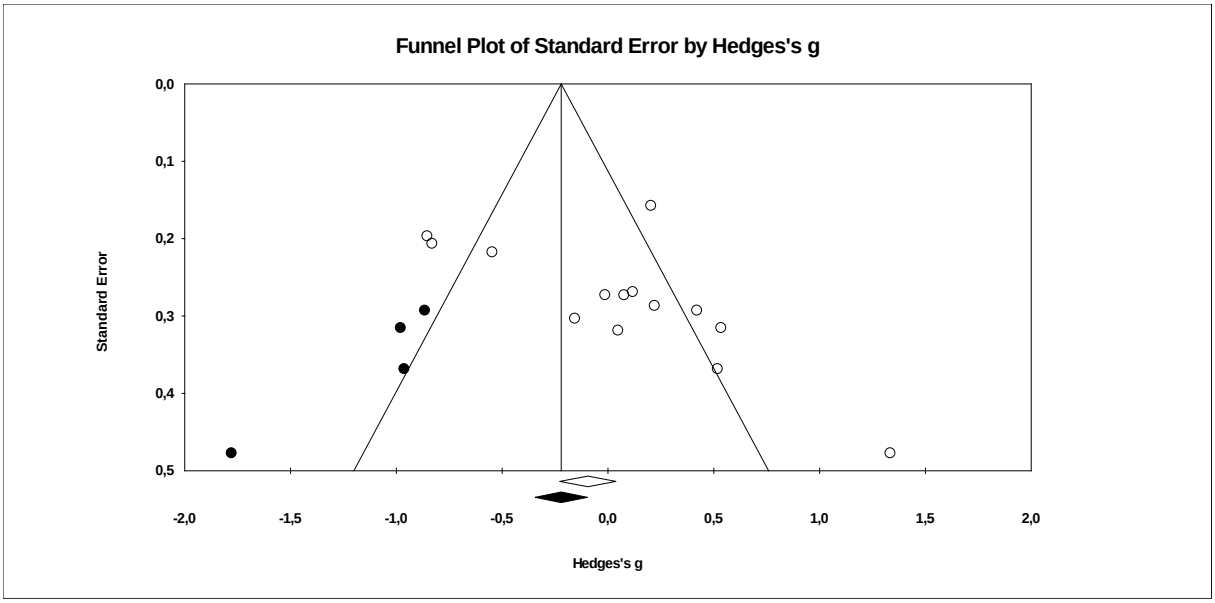
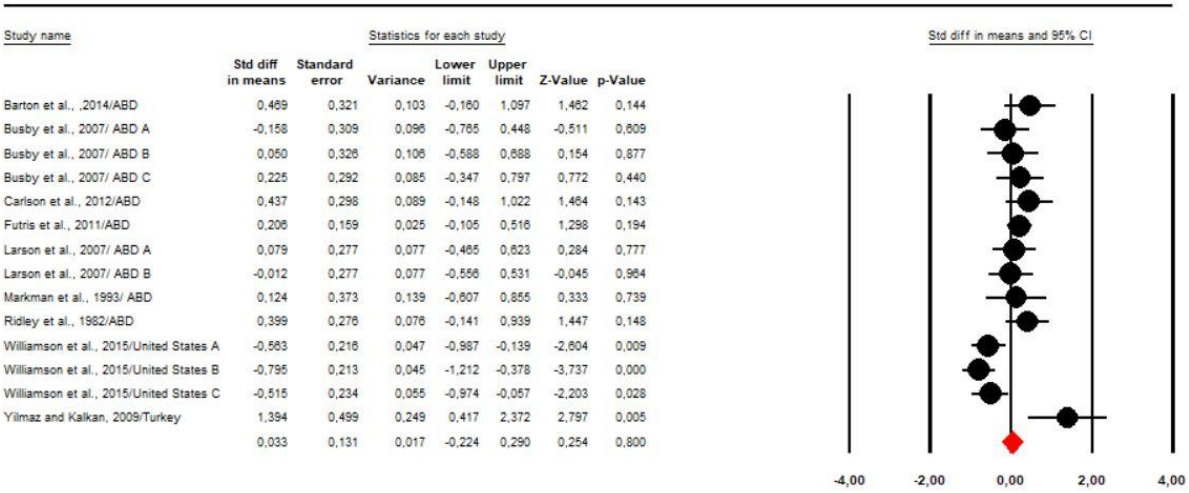


Figure 4. Funnel plot showing the results for men's relationship satisfaction (white circles represent observed studies, whilst black circles represent potential missing studies estimated using the cut-and-fill method)

Possible publication bias was assessed using Figures 3 and 4. Firstly, visual inspections were carried out using the funnel plot and trim-and-fill methods. As can be seen in the figures, the funnel plot for Hedges's values relative to the standard error indicated very weak publication bias. Meanwhile, the trim-and-fill method estimated four potential missing studies for both

Figures 3 and 4 (indicated by the black dots). This finding was also confirmed by the results of the Begg and Mazumdar test. For Figure 3, Tau = 0.307, p = 0.127, and for Figure 4, Tau = 0.417, p = 0.037. The intercept was found to be 2.927 (95% CI = −0.945–6.791, p = 0.125) for Figure 3 and 4.018 (95% CI = −0.035–8.071, p = 0.051) for Figure 4. Therefore, based on the Egger test, there is no evidence of publication bias. Overall, publication bias was not found to be a critical issue for this study. Furthermore, this study examined the adjusted effect sizes and found only minor differences between those obtained from the fixed-effects and random-effects models.

Figures 5 and 6 show a scatter plot of relationship satisfaction scores for women and men, alongside the results of the heteroscedasticity test.

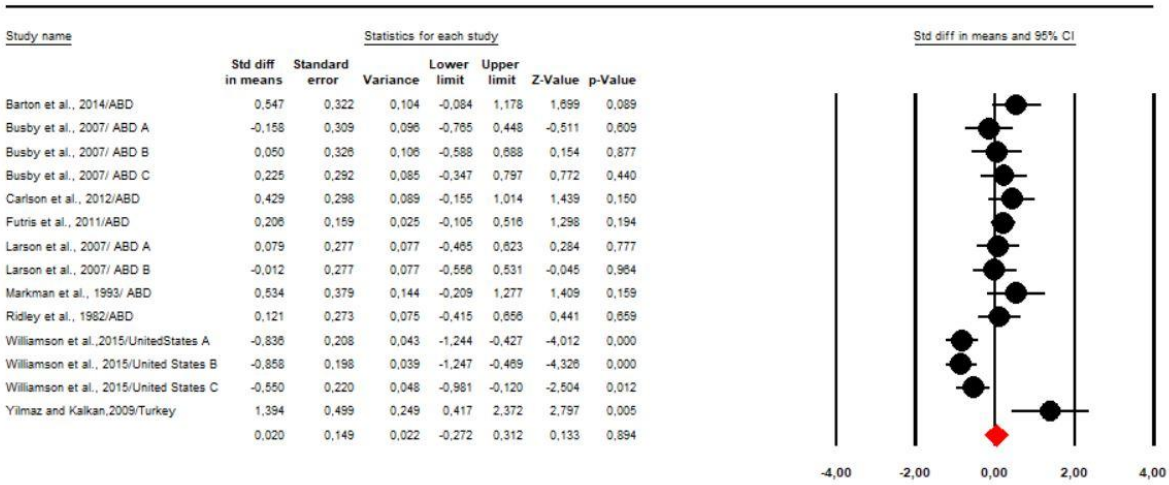


Study name	Std diff in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Barton et al., ,2014/ABD	0,469	0,321	0,103	-0,160	1,097	1,462	0,144
Busby et al., 2007/ ABD A	-0,158	0,309	0,096	-0,765	0,448	-0,511	0,609
Busby et al., 2007/ ABD B	0,050	0,326	0,106	-0,588	0,688	0,154	0,877
Busby et al., 2007/ ABD C	0,225	0,292	0,085	-0,347	0,797	0,772	0,440
Carlson et al., 2012/ABD	0,437	0,298	0,089	-0,148	1,022	1,464	0,143
Futris et al., 2011/ABD	0,206	0,159	0,025	-0,105	0,516	1,298	0,194
Larson et al., 2007/ ABD A	0,079	0,277	0,077	-0,465	0,623	0,284	0,777
Larson et al., 2007/ ABD B	-0,012	0,277	0,077	-0,556	0,531	-0,045	0,964
Markman et al., 1993/ ABD	0,124	0,373	0,139	-0,607	0,855	0,333	0,739
Ridley et al., 1982/ABD	0,399	0,276	0,076	-0,141	0,939	1,447	0,148
Williamson et al., 2015/United States A	-0,563	0,216	0,047	-0,987	-0,139	-2,604	0,009
Williamson et al., 2015/United States B	-0,795	0,213	0,045	-1,212	-0,378	-3,737	0,000
Williamson et al., 2015/United States C	-0,515	0,234	0,055	-0,974	-0,057	-2,203	0,028
Yilmaz and Kalkan, 2009/Turkey	1,394	0,499	0,249	0,417	2,372	2,797	0,005
	0,033	0,131	0,017	-0,224	0,290	0,254	0,800

Heterogenity: Tau^2=0.158; Q-Value=42.289, df=13(p=0.000), I^2=69.2596%; Test for Overall Effect: Z=-0.254 (Random), P=0.800.

Figure 5. A forest plot and heterogeneity test showing the distribution of women's relationship satisfaction scores across the studies

Figure 5 presents a forest plot summarising the effect sizes of the 14 comparisons included in the present study. In the nine studies and 14 comparisons examining the effect of relationship satisfaction, the Q-statistics were found to be non-significant (p > 0.05, Q = 42.289, df = 13), with an I^2 value of 69.25. According to the forest plot, the average effect size for the 14 comparisons examining the impact of relationship satisfaction was found to be 0.033. The 95 per cent confidence interval was found to be –0.224 to –0.284. It was also observed that the average effect size was not significantly different from zero (p = 0.800).



Study name	Std diff in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Barton et al., 2014/ABD	0,547	0,322	0,104	-0,084	1,178	1,699	0,089
Busby et al., 2007/ ABD A	-0,158	0,309	0,096	-0,765	0,448	-0,511	0,609
Busby et al., 2007/ ABD B	0,050	0,326	0,106	-0,588	0,688	0,154	0,877
Busby et al., 2007/ ABD C	0,225	0,292	0,085	-0,347	0,797	0,772	0,440
Carlson et al., 2012/ABD	0,429	0,298	0,089	-0,155	1,014	1,439	0,150
Futris et al., 2011/ABD	0,206	0,159	0,025	-0,105	0,516	1,298	0,194
Larson et al., 2007/ ABD A	0,079	0,277	0,077	-0,465	0,623	0,284	0,777
Larson et al., 2007/ ABD B	-0,012	0,277	0,077	-0,556	0,531	-0,045	0,964
Markman et al., 1993/ ABD	0,534	0,379	0,144	-0,209	1,277	1,409	0,159
Ridley et al., 1982/ABD	0,121	0,273	0,075	-0,415	0,656	0,441	0,659
Williamson et al.,2015/UnitedStates A	-0,836	0,208	0,043	-1,244	-0,427	-4,012	0,000
Williamson et al., 2015/United States B	-0,858	0,198	0,039	-1,247	-0,469	-4,326	0,000
Williamson et al., 2015/United States C	-0,550	0,220	0,048	-0,981	-0,120	-2,504	0,012
Yilmaz and Kalkan,2009/Turkey	1,394	0,499	0,249	0,417	2,372	2,797	0,005
	0,020	0,149	0,022	-0,272	0,312	0,133	0,894

Heterogenity: Tau^2=0.228; Q-Value=56.620, df=13(p=0.000), I^2=77.040%; Test for Overall Effect: Z=-0.133(Random), P=0.894.

Figure 6. A forest plot and heterogeneity test showing the distribution of relationship satisfaction scores for men across the studies

Figure 6 presents a forest plot summarising the effect sizes of the 14 studies included in the present analysis. The Q-statistics were found to be non-significant in the 14 studies examining the effect of relationship satisfaction ($p > 0.05$, $Q = 56.620$ with $df = 13$), and I^2 was calculated as 77.04%. Thus, these findings provide evidence of a very high level of heterogeneity. According to the forest plot, the average effect size for the 14 comparisons examining the impact of relationship satisfaction was 0.020, with a 95 per cent confidence interval ranging from –0.272 to 0.312. It was determined that this average effect size was not statistically different from zero ($p = 0.894$).

DISCUSSION

This meta-analysis aimed to assess the effect of interventions targeting pre-marital couples on relationship satisfaction after marriage. The analysis, which was based on nine studies comprising a total of 14 comparisons, showed that pre-marital interventions did not have a statistically significant impact on increasing relationship satisfaction for either women or men. The overall effect size calculated for women was Hedges' $g = 0.033$ (95% CI: –0.224–0.284, $p = 0.800$), whilst for men it was Hedges' $g = 0.020$ (95% CI: –0.272–0.312, $p = 0.894$). This finding suggests that pre-marital education and counselling programmes may have positive short-term effects on communication skills, conflict resolution strategies and relationship awareness. However, these effects may not directly and lastingly impact overall relationship satisfaction after marriage. Relationship satisfaction is a multidimensional construct influenced by various variables, including individual characteristics, economic circumstances, life events, having children, family support, communication patterns, and cultural factors. Therefore, it is

unrealistic to expect that interventions carried out solely during the pre-marital period will determine long-term relationship satisfaction on their own.

In a 2010 meta-analysis combining 47 similar studies, researchers found that pre-marital education programmes did not improve relationship quality or satisfaction (5). However, a systematic review of studies involving married couples shows that digital interventions are generally effective in increasing relationship satisfaction, although the effects vary across different contexts. Furthermore, this study's findings suggest that involving coaches or therapists in digital interventions increases participants' satisfaction with the programme (15). Examining the studies included in the meta-analysis individually identified two studies as having a statistically significant effect size. The first was a study conducted by Williamson and colleagues in 2015 (16). This study involved three groups. The first group (PREP) underwent a psycho-educational programme designed to strengthen relationships by teaching communication skills to couples. The second and third groups (CARE) received integrative behavioural couples therapy, while the third group (RA) took part in semi-structured discussions and were given homework following film viewings (16). A significant effect size for relationship satisfaction was calculated for all three groups ($p < 0.05$). The other study with a significant effect size was found to be the one conducted by Yılmaz and Kalkan in 2009 (17). In this study, participants received training and took part in practical activities focusing on relationship satisfaction, communication skills, problem solving, empathy, developing love and intimacy, and understanding their partner (17). When considered together, these two studies reveal that the interventions are united by their focus on improving couples' communication processes. The emphasis placed on skills such as effective communication, empathy, conflict resolution, and understanding one's partner may be one of the key factors that explains the positive changes in relationship satisfaction. Conversely, programmes based solely on knowledge transfer or with a limited practical component are unable to produce a similar impact on relationship satisfaction, suggesting that the content and delivery methods of premarital education programmes are decisive factors in determining outcomes. In conclusion, the research indicates that premarital programmes support marital adjustment, particularly in areas such as communication skills, conflict management, and the division of roles between spouses. However, it is noted that existing programmes require further development in terms of content, delivery methods, cultural adaptation, and reach (15, 18, 19).

The study revealed moderate heterogeneity among women ($I^2 = 69.3\%$) and high heterogeneity among men ($I^2 = 77.0\%$). This suggests significant methodological and clinical differences between the included studies. The types of intervention, the duration of their implementation,

the theoretical approaches adopted, the characteristics of the practitioners involved, the follow-up periods and the scales used to measure relationship satisfaction all varied across the examined studies. This heterogeneity may have resulted in the effect appearing positive in some studies and neutral in others.

The findings in the literature regarding the effectiveness of premarital interventions are also inconsistent. Some studies have reported improvements in relationship quality and marital adjustment, particularly among high-risk couples. For instance, Barton et al. (2014) found that couples in traditional, conflict-prone relationships could benefit more from premarital education, despite having lower positive scores at the beginning of the programme (20). In contrast, the effects of the intervention have been reported to be more limited in couples who are lively and harmonious. For this reason, risk-based and targeted approaches are thought to be more effective than applying premarital interventions in the same way to all couples. For instance, analyses of five-wave self-report data from 431 ethnically diverse newlywed couples living in low-income neighbourhoods revealed that women who had received premarital education were more likely to consider therapy due to higher relationship satisfaction and lower relationship distress than those who had not. However, this was not the case for men (21).

DISCUSSION AND CONCLUSION

This systematic review and meta-analysis included nine studies involving 886 participants during the pre-marital period. The pooled findings showed no statistically significant effect of pre-marital interventions on relationship satisfaction after marriage, and the near-zero overall effect size suggests that these interventions have a limited impact on satisfaction levels. However, moderate-to-high heterogeneity across studies indicates that outcomes may vary according to the content, duration and delivery of interventions, as well as the individual and cultural characteristics of participants. Therefore, the absence of a significant overall effect should not be interpreted as evidence that such interventions are universally ineffective. Relationship satisfaction is shaped by knowledge and skills acquired before marriage, as well as factors that emerge throughout married life. These include communication, conflict resolution, economic circumstances, parenting experiences, social support and cultural influences. Therefore, evaluation of their longer-term impact should consider both intervention characteristics and the changing circumstances of couples during marriage.

Future studies should employ high-quality randomised controlled trials with adequate sample sizes and clearly specify the content, duration, delivery methods and theoretical foundations of the programmes. Longer follow-up periods covering different stages of marriage are also needed to determine whether effects are sustained over time. Furthermore, research should

identify which couples benefit most and under what conditions, including examining outcomes separately for women and men, and considering couples with diverse cultural, socio-economic, and relationship-risk profiles. Potential mediating mechanisms, such as communication, conflict resolution, emotional intimacy, and relationship commitment, should also be investigated. Programmes that are tailored to couples' needs and cultural contexts, include practical skills training and supportive interventions after marriage may be more effective.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Ethics Approval and Consent

Ethical approval was not required since it was a review article.

Conflict of Interest

No conflict of interest was declared by the authors.

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All authors contributed equally to this article

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