



Article Type: Original Research

Article history:

Received 19 September 2025

Revised 22 November 2025

Accepted 08 December 2025

Published online 01 January 2026

The Effectiveness of Gottman Method Couple Therapy on Negative Interaction Cycles, Marital Friendship, and Physiological Arousal During Conflict Discussions

1. **Danielle. Laprade**^{ID}: Department of Psychology, University of Quebec at Montreal, Montreal, QC, Canada

2. **Babak. Nazarpour**^{ID}: Department of Psychology, University of Quebec at Montreal, Montreal, QC, Canada

3. **Frederick. Stanley**^{ID}*: Department of Psychology, University of Quebec at Montreal, Montreal, QC, Canada

*corresponding author's email: frederick.stanley@uqam.ca

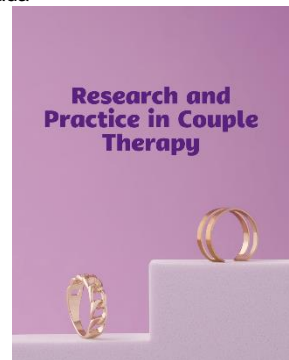
ABSTRACT

The present study aimed to investigate the effectiveness of Gottman Method Couple Therapy in reducing negative interaction cycles and physiological arousal during conflict discussions while enhancing marital friendship among distressed married couples. This quasi-experimental study employed a pretest–posttest design with a three-month follow-up and a control group. The research was conducted in Canada among 60 married couples (120 individuals) experiencing relationship distress. Participants were recruited through counseling centers and community advertisements and were randomly assigned to either an experimental group (30 couples) or a waitlist control group (30 couples). Couples in the experimental group received twelve weekly sessions of Gottman Method Couple Therapy, whereas the control group received no intervention during the study period. Data were collected using the Communication Patterns Questionnaire to assess negative interaction cycles, the Friendship Scale derived from the Gottman Relationship Assessment to evaluate marital friendship, and psychophysiological measures including heart rate, blood pressure, and skin conductance to assess physiological arousal during structured conflict discussions. Data were analyzed using repeated-measures mixed-design analysis of variance and Bonferroni post hoc comparisons. The results revealed statistically significant Time × Group interaction effects for all study variables. Couples receiving Gottman Method Couple Therapy demonstrated significantly greater reductions in negative interaction cycles ($F = 81.72, p < 0.001, \eta^2 = 0.59$) and physiological arousal during conflict discussions ($F = 66.73, p < 0.001, \eta^2 = 0.54$), as well as significantly greater improvements in marital friendship ($F = 95.37, p < 0.001, \eta^2 = 0.62$), compared with the control group. Bonferroni analyses indicated significant improvements from pretest to posttest and from pretest to follow-up across all outcome variables ($p < 0.001$). No significant differences were observed between posttest and follow-up assessments, indicating maintenance of treatment gains over the three-month follow-up period. The findings suggest that Gottman Method Couple Therapy is an effective intervention for improving relationship functioning among distressed couples. The intervention successfully reduced destructive communication patterns and physiological stress responses while strengthening marital friendship and emotional connection. The stability of improvements at follow-up further indicates that the therapeutic benefits are durable and may contribute to long-term relationship resilience, healthier conflict management, and enhanced marital well-being.

Keywords: Gottman Method Couple Therapy; Negative Interaction Cycles; Marital Friendship; Physiological Arousal; Conflict Discussions

How to cite this article:

Laprade, D., Nazarpour, B., & Stanley, F. (2026). The Effectiveness of Gottman Method Couple Therapy on Negative Interaction Cycles, Marital Friendship, and Physiological Arousal During Conflict Discussions. *Research and Practice in Couple Therapy*, 4(1), 1-11. <https://doi.org/10.61838/rpct.4.1.3>



Introduction

Relationship quality is widely recognized as one of the most influential determinants of psychological well-being, physical health, family stability, and overall life satisfaction. Healthy marital relationships provide emotional security, social support, companionship, and opportunities for personal growth, whereas distressed relationships are associated with increased psychological distress, poorer physical health outcomes, family dysfunction, and greater risk of separation and divorce (Lebow et al., 2024; Lebow & Snyder, 2022). Contemporary couple researchers increasingly emphasize that relationship functioning is not merely determined by the presence or absence of conflict but by the manner in which partners communicate, regulate emotions, repair relational injuries, and maintain friendship and affection over time (Griffes et al., 2024; Lebow et al., 2024). Although disagreements and interpersonal tensions are inevitable within intimate relationships, successful couples tend to navigate conflicts through constructive communication, emotional responsiveness, and mutual respect, whereas distressed couples often become trapped in recurring cycles of criticism, defensiveness, contempt, withdrawal, and emotional escalation (Gibson et al., 2024; Ryjova et al., 2024). Consequently, understanding and modifying maladaptive interaction patterns has become a central objective of contemporary couple therapy and relationship intervention research.

One of the most consistently identified predictors of marital distress is the presence of negative interaction cycles. Negative interaction cycles refer to repetitive and self-perpetuating patterns of communication in which one partner's behavior evokes defensive or hostile responses from the other, leading to escalating conflict and relational dissatisfaction. Research has demonstrated that these destructive interaction patterns contribute significantly to reductions in intimacy, trust, commitment, and relationship satisfaction while simultaneously increasing emotional distress and the likelihood of relationship dissolution (Meyer & Sledge, 2021; Ryjova et al., 2024). Studies examining daily communication processes indicate that the quality of routine interactions between partners exerts a cumulative influence on relationship outcomes, such that repeated negative exchanges gradually undermine relational stability and emotional connection (Ryjova et al., 2024). Similarly, investigations into conflict processes have shown that patterns of warmth, dominance, hostility, and responsiveness during disagreements significantly influence conflict resolution and subsequent relationship functioning (Gibson et al., 2024). The persistence of negative interaction cycles often creates an environment in which couples become increasingly focused on defending themselves rather than understanding one another, thereby reinforcing relational disconnection and dissatisfaction (Gnaulati, 2022).

The significance of conflict processes in marital relationships has been further highlighted by research examining the specific topics and contexts that generate disagreement. Relationship conflicts frequently arise around finances, parenting, household responsibilities, intimacy, communication styles, and personal expectations. However, evidence suggests that the content of disagreements is often less predictive of relationship outcomes than the manner in which partners engage with one another during these interactions (Meyer & Sledge, 2021). Couples who maintain respect, emotional regulation, and constructive dialogue during conflict generally experience greater relationship stability than couples who engage in criticism, contempt, defensiveness, or stonewalling. Moreover, post-conflict recovery processes play a critical role in determining relationship quality. Effective repair attempts, emotional reconnection, and positive post-conflict behaviors facilitate recovery from disagreements and contribute to long-term relationship resilience (Parsons et al., 2020). In contrast, unresolved conflicts and ineffective repair mechanisms may contribute to chronic relational distress and increased vulnerability to separation and divorce.

Marital friendship has emerged as another crucial dimension of relationship functioning. Contemporary theories of couple relationships emphasize that friendship serves as the foundation upon which intimacy, commitment, trust, and emotional

connection are built. Marital friendship encompasses mutual admiration, affection, emotional support, shared meaning, companionship, and a deep understanding of a partner's internal experiences. Research suggests that couples who maintain strong friendship bonds are better equipped to manage stress, navigate disagreements, and sustain relationship satisfaction over time (Griffes et al., 2024; Leaver et al., 2024). The quality of friendship within marriage is associated with greater emotional responsiveness, enhanced communication, and stronger relational commitment. Furthermore, relationship education programs increasingly identify friendship enhancement as a core therapeutic target because of its protective effects against marital deterioration and conflict escalation (Griffes et al., 2024). Studies grounded in Gottman's theoretical framework have repeatedly demonstrated that positive friendship processes contribute substantially to relationship stability and marital satisfaction, even among couples facing significant external stressors (Hosseinpoor et al., 2022; Mardani et al., 2021).

Beyond observable communication behaviors and subjective relationship evaluations, increasing attention has been directed toward the physiological processes underlying couple interactions. Romantic relationships involve not only cognitive and emotional experiences but also complex physiological responses that influence and reflect relationship functioning. During conflict discussions, partners frequently experience heightened autonomic nervous system activation, including increases in heart rate, blood pressure, and electrodermal activity. These physiological responses can impair emotional regulation, reduce problem-solving abilities, and contribute to destructive communication patterns (Bradford & Johnson, 2022; Haase, 2023). Research indicates that elevated physiological arousal during marital conflict is associated with lower relationship satisfaction, greater emotional volatility, and increased relationship instability (Weber et al., 2020; Wojda et al., 2022). Consequently, understanding physiological responses during couple interactions has become an important area of investigation within relationship science.

The study of physiological synchrony and linkage between romantic partners has provided additional insight into the mechanisms underlying relationship functioning. Physiological synchrony refers to the degree to which partners exhibit coordinated physiological responses during interactions. Evidence suggests that physiological synchrony may facilitate emotional understanding, empathy, and supportive behavior under certain conditions, although excessive synchrony during negative interactions may also contribute to emotional contagion and conflict escalation (Chen et al., 2021; Fogel-Yaakobi et al., 2023). Research examining emotional linkage in couples has demonstrated that partners influence one another's physiological states during both positive and negative emotional experiences, highlighting the interconnected nature of emotional and physiological regulation within intimate relationships (Chen et al., 2021). Furthermore, investigations into therapeutic processes have suggested that physiological synchrony may be associated with therapeutic alliance development and positive treatment outcomes in couple therapy settings (Tourunen et al., 2020).

Emotion regulation has emerged as a central construct linking communication patterns, physiological responses, and relationship outcomes. Effective emotion regulation enables individuals to manage emotional arousal, respond constructively during conflict, and maintain relational connection during stressful interactions. Couples characterized by adaptive emotion regulation strategies generally demonstrate greater relationship satisfaction, more effective conflict management, and enhanced psychological well-being (Haase, 2023; Meier et al., 2022). Conversely, difficulties in emotion regulation often contribute to reactive communication, hostility, withdrawal, and escalation of interpersonal conflicts. Studies have shown that the ability of partners to regulate emotional experiences during conflict discussions influences both immediate interaction quality and long-term relationship outcomes (Meier et al., 2022; Weber et al., 2020). These findings underscore the importance of therapeutic interventions designed to enhance emotional awareness, physiological regulation, and constructive communication.

The increasing prevalence of marital distress and relationship dissolution has further emphasized the need for effective couple-based interventions. Divorce and relationship instability continue to represent significant social and public health

concerns worldwide. Research examining predictors of divorce has identified dysfunctional communication patterns, emotional disconnection, unresolved conflicts, and maladaptive relational schemas as major contributors to relationship breakdown (Alshawarbeh et al., 2023; Yöntem & İlhan, 2020). Advances in machine learning have even demonstrated the capacity to predict divorce outcomes using relationship variables associated with communication quality and marital functioning (Alshawarbeh et al., 2023). Consequently, considerable attention has been devoted to developing and evaluating evidence-based interventions capable of strengthening relationship functioning and preventing relational deterioration.

Among contemporary couple therapy approaches, Gottman Method Couple Therapy has received substantial empirical and clinical attention. Developed from decades of observational research on marital interactions, the Gottman approach emphasizes the enhancement of friendship, emotional connection, conflict management skills, and shared meaning within relationships. The intervention is grounded in the Sound Relationship House Theory and seeks to reduce destructive interaction patterns while increasing positive relational processes such as affection, admiration, trust, and emotional responsiveness (Deylami et al., 2021; Mardani et al., 2021). Gottman-based interventions incorporate structured techniques for identifying and modifying negative communication patterns, improving emotional attunement, and fostering constructive conflict resolution. Theoretical and empirical literature suggests that strengthening friendship and emotional connection serves as a protective factor against relationship distress and conflict escalation (Hosseinpoor et al., 2022; Salehi et al., 2024).

Previous empirical investigations have provided encouraging evidence regarding the effectiveness of Gottman-based interventions. Online psychoeducational programs derived from Gottman's principles have been shown to improve marital communication among couples and promote healthier interaction patterns (Deylami et al., 2021). Couple-centered counseling based on the Gottman method has also demonstrated effectiveness in enhancing intimacy among infertile couples experiencing relationship challenges (Hosseinpoor et al., 2022). Furthermore, Gottman's systemic cognitive couple therapy has been associated with reductions in marital conflict, improvements in communication patterns, and decreases in alexithymia among distressed couples (Salehi et al., 2024). Research exploring the mediating role of Gottman's communication model has additionally highlighted its importance in understanding the relationship between attachment processes and marital satisfaction (Mardani et al., 2021). Collectively, these findings suggest that Gottman-based interventions may effectively address key relational processes associated with marital distress.

Despite the growing evidence supporting Gottman Method Couple Therapy, several gaps remain in the literature. Much of the existing research has focused primarily on self-reported relationship satisfaction, intimacy, or communication outcomes, with comparatively less attention devoted to the simultaneous examination of negative interaction cycles, marital friendship, and physiological arousal during conflict discussions. Contemporary relationship science increasingly advocates for multimethod assessment approaches that integrate self-report measures, behavioral observations, and physiological indicators to provide a more comprehensive understanding of relationship functioning (Bradford & Johnson, 2022; Bulling et al., 2023). In addition, emerging scholarship emphasizes the importance of integrating couple theory, psychophysiological processes, relationship education content, and evidence-based therapeutic approaches to advance clinical practice and intervention effectiveness (Griffes et al., 2024; Lebow et al., 2024; Lebow & Snyder, 2022). Recent work examining relationship maintenance, social support processes, physiological implications of close relationships, and partner involvement in physiological regulation further highlights the complex interplay between relational and biological functioning (Harony et al., 2021; Kee et al., 2025; Knauss et al., 2024). Moreover, research on partner violence interventions and differentiated treatment responses underscores the importance of understanding how therapeutic approaches influence communication and emotional regulation mechanisms within intimate relationships (Babcock et al., 2024; Craven et al., 2023).

Therefore, the aim of the present study was to investigate the effectiveness of Gottman Method Couple Therapy on negative interaction cycles, marital friendship, and physiological arousal during conflict discussions among married couples experiencing relationship distress.

Methods and Materials

Study Design and Participants

This study employed a quasi-experimental research design with a pretest–posttest and three-month follow-up assessment, including an intervention group and a waitlist control group. The purpose of the study was to examine the effectiveness of Gottman Method Couple Therapy on negative interaction cycles, marital friendship, and physiological arousal during conflict discussions among married couples experiencing relationship distress. The study was conducted in Canada between January and September 2025. Participants were recruited from community counseling centers, family therapy clinics, and online advertisements targeting couples who reported recurrent marital conflicts and dissatisfaction in their relationships.

The study population consisted of married heterosexual and same-sex couples residing in the provinces of Ontario and British Columbia. Following an initial screening process, 68 couples volunteered to participate. After assessing eligibility criteria and obtaining informed consent, 60 couples (120 individuals) met the inclusion criteria and were enrolled in the study. Participants were required to have been married or cohabiting for at least two years, be between 25 and 60 years of age, report moderate to severe relationship distress, and be willing to attend all treatment sessions and assessment appointments. Couples currently receiving other forms of couple therapy, those with severe psychiatric disorders, active substance dependence, ongoing domestic violence, or imminent divorce proceedings were excluded from participation.

The 60 couples were randomly assigned to either the experimental group (30 couples) or the waitlist control group (30 couples). Couples in the experimental group participated in a structured Gottman Method Couple Therapy program consisting of twelve weekly sessions, each lasting approximately 90 minutes. The intervention focused on strengthening friendship and intimacy, improving conflict management skills, enhancing emotional attunement, reducing destructive communication patterns, and fostering positive relational interactions. The control group received no intervention during the study period but was offered the therapeutic program after completion of data collection. Assessments were conducted at baseline, immediately after treatment, and three months following the completion of therapy.

Measures

Negative interaction cycles were assessed using the Communication Patterns Questionnaire (CPQ), originally developed by Christensen and Sullaway in 1984. The CPQ is one of the most widely used instruments for evaluating dysfunctional communication and conflict interaction patterns among couples. The questionnaire contains items assessing demand-withdraw communication, mutual avoidance, criticism, defensiveness, and negative reciprocity during relationship conflicts. Participants respond using a Likert-type scale reflecting the frequency with which specific communication behaviors occur during disagreements. Higher scores indicate more frequent engagement in maladaptive interaction cycles. Previous studies have demonstrated satisfactory construct validity and internal consistency reliability, with Cronbach's alpha coefficients generally exceeding 0.80 across diverse cultural and clinical populations.

Marital friendship was measured using the Friendship Scale from the Gottman Relationship Checkup Assessment, which is grounded in Gottman's Sound Relationship House Theory. This measure evaluates the quality of friendship within marriage through dimensions such as emotional closeness, mutual admiration, fondness, knowledge of a partner's inner world, emotional

support, and positive regard. The instrument consists of multiple Likert-scale items assessing the extent to which spouses experience companionship, affection, trust, and emotional connection within their relationship. Higher scores reflect stronger marital friendship and greater relational satisfaction. Previous research has reported strong psychometric properties for the scale, including high internal consistency and substantial evidence of convergent and predictive validity in marital research.

Physiological arousal during conflict discussions was assessed through a multimethod psychophysiological protocol. Couples participated in a standardized 15-minute conflict discussion task in which they were instructed to discuss a recurring area of disagreement within their relationship. Physiological responses were continuously monitored using portable biometric equipment. Heart rate was measured using wireless electrocardiography sensors, while skin conductance levels were recorded using electrodermal activity monitors. Systolic and diastolic blood pressure measurements were obtained before and immediately after the conflict discussion using validated automated blood pressure monitors. Composite physiological arousal scores were calculated by standardizing and integrating heart rate, skin conductance, and blood pressure indicators. Elevated scores represented higher levels of autonomic nervous system activation during conflict interactions. The psychophysiological assessment procedures followed established laboratory protocols widely utilized in relationship and emotion regulation research and have demonstrated strong reliability and validity in previous studies.

Intervention

The intervention consisted of a structured Gottman Method Couple Therapy program delivered over twelve weekly sessions, each lasting approximately 90 minutes, specifically designed for couples experiencing relationship distress. The therapy followed the principles of Gottman's Sound Relationship House Theory and focused on enhancing marital friendship, improving communication patterns, reducing negative interaction cycles, and fostering emotional regulation during conflict. Sessions incorporated techniques such as building love maps to increase partners' understanding of each other's inner world, expressing fondness and admiration to strengthen positive relational behaviors, teaching conflict de-escalation strategies to interrupt destructive cycles, and practicing repair attempts to restore emotional connection after disagreements. Couples engaged in guided exercises, role-plays, and structured discussions to develop skills in managing emotional arousal, enhancing empathy, and increasing relational responsiveness. Additionally, the intervention emphasized the creation of shared meaning, problem-solving collaboration, and supportive interactions during conflict discussions. Physiological regulation was indirectly targeted by teaching partners strategies to recognize and manage emotional flooding and stress responses, thereby reducing autonomic arousal during disagreements. The therapy was administered by trained clinicians with expertise in Gottman-based interventions, and adherence to the protocol was monitored to ensure consistency across sessions and couples. The overall goal of the intervention was to create enduring improvements in communication, emotional connection, and physiological self-regulation, thereby promoting healthier and more satisfying marital relationships.

Data Analysis

Data analysis was conducted using IBM SPSS Statistics version 29. Prior to hypothesis testing, data were screened for missing values, outliers, and violations of statistical assumptions. The normality of score distributions was assessed using the Shapiro-Wilk test, skewness and kurtosis indices, and visual inspection of histograms and Q-Q plots. Homogeneity of variances was examined through Levene's test, while the assumption of sphericity for repeated measures analyses was evaluated using Mauchly's test.

Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize participant characteristics and study variables. Baseline equivalence between the intervention and control groups was examined

using independent-samples t-tests and chi-square analyses. To evaluate the effectiveness of Gottman Method Couple Therapy over time, repeated-measures mixed-design analysis of variance was performed, with group membership serving as the between-subjects factor and assessment time points serving as the within-subjects factor. Significant interaction effects were interpreted as evidence of differential change between groups across time.

Where significant effects were identified, Bonferroni-adjusted pairwise comparisons were conducted to determine the specific differences between pretest, posttest, and follow-up assessments. Effect sizes were reported using partial eta-squared values to evaluate the magnitude of treatment effects. Statistical significance was established at a two-tailed alpha level of 0.05. The analytical approach enabled a comprehensive examination of both immediate and sustained effects of Gottman Method Couple Therapy on negative interaction cycles, marital friendship, and physiological arousal during conflict discussions.

Findings and Results

A total of 60 couples (120 individuals) participated in the study, with 30 couples assigned to the Gottman Method Couple Therapy group and 30 couples assigned to the waitlist control group. The mean age of participants was 39.27 years (SD = 8.14), ranging from 26 to 58 years. The average duration of marriage was 11.63 years (SD = 6.47). Among participants, 67.5% held a college or university degree, 78.3% were employed full-time, and 71.7% reported having at least one child. No statistically significant differences were observed between the experimental and control groups regarding age, gender distribution, educational attainment, employment status, length of marriage, or baseline study variables ($p > 0.05$), indicating that the groups were comparable prior to the intervention.

Table 1. Means and Standard Deviations of Negative Interaction Cycles, Marital Friendship, and Physiological Arousal Across Groups and Measurement Occasions

Variable	Group	Pretest Mean ± SD	Posttest Mean ± SD	Follow-up Mean ± SD
Negative Interaction Cycles	Control	54.83 ± 8.47	54.10 ± 8.26	53.91 ± 8.59
Negative Interaction Cycles	Experimental	55.27 ± 8.13	40.36 ± 7.22	39.74 ± 7.41
Marital Friendship	Control	42.17 ± 7.18	42.63 ± 7.04	42.50 ± 7.29
Marital Friendship	Experimental	41.83 ± 7.52	57.94 ± 6.68	58.21 ± 6.73
Physiological Arousal	Control	101.46 ± 11.39	100.71 ± 10.92	100.87 ± 11.06
Physiological Arousal	Experimental	102.31 ± 10.88	85.23 ± 9.47	84.76 ± 9.18

As shown in Table 1, the experimental and control groups exhibited highly comparable baseline scores across all study variables. Following the intervention, participants receiving Gottman Method Couple Therapy demonstrated substantial reductions in negative interaction cycles and physiological arousal during conflict discussions, accompanied by marked improvements in marital friendship. These improvements remained stable during the three-month follow-up assessment. In contrast, the control group displayed only minimal fluctuations across the three measurement occasions. The descriptive findings provide preliminary evidence suggesting that the intervention produced meaningful and sustained positive changes in relationship functioning and emotional regulation during marital conflict.

Table 2. Repeated-Measures Mixed ANOVA Results for Negative Interaction Cycles, Marital Friendship, and Physiological Arousal

Variable	Source	SS	df	MS	F	p	η ²
Negative Interaction Cycles	Time	3721.46	2	1860.73	74.18	<0.001	0.56
	Group	2175.29	1	2175.29	28.44	<0.001	0.33
	Time × Group	4013.52	2	2006.76	81.72	<0.001	0.59
Marital Friendship	Time	4258.73	2	2129.37	88.91	<0.001	0.61
	Group	2639.11	1	2639.11	35.26	<0.001	0.38
	Time × Group	4567.98	2	2283.99	95.37	<0.001	0.62

Physiological Arousal	Time	3284.27	2	1642.14	61.84	<0.001	0.52
	Group	1846.52	1	1846.52	24.09	<0.001	0.29
	Time × Group	3497.44	2	1748.72	66.73	<0.001	0.54

Prior to conducting the main analyses, the assumptions of repeated-measures analysis of variance were examined. Results of the Shapiro–Wilk tests indicated that all study variables were normally distributed at each measurement occasion ($p > 0.05$). Levene’s tests confirmed homogeneity of variances across groups ($p > 0.05$), and Mauchly’s tests supported the assumption of sphericity for all repeated measures. Therefore, the use of repeated-measures mixed-design ANOVA was considered appropriate.

The repeated-measures ANOVA results revealed statistically significant main effects of time for negative interaction cycles, marital friendship, and physiological arousal ($p < 0.001$), indicating that scores changed significantly across the three assessment periods. Significant group effects were also observed for all variables, suggesting overall differences between couples who received Gottman Method Couple Therapy and those in the control condition. Most importantly, the Time × Group interaction effects were statistically significant for all outcome variables ($p < 0.001$). These findings indicate that changes over time differed substantially between groups and can be attributed to participation in the therapeutic intervention. The effect sizes were large, with partial eta-squared values ranging from 0.54 to 0.62 for the interaction effects, suggesting that Gottman Method Couple Therapy accounted for a substantial proportion of the variance in relationship functioning and physiological regulation outcomes.

Table 3. Bonferroni Pairwise Comparisons for the Experimental Group

Variable	Comparison	Mean Difference	Std. Error	p
Negative Interaction Cycles	Pretest – Posttest	14.91	1.37	<0.001
	Pretest – Follow-up	15.53	1.41	<0.001
	Posttest – Follow-up	0.62	0.74	1.000
Marital Friendship	Pretest – Posttest	-16.11	1.28	<0.001
	Pretest – Follow-up	-16.38	1.33	<0.001
	Posttest – Follow-up	-0.27	0.69	1.000
Physiological Arousal	Pretest – Posttest	17.08	1.62	<0.001
	Pretest – Follow-up	17.55	1.69	<0.001
	Posttest – Follow-up	0.47	0.82	1.000

The Bonferroni post hoc analyses demonstrated significant improvements from pretest to posttest and from pretest to follow-up across all outcome variables within the experimental group. Negative interaction cycles decreased significantly following treatment and remained significantly lower at follow-up. Likewise, marital friendship increased substantially after completion of the intervention and these gains were maintained over time. Physiological arousal during conflict discussions also showed a significant reduction following therapy, indicating improved emotional and physiological regulation among participating couples. Importantly, no statistically significant differences were found between posttest and follow-up assessments for any of the study variables, demonstrating the stability of treatment effects over the three-month follow-up period. Collectively, these findings provide strong empirical support for the effectiveness of Gottman Method Couple Therapy in reducing destructive conflict patterns, strengthening marital friendship, and decreasing physiological stress responses during marital disagreements.

Discussion and Conclusion

The present study examined the effectiveness of Gottman Method Couple Therapy on negative interaction cycles, marital friendship, and physiological arousal during conflict discussions among married couples experiencing relationship distress. The findings demonstrated that couples who participated in the intervention experienced significant reductions in negative

interaction cycles and physiological arousal while simultaneously reporting substantial improvements in marital friendship. Moreover, these gains remained stable at the three-month follow-up assessment, indicating that the benefits of the intervention were not merely temporary but were maintained over time. The significant interaction effects observed across all outcome variables suggest that Gottman Method Couple Therapy effectively modified both behavioral and emotional processes that contribute to marital functioning. These findings support the central premise of Gottman's theoretical framework, which posits that relationship satisfaction and stability are enhanced when couples develop stronger friendship systems, learn to regulate conflict effectively, and replace destructive communication patterns with constructive relational behaviors.

One of the most important findings of the present study was the significant reduction in negative interaction cycles among couples who received the intervention. Negative interaction cycles represent recurring patterns of criticism, defensiveness, hostility, contempt, withdrawal, and emotional escalation that gradually erode relationship quality. The observed reduction suggests that Gottman Method Couple Therapy successfully altered the dysfunctional communication patterns that maintained relational distress. This finding is consistent with previous research demonstrating that communication quality is one of the strongest predictors of relationship satisfaction and stability. Ryjova and colleagues found that daily communication behaviors significantly influence subsequent relationship outcomes and shape long-term relationship quality (Ryjova et al., 2024). Similarly, Gibson and colleagues reported that the manner in which couples communicate during conflict, particularly the balance between warmth and dominance, plays a critical role in conflict resolution and relational adjustment (Gibson et al., 2024). The present findings indicate that Gottman-based interventions help couples interrupt maladaptive cycles and develop healthier communication strategies that facilitate mutual understanding and emotional connection.

The reduction in negative interaction cycles can also be understood through Gottman's emphasis on identifying and replacing the "Four Horsemen" of relationship distress—criticism, contempt, defensiveness, and stonewalling—with more adaptive interaction strategies. Through structured therapeutic exercises, couples learn to express complaints without criticism, take responsibility rather than becoming defensive, communicate appreciation instead of contempt, and remain emotionally engaged rather than withdrawing from conflict. Such changes likely contributed to the substantial decreases observed in destructive communication patterns. These findings align with the results reported by Salehi and colleagues, who found that Gottman's systemic cognitive couple therapy significantly improved communication patterns and reduced marital conflicts among distressed couples (Salehi et al., 2024). Likewise, Deylami and colleagues demonstrated that interventions grounded in Gottman principles improve marital communication and interpersonal understanding among couples (Deylami et al., 2021). Together, these studies suggest that communication-focused interventions rooted in Gottman theory effectively address the interpersonal mechanisms that sustain marital distress.

The findings also revealed significant improvements in marital friendship following participation in the intervention. Marital friendship is widely regarded as one of the most important foundations of long-term relationship success because it encompasses emotional intimacy, admiration, trust, companionship, affection, and positive regard. Gottman's theoretical model proposes that friendship serves as the cornerstone of healthy relationships and functions as a protective factor during periods of stress and conflict. The significant increases in marital friendship observed in the present study indicate that couples became more emotionally connected, developed greater appreciation for one another, and strengthened their friendship bonds. These improvements likely occurred because the intervention emphasizes building love maps, expressing fondness and admiration, increasing emotional responsiveness, and creating shared meaning within the relationship.

The improvement in marital friendship is consistent with previous empirical findings. Hosseinpoor and colleagues demonstrated that Gottman-based counseling significantly enhanced intimacy among couples experiencing infertility-related stress (Hosseinpoor et al., 2022). Similarly, Mardani and colleagues reported that Gottman's marital communication model

plays a significant role in promoting marital satisfaction and relational adjustment through improved communication and attachment-related processes (Mardani et al., 2021). Contemporary relationship research also highlights the importance of friendship and emotional connection as predictors of relationship stability and satisfaction. Leaver and colleagues emphasized that love and relationship quality can be understood through multiple measurable dimensions, including emotional closeness and positive relational engagement (Leaver et al., 2024). Furthermore, relationship education research suggests that strengthening friendship remains one of the most effective strategies for promoting enduring relationship quality (Griffes et al., 2024). The current findings provide additional evidence supporting the therapeutic value of enhancing friendship processes within marriage.

Another significant finding was the reduction in physiological arousal during conflict discussions. Physiological arousal is increasingly recognized as a critical factor influencing conflict processes because elevated autonomic activation often interferes with emotional regulation, cognitive flexibility, listening skills, and constructive problem-solving. Individuals experiencing excessive physiological arousal during conflict are more likely to react impulsively, interpret partner behaviors negatively, and engage in defensive or hostile communication. The substantial decrease in physiological arousal observed among participants receiving Gottman Method Couple Therapy suggests that the intervention enhanced emotional self-regulation and reduced stress responses during conflict interactions.

This finding is strongly supported by previous psychophysiological research. Weber and colleagues demonstrated that emotional arousal and its regulation during couple interactions predict relationship satisfaction both concurrently and decades later (Weber et al., 2020). Similarly, Wojda and colleagues found that interpersonal emotional arousal plays an important role in relationship functioning and is associated with relationship satisfaction and conflict outcomes (Wojda et al., 2022). Bradford and Johnson further highlighted the importance of physiological processes within couple therapy and emphasized that physiological responses provide valuable insight into relational functioning and therapeutic change (Bradford & Johnson, 2022). The present findings extend this literature by demonstrating that Gottman Method Couple Therapy may effectively reduce physiological reactivity during conflict, thereby creating conditions that support more adaptive communication and emotional engagement.

The reduction in physiological arousal may also be explained through improvements in emotion regulation capacities. Emotion regulation has been identified as a fundamental process underlying successful relationship functioning. Couples who can regulate emotions effectively are better able to remain calm during disagreements, maintain empathy toward one another, and engage in collaborative problem-solving. Haase emphasized that emotion regulation plays a central role in relationship quality throughout adulthood and influences both interpersonal and individual well-being (Haase, 2023). Likewise, Meier and colleagues argued that effective emotion regulation is essential for maintaining healthy romantic relationships and managing interpersonal stressors (Meier et al., 2022). By teaching couples to recognize emotional flooding, engage in self-soothing strategies, and respond more constructively during disagreements, Gottman Method Couple Therapy likely facilitated improvements in emotional regulation that subsequently reduced physiological activation.

The findings also support broader theories emphasizing the interconnected nature of emotional, physiological, and relational processes. Research examining physiological linkage and synchrony has demonstrated that partners influence one another's physiological states during interpersonal interactions. Chen and colleagues found that physiological linkage occurs during both positive and negative emotional experiences, reflecting the interconnected nature of romantic relationships (Chen et al., 2021). Similarly, Fogel-Yaakobi and colleagues reported that physiological synchrony is associated with supportive behaviors and relational functioning during important life transitions (Fogel-Yaakobi et al., 2023). Tourunen and colleagues further demonstrated that physiological synchrony may be related to therapeutic alliance and positive treatment outcomes in couple

therapy contexts (Tourunen et al., 2020). The current results suggest that therapeutic improvements in communication and friendship may have contributed to healthier physiological regulation patterns during conflict discussions.

The sustained effects observed at follow-up provide additional support for the effectiveness of Gottman Method Couple Therapy. The absence of significant differences between posttest and follow-up assessments indicates that participants maintained the gains achieved during treatment. This finding is particularly important because long-term maintenance of therapeutic gains remains a significant challenge in relationship interventions. According to contemporary reviews of couple therapy, durable changes are most likely when interventions target underlying relational processes rather than merely addressing surface-level symptoms (Lebow et al., 2024; Lebow & Snyder, 2022). The maintenance of improvements observed in the present study suggests that participants internalized the communication skills, emotional regulation strategies, and friendship-building practices introduced during therapy.

The current findings should also be considered within the broader context of relationship distress and prevention efforts. Relationship breakdown continues to represent a significant social concern, and research has identified communication difficulties, emotional disconnection, and maladaptive relational patterns as important contributors to divorce risk (Alshawarbeh et al., 2023; Yöntem & İlhan, 2020). Emerging technological and social changes may further complicate relationship dynamics, as couples increasingly navigate both online and offline forms of communication (Harony et al., 2021). Consequently, interventions capable of improving communication quality, strengthening friendship, and reducing emotional reactivity have substantial relevance for both clinical practice and relationship prevention initiatives.

The findings are additionally consistent with recent developments in couple therapy theory and practice. Contemporary perspectives emphasize integrative approaches that address emotional, cognitive, behavioral, and physiological dimensions of relationship functioning simultaneously (Lebow et al., 2024). Research examining dialogue-based interventions has similarly highlighted the importance of replacing defensive monologues with open and empathic communication between partners (Gnaulati, 2022). Furthermore, evidence from intervention studies involving couples experiencing conflict, intimate partner difficulties, or relationship distress suggests that therapeutic improvements frequently emerge through enhanced emotional awareness, communication, and relational responsiveness (Babcock et al., 2024; Craven et al., 2023). The present findings contribute to this growing body of literature by demonstrating that Gottman Method Couple Therapy effectively influences multiple domains of relationship functioning simultaneously.

Several limitations should be considered when interpreting the findings of this study. First, the sample was limited to married couples residing in specific regions of Canada, which may restrict the generalizability of the findings to other cultural, socioeconomic, or geographical contexts. Second, although physiological measures provided an objective assessment of emotional arousal, several relationship variables were assessed through self-report instruments and may therefore have been influenced by social desirability or response bias. Third, the follow-up period was limited to three months, preventing examination of the long-term durability of treatment effects over multiple years. Fourth, couples experiencing severe domestic violence, active substance dependence, or major psychiatric disorders were excluded from participation, limiting the applicability of the findings to higher-risk clinical populations. Finally, the study did not compare Gottman Method Couple Therapy with alternative evidence-based couple therapy approaches, making it difficult to determine whether the observed benefits are unique to this intervention.

Future studies should examine the effectiveness of Gottman Method Couple Therapy using larger and more diverse samples drawn from different cultural and demographic populations. Researchers may also investigate longer follow-up periods extending beyond one year to determine the long-term sustainability of treatment outcomes. Comparative studies evaluating Gottman Method Couple Therapy against other established approaches, such as Emotionally Focused Therapy or Integrative

Behavioral Couple Therapy, would provide valuable information regarding relative effectiveness. Future investigations could further explore potential mediating and moderating variables, including attachment styles, personality characteristics, emotional intelligence, and stress levels. The incorporation of advanced physiological monitoring technologies and behavioral observation methods may also enhance understanding of the mechanisms through which therapeutic change occurs within couple relationships.

The findings suggest that clinicians working with distressed couples should incorporate interventions that simultaneously target communication patterns, friendship enhancement, and emotional regulation. Couple therapists may benefit from integrating structured exercises that strengthen emotional connection, promote appreciation and admiration, and reduce destructive conflict behaviors. Counseling centers and family service agencies should consider implementing Gottman-based programs as part of preventive and therapeutic relationship services. Training programs for mental health professionals may also emphasize the importance of understanding physiological responses during couple interactions and teaching effective self-regulation strategies. Finally, relationship education initiatives delivered in community, healthcare, and educational settings may utilize Gottman principles to strengthen relationship resilience and reduce the likelihood of chronic marital distress and relationship dissolution.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

Acknowledgments

We would like to express our gratitude to all those who helped us carrying out this study.

Authors' Contributions

All authors equally contributed to this study.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

References

Alshawarbeh, E., Shafqat, A., Alraqad, T., Moumen, A., Saber, H., & Shafqat, R. (2023). Divorce Prediction Using Machine Learning Algorithms in Ha'il Region, KSA. <https://doi.org/10.21203/rs.3.rs-2812556/v1>

- Babcock, J. C., Kini, S., Godfrey, D. A., & Rodriguez, L. M. (2024). Differential Treatment Response of Proactive and Reactive Partner Abusive Men: Results From a Laboratory Proximal Change Experiment. *Psychosocial Intervention*, 33(1), 43-54. <https://doi.org/10.5093/pi2024a2>
- Bradford, A. B., & Johnson, L. N. (2022). What to Expect Physiologically When You're Expecting Couples in Therapy: A Changing Hearts and Minds in relationshipS (CHAMPS) Descriptive Study. *Journal of marital and family therapy*, 49(1), 222-241. <https://doi.org/10.1111/jmft.12619>
- Bulling, L. J., Heyman, R. E., & Bodenmann, G. (2023). Bringing Behavioral Observation of Couples Into the 21st Century. *Journal of Family Psychology*, 37(1), 1-9. <https://doi.org/10.1037/fam0001036>
- Chen, K. H., Brown, C. L., Wells, J. L., Rothwell, E. S., Otero, M. C., Levenson, R. W., & Fredrickson, B. L. (2021). Physiological Linkage During Shared Positive and Shared Negative Emotion. *Journal of personality and social psychology*, 121(5), 1029-1056. <https://doi.org/10.1037/pspi0000337>
- Craven, L. C., Fields, A. M., Carlson, R. G., Combs, E. M., & Howe, E. S. (2023). Counseling Interventions for Victims of Intimate Partner Violence: A Systematic Review. *Journal of Counseling & Development*, 101(3), 346-358. <https://doi.org/10.1002/jcad.12478>
- Deylami, N., Hassan, S. A., Alareqe, N. A., & Zainudin, Z. N. (2021). Evaluation of an Online Gottman's Psychoeducational Intervention to Improve Marital Communication Among Iranian Couples. *International journal of environmental research and public health*, 18(17), 8945. <https://doi.org/10.3390/ijerph18178945>
- Fogel-Yaakobi, S., Golland, Y., Levit-Binnun, N., Borelli, J. L., Mikulincer, M., & Shai, D. (2023). The Moderating Role of Attachment in the Association Between Physiological Synchrony in Married Couples and Supportive Behavior in the Transition to Parenthood. *Psychophysiology*, 60(7). <https://doi.org/10.1111/psyp.14263>
- Gibson, S., Slotter, E. B., & Markey, P. M. (2024). Fighting the Good Fight: Relating Warmth and Dominance Across Romantic Conflict to Resolution. *Journal of Social and Personal Relationships*, 41(9), 2716-2739. <https://doi.org/10.1177/02654075241253627>
- Gnaulati, E. (2022). Supplanting Proudful Monologue With Humble Dialogue: A Dialogical Existential Approach to Couples Therapy. *The Humanistic Psychologist*, 50(2), 256-270. <https://doi.org/10.1037/hum0000185>
- Griffes, S. E., Hardy, N., Gregson, T. J., Brosi, M. W., & Gardner, B. C. (2024). Couple Relationship Education Content: What We Have and What We Are Missing. *Family Process*, 63(4), 1790-1806. <https://doi.org/10.1111/famp.13043>
- Haase, C. M. (2023). Emotion Regulation in Couples Across Adulthood. *Annual Review of Developmental Psychology*, 5(1), 399-421. <https://doi.org/10.1146/annurev-devpsych-120621-043836>
- Harony, T. N., Einav, G., & Galily, Y. (2021). Let's WhatsApp! Generation X Couples' Online and Offline Relationship Patterns in the Digital Age. *New Media & Society*, 25(12), 3370-3391. <https://doi.org/10.1177/14614448211043192>
- Hosseinpoor, M., Masoumi, S. Z., Kazemi, F., Soltani, F., & Ahmadpanah, M. (2022). Investigating the Effect of Couple-Centered Counseling by Gottman Method on the Intimacy of Infertile Couples Referring to the Infertility Ward of Fatemeh Hospital, Hamadan, Iran in 2020: A Quasi-Experimental Study. *BMC psychiatry*, 22(1). <https://doi.org/10.1186/s12888-022-04228-z>
- Kee, S., Jensen, J. F., Fish, M., & Reed-Fitzke, K. (2025). Does My Friend Like My Romantic Partner? Links Among Relationship Work With Partners and Friends and Physiological Implications. *Journal of marital and family therapy*, 51(2). <https://doi.org/10.1111/jmft.70021>
- Knauss, A., Jensen, J. F., Fish, M., Bolin, L. P., & Brimhall, A. S. (2024). The Impact of a Romantic Partner on Patient Experience of Heart Rate Variability Biofeedback: Recommendations and Considerations for Clinicians. <https://doi.org/10.21203/rs.3.rs-4959313/v1>
- Leaver, E., Phillips, D., Miano-Burkhardt, A., Curtis, S., & Furman, S. (2024). How Do I Love Thee? You Can Measure the Ways. <https://doi.org/10.31234/osf.io/phz59>
- Lebow, J. L., Fisher, A. R., & Swanson, S. E. (2024). Couple Theory in Psychotherapy. 191-206. <https://doi.org/10.1037/0000353-012>
- Lebow, J. L., & Snyder, D. K. (2022). Couple Therapy in the 2020s: Current Status and Emerging Developments. *Family Process*, 61(4), 1359-1385. <https://doi.org/10.1111/famp.12824>

- Mardani, M., Marashi, S. A., & Abbaspour, Z. (2021). On the Causal Relationship Between Attachment Styles and Marital Satisfaction: Mediating Role of Gottman's Marital Communication Model. *Iranian journal of psychiatry and behavioral sciences*, 15(2). <https://doi.org/10.5812/ijpbs.108339>
- Meier, T., Stephens, J. E., & Haase, C. M. (2022). Emotion Regulation in Romantic Relationships. <https://doi.org/10.31234/osf.io/gkhvw>
- Meyer, D., & Sledge, R. L. (2021). The Relationship Between Conflict Topics and Romantic Relationship Dynamics. *Journal of Family Issues*, 43(2), 306-323. <https://doi.org/10.1177/0192513x21993856>
- Parsons, J., Prager, K. J., Wu, S., Poucher, J., & Hansen, M. P. (2020). How to Kiss and Make-Up (Or Not!): Postconflict Behavior and Affective Recovery From Conflict. *Journal of Family Psychology*, 34(1), 35-45. <https://doi.org/10.1037/fam0000579>
- Ryjova, Y., Gold, A. I., Timmons, A. C., Han, S. C., Chaspari, T., Pettit, C., Kim, Y., Beale, A., Kazmierski, K. F. M., & Margolin, G. (2024). A Day in the Life: Couples' Everyday Communication and Subsequent Relationship Outcomes. *Journal of Family Psychology*, 38(3), 453-465. <https://doi.org/10.1037/fam0001180>
- Salehi, M., Abkenar, B. N., & Rashidi, T. (2024). The Effectiveness of Gottman's Systemic Cognitive Couple Therapy on Marital Conflicts, Communication Patterns, and Alexithymia in Couples With Marital Conflict. *Jarac*, 6(3), 145-152. <https://doi.org/10.61838/kman.jarac.6.3.16>
- Tourunen, A., Kykyri, V. L., Seikkula, J., Kaartinen, J., Tolvanen, A., & Penttonen, M. (2020). Sympathetic Nervous System Synchrony: An Exploratory Study of Its Relationship With the Therapeutic Alliance and Outcome in Couple Therapy. *Psychotherapy*, 57(2), 160-173. <https://doi.org/10.1037/pst0000198>
- Weber, D. M., Fischer, M. S., Baucom, D. H., Baucom, B., Engl, J., Thurmaier, F., Wojda, A. K., & Hahlweg, K. (2020). Escalation and Regulation of Emotional Arousal in Couples Predicts Relationship Satisfaction Concurrently and 25 Years Later. *Family Process*, 60(1), 251-269. <https://doi.org/10.1111/famp.12597>
- Wojda, A. K., Baucom, D. H., Weber, D. M., Heyman, R. E., & Slep, A. M. S. (2022). The Role of Intimate Partner Violence and Relationship Satisfaction in Couples' Interpersonal Emotional Arousal. *Journal of Family Psychology*, 36(3), 385-395. <https://doi.org/10.1037/fam0000911>
- Yöntem, M. K., & İlhan, T. (2020). The Predictive Role of the Parenting Styles That Cause Early Maladaptive Schemas on Divorce Indicators. *Journal of Humanity and Society (Insan & Toplum)*, 10(2), 1-20. <https://doi.org/10.12658/m0382>