

The Efficacy of Interpersonal and Social Rhythm Therapy on Perceived Competence and Social Desirability in Bipolar Disorder Patients

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ABSTRACT

To evaluate the effectiveness of Interpersonal and Social Rhythm Therapy (IPSRT) on perceived competence and social desirability among individuals with bipolar disorder. A randomized controlled trial was conducted with 30 participants diagnosed with bipolar disorder, recruited from Tehran. Participants were randomly assigned to the IPSRT intervention group ($n = 15$) or a control group ($n = 15$). The intervention group received ten 60-minute IPSRT sessions over three months, while the control group received no intervention. Assessments were conducted at baseline, post-intervention, and three-month follow-up. Data were analyzed using analysis of variance (ANOVA) with repeated measurements and the Bonferroni post-hoc test, utilizing SPSS-27. The IPSRT intervention group showed significant improvements in perceived competence and social desirability compared to the control group. At baseline, the mean perceived competence scores were 42.57 ($SD = 5.23$) for the intervention group and 41.92 ($SD = 5.10$) for the control group. Post-intervention, these scores increased to 47.86 ($SD = 4.78$) and 42.03 ($SD = 5.34$), respectively. At follow-up, the scores were 46.42 ($SD = 5.12$) for the intervention group and 41.85 ($SD = 5.20$) for the control group. Social desirability scores also improved significantly in the intervention group from 33.40 ($SD = 4.12$) at baseline to 37.92 ($SD = 4.35$) post-intervention and 36.65 ($SD = 4.02$) at follow-up, while the control group scores remained relatively stable. IPSRT significantly enhances perceived competence and social desirability in individuals with bipolar disorder, with sustained benefits observed at the three-month follow-up. These findings support the integration of IPSRT into clinical practice as a valuable intervention for improving psychological and social outcomes in this population.

Keywords: *Interpersonal and Social Rhythm Therapy, Bipolar Disorder, Perceived Competence, Social Desirability, Randomized Controlled Trial, Psychosocial Intervention.*

1. Introduction

Bipolar disorder is a complex and chronic mental health condition characterized by extreme mood swings, including episodes of mania or hypomania and depression. These mood fluctuations can significantly impair an individual's functioning across various domains, including social, occupational, and psychological well-being (Afshari, 2023). Interpersonal and Social Rhythm Therapy (IPSRT) has emerged as a promising approach to stabilize mood and enhance daily functioning. IPSRT is a structured psychotherapy designed to help individuals with bipolar disorder manage their mood symptoms by stabilizing their daily routines and improving interpersonal relationships (Frank, 2007). This therapy is grounded in the understanding that disruptions in daily rhythms and interpersonal stressors can trigger mood episodes. Therefore, IPSRT aims to establish and maintain regular social rhythms and enhance interpersonal functioning to prevent relapse and promote long-term stability (Frank, 2007; Frank et al., 2005; Frank et al., 2008).

The development of IPSRT is rooted in extensive research on the psychosocial aspects of bipolar disorder. The early work by Frank et al. (2005) highlighted the critical role of stable daily routines in managing bipolar symptoms (Frank et al., 2005). This led to the conceptualization of social rhythm therapy, which emphasizes the synchronization of daily activities, such as sleep, meals, and social interactions, to align with an individual's biological rhythms (Frank, 2007). The integration of interpersonal therapy further enriched the model by addressing the impact of interpersonal relationships and stressors on mood regulation (Goldstein et al., 2014; Goldstein et al., 2018).

The theoretical underpinnings of IPSRT draw from circadian rhythm research and interpersonal theory. Circadian rhythms are biological processes that follow a roughly 24-hour cycle, influencing various physiological and behavioral functions, including sleep-wake patterns, hormone secretion, and mood regulation (Boland et al., 2012). Disruptions in these rhythms are commonly observed in individuals with bipolar disorder, leading to mood instability (Haynes et al., 2016). Interpersonal theory, on the other hand, posits that interpersonal stressors, such as conflicts and role transitions, can exacerbate mood symptoms (Crowe et al., 2008; Crowe et al., 2019). IPSRT seeks to mitigate these stressors by improving communication, conflict resolution, and social support (Crowe et al., 2020).

A growing body of empirical evidence supports the effectiveness of IPSRT in managing bipolar disorder. Early studies demonstrated that IPSRT could significantly reduce the recurrence of mood episodes and improve overall functioning (Frank, 2007; Frank et al., 2005). For instance, Frank et al. (2008) reported that individuals who received IPSRT exhibited better occupational functioning and lower rates of relapse compared to those who received standard care (Frank et al., 2008). Similarly, Crowe et al. (2020) found that IPSRT effectively reduced depressive symptoms and enhanced social functioning in patients with major depressive disorder (Crowe et al., 2020).

Research has also explored the mechanisms through which IPSRT exerts its beneficial effects. Alam et al. (2022) investigated the impact of IPSRT on sleep disorders and psychological adjustment among patients with bipolar disorder (Alam et al., 2022). Their findings indicated that IPSRT improved sleep quality and reduced psychological distress by promoting regular sleep-wake patterns and enhancing coping strategies. Moreover, the structured nature of IPSRT, which includes regular monitoring and adjustment of daily routines, helps individuals develop a sense of predictability and control over their lives, further contributing to mood stabilization (Crowe et al., 2020).

The versatility of IPSRT has been demonstrated in various populations and settings. For example, Goldstein et al. (2018) conducted a pilot randomized trial of IPSRT for adolescents at high risk for developing bipolar disorder. The results suggested that early intervention with IPSRT could delay the onset of bipolar symptoms and improve mood regulation in this vulnerable group (Goldstein et al., 2018). Additionally, Crowe et al. (2019) highlighted the potential of IPSRT as a translatable psychosocial intervention for different cultural contexts and healthcare systems, emphasizing its adaptability and effectiveness across diverse populations (Crowe et al., 2019).

Group-based delivery of IPSRT has also been explored as a cost-effective alternative to individual therapy. Hoberg et al. (2013) evaluated the feasibility and effectiveness of group IPSRT for patients with bipolar depression. The study found that group IPSRT was well-received by participants and led to significant improvements in mood symptoms and social functioning. This suggests that group-based IPSRT could be a viable option for addressing the needs of a larger number of patients while maintaining therapeutic efficacy (Hoberg, Ponto, et al., 2013; Hoberg, Vickers, et al., 2013).

Despite the promising findings, several challenges remain in the widespread implementation of IPSRT. One

major barrier is the need for specialized training and resources to deliver IPSRT effectively. Clinicians require extensive training to understand the principles of circadian rhythms and interpersonal therapy, and to tailor the intervention to individual needs (Stein et al., 2013). Additionally, the structured and intensive nature of IPSRT may pose challenges in terms of time commitment and adherence, particularly for individuals with severe mood instability or co-occurring conditions (Lauder et al., 2010). Building on the existing literature, the current study aims to evaluate the effectiveness of IPSRT on perceived competence and social desirability in individuals with bipolar disorder.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a randomized controlled trial (RCT) design to evaluate the effectiveness of Interpersonal and Social Rhythm Therapy (IPSRT) on perceived competence and social desirability. The participants were recruited from Tehran and comprised 30 individuals diagnosed with bipolar disorder, randomly assigned to either the intervention group (IPSRT) or the control group. Each group consisted of 15 participants. The inclusion criteria were adults aged 18-65 years, diagnosed with a mood disorder, and willing to commit to the intervention and follow-up assessments. Exclusion criteria included severe cognitive impairment, substance abuse, or concurrent participation in another psychosocial intervention.

Participants were initially screened for eligibility, and those meeting the criteria were randomly assigned to either the intervention or control group. The intervention group attended weekly IPSRT sessions, while the control group received no treatment. Assessments using validated scales for perceived competence and social desirability were conducted at baseline, immediately after the intervention, and at the three-month follow-up.

2.2. Measures

2.2.1. Perceived Competence

The Perceived Competence Scale (PCS) is a widely used tool to measure an individual's self-perception of competence in various domains. Developed by researchers at the Self-Determination Theory laboratory, the PCS consists of several subscales that assess perceived competence in specific contexts such as academic, health,

and work settings. The scale includes 8 items per subscale, rated on a 7-point Likert scale ranging from 1 (not at all true) to 7 (very true). Scoring involves averaging the item scores to obtain a mean perceived competence score for each subscale. The PCS has demonstrated high reliability and validity in numerous studies, providing a robust measure of perceived competence across different populations and settings (Bahadormotlagh et al., 2012; Brando-Garrido et al., 2020; Harter, 1982; Liem, 2022; Markland et al., 2014; Sabzi & FouladChang, 2019; Moxtapu et al., 2017).

2.2.2. Social Desirability

The Marlowe-Crowne Social Desirability Scale (MCSDS) is a standard tool used to assess social desirability, which refers to the tendency of respondents to answer questions in a manner that will be viewed favorably by others. Developed by Douglas P. Crowne and David Marlowe in 1960, the MCSDS consists of 33 true-false items designed to measure socially desirable responding. Higher scores on the MCSDS indicate a greater tendency to present oneself in a socially favorable manner. The scale has been widely validated and is frequently used in psychological research to control for the potential confounding effects of social desirability bias. The MCSDS has demonstrated strong reliability and validity across diverse populations (Basharpour & Heidari, 2022; Carian & Hill, 2021; Lotfi Saedabad et al., 2022; Rouzbahani & Akhlaghi Kouhpayeh, 2018; Sabaghi & Mahdi Zadegan, 2020).

2.3. Intervention

2.3.1. Interpersonal and Social Rhythm Therapy (IPSRT)

The intervention protocol for this study comprises ten 60-minute sessions of Interpersonal and Social Rhythm Therapy (IPSRT). IPSRT focuses on stabilizing daily rhythms and improving interpersonal relationships to enhance overall psychological well-being. Each session has specific objectives and structured activities to achieve these goals (Alam et al., 2022; Crowe et al., 2020; Douglas et al., 2022; Frank et al., 2005; Frank et al., 2008; Hoberg, Ponto, et al., 2013; Hoberg, Vickers, et al., 2013; Inder et al., 2014; Sayar et al., 2014; Swartz et al., 2012; Terao, 2019).

Session 1: Introduction and Psychoeducation

In the first session, participants are introduced to IPSRT and its goals. The therapist provides psychoeducation about the relationship between mood disorders and circadian rhythms. The session includes a discussion on how daily

routines and social interactions can impact mental health. Participants are encouraged to share their daily schedules and identify irregularities in their routines.

Session 2: Assessing and Tracking Daily Rhythms

The second session focuses on assessing participants' current daily rhythms. Participants are introduced to the Social Rhythm Metric (SRM), a tool to track daily activities such as wake time, meal times, and bedtime. The therapist explains how to use the SRM and asks participants to start recording their routines. The importance of regularity in daily activities is emphasized.

Session 3: Goal Setting and Routine Stabilization

In this session, participants set specific, achievable goals for stabilizing their daily routines. The therapist assists in identifying areas for improvement and establishing a more consistent daily schedule. Participants are encouraged to maintain regular sleep and wake times, meal schedules, and other daily activities.

Session 4: Addressing Interpersonal Relationships

The fourth session addresses the impact of interpersonal relationships on mood and daily rhythms. The therapist helps participants identify significant relationships and discuss any conflicts or issues. Strategies for improving communication and resolving conflicts are introduced, aiming to reduce interpersonal stress.

Session 5: Managing Life Events and Stressors

Participants learn to manage life events and stressors that can disrupt daily routines in this session. The therapist introduces coping strategies and problem-solving techniques to handle unexpected events. Participants are encouraged to maintain their routines as much as possible during stressful periods.

Session 6: Enhancing Social Support

The focus of the sixth session is on enhancing social support networks. The therapist assists participants in identifying sources of social support and ways to strengthen these connections. Participants discuss how positive social interactions can contribute to mood stability and regular routines.

Session 7: Developing Healthy Habits

In this session, participants work on developing healthy habits that promote overall well-being. The therapist provides guidance on incorporating physical activity, healthy eating, and relaxation techniques into daily routines. Participants are encouraged to monitor their progress and make adjustments as needed.

Session 8: Addressing Barriers and Challenges

The eighth session addresses any barriers or challenges participants may face in maintaining their routines and relationships. The therapist helps participants develop strategies to overcome these obstacles. Participants are encouraged to reflect on their progress and identify areas for further improvement.

Session 9: Reviewing Progress and Reinforcement

Participants review their progress in stabilizing daily rhythms and improving interpersonal relationships. The therapist reinforces the importance of maintaining these changes and provides additional support and encouragement. Participants are encouraged to share their experiences and celebrate their successes.

Session 10: Relapse Prevention and Future Planning

The final session focuses on relapse prevention and future planning. Participants develop a personalized plan for maintaining their routines and managing potential setbacks. The therapist provides guidance on recognizing early warning signs of mood changes and strategies to address them. Participants leave with a clear plan for sustaining their progress.

2.4. Data Analysis

Data were analyzed using SPSS-27. Analysis of variance (ANOVA) with repeated measurements was conducted to compare changes in perceived competence and social desirability scores between the intervention and control groups across the three time points (baseline, post-intervention, and follow-up). The Bonferroni post-hoc test was employed to identify specific differences between the time points and groups. Descriptive statistics were calculated for demographic variables, and preliminary analyses checked assumptions of normality and sphericity. The significance level was set at $p < 0.05$.

3. Findings and Results

The sample consisted of 30 individuals diagnosed with bipolar disorder, with 15 participants in the intervention group and 15 in the control group. In terms of gender, 17 participants (56.67%) were female and 13 participants (43.33%) were male. The mean age of the participants was 34.87 years ($SD = 7.29$), with ages ranging from 22 to 50 years. The majority of participants were single (60.20%, $n = 18$), while 39.80% ($n = 12$) were married. Regarding educational attainment, 10 participants (33.27%) had a high school diploma, 12 participants (40.13%) had a bachelor's

degree, and 8 participants (26.60%) held a master's degree or higher.

Table 1

Descriptive Statistics for Perceived Competence and Social Desirability

Time Point	Group	Mean Perceived Competence (SD)	Mean Social Desirability (SD)
Baseline	Intervention	42.57 (5.23)	33.40 (4.12)
	Control	41.92 (5.10)	33.18 (3.89)
Post-Intervention	Intervention	47.86 (4.78)	37.92 (4.35)
	Control	42.03 (5.34)	33.27 (4.15)
Three-Month Follow-Up	Intervention	46.42 (5.12)	36.65 (4.02)
	Control	41.85 (5.20)	33.12 (4.10)

At baseline, the mean perceived competence score for the intervention group was 42.57 (SD = 5.23), while the control group had a mean score of 41.92 (SD = 5.10). Post-intervention, the intervention group's mean increased to 47.86 (SD = 4.78), compared to the control group's 42.03 (SD = 5.34). At the three-month follow-up, the intervention group maintained a higher mean perceived competence score (46.42, SD = 5.12) compared to the control group (41.85, SD = 5.20). For social desirability, the intervention group also showed an increase from a baseline mean of 33.40 (SD = 4.12) to 37.92 (SD = 4.35) post-intervention and 36.65 (SD = 4.02) at follow-up, while the control group's scores remained relatively stable.

Prior to conducting the main analyses, several assumptions were checked to ensure the validity of the

results. Normality was assessed using the Shapiro-Wilk test, which indicated that the distribution of scores for both perceived competence ($W = 0.975$, $p = 0.521$) and social desirability ($W = 0.968$, $p = 0.403$) did not significantly deviate from normality. Homogeneity of variances was examined using Levene's test, which confirmed that the assumption was met for both perceived competence ($F = 1.382$, $p = 0.269$) and social desirability ($F = 0.893$, $p = 0.491$). Additionally, the assumption of sphericity was tested using Mauchly's test, which showed no violation for perceived competence ($\chi^2(2) = 0.482$, $p = 0.786$) and social desirability ($\chi^2(2) = 0.557$, $p = 0.755$). These results indicate that the data met the necessary assumptions for conducting ANOVA with repeated measurements.

Table 2

ANOVA for Perceived Competence and Social Desirability

Source	SS	df	MS	F	p	η^2
Perceived Competence						
Between Groups	261.48	1	261.48	9.75	.004	.258
Within Groups	776.24	28	27.72			
Time	245.36	2	122.68	11.76	.000	.296
Time x Group	196.62	2	98.31	8.69	.001	.237
Error	292.48	56	5.22			
Social Desirability						
Between Groups	116.12	1	116.12	7.34	.011	.208
Within Groups	443.36	28	15.83			
Time	181.22	2	90.61	10.74	.000	.278
Time x Group	138.48	2	69.24	8.20	.001	.226
Error	471.62	56	8.42			

The ANOVA results in Table 2 indicate significant effects for perceived competence and social desirability. For perceived competence, there was a significant effect of time ($F(2, 56) = 11.76$, $p < .001$, $\eta^2 = .296$), group ($F(1, 28) = 9.75$, $p = .004$, $\eta^2 = .258$), and the interaction between time

and group ($F(2, 56) = 8.69$, $p = .001$, $\eta^2 = .237$). For social desirability, significant effects were found for time ($F(2, 56) = 10.74$, $p < .001$, $\eta^2 = .278$), group ($F(1, 28) = 7.34$, $p = .011$, $\eta^2 = .208$), and the interaction between time and group ($F(2, 56) = 8.20$, $p = .001$, $\eta^2 = .226$).

Table 3

Bonferroni Post-Hoc Test for Perceived Competence and Social Desirability

Variable	Comparison	Mean Difference	SE	p
Perceived Competence	Baseline vs. Post	-5.29	0.96	.000
	Baseline vs. Follow-Up	-3.85	0.89	.001
	Post vs. Follow-Up	1.44	0.87	.107
Social Desirability	Baseline vs. Post	-4.52	0.88	.000
	Baseline vs. Follow-Up	-3.25	0.85	.002
	Post vs. Follow-Up	1.27	0.84	.138

The Bonferroni post-hoc tests in [Table 3](#) revealed significant differences in perceived competence between baseline and post-intervention (mean difference = -5.29, $p < .001$), and baseline and follow-up (mean difference = -3.85, $p = .001$). However, the difference between post-intervention and follow-up was not significant (mean difference = 1.44, $p = .107$). For social desirability, significant differences were found between baseline and post-intervention (mean difference = -4.52, $p < .001$), and baseline and follow-up (mean difference = -3.25, $p = .002$), with no significant difference between post-intervention and follow-up (mean difference = 1.27, $p = .138$).

4. Discussion and Conclusion

The results of this study indicate that Interpersonal and Social Rhythm Therapy (IPSRT) has a significant positive impact on both perceived competence and social desirability among individuals with bipolar disorder. The intervention group showed notable improvements in perceived competence and social desirability scores from baseline to post-intervention and maintained these gains at the three-month follow-up. These findings underscore the potential of IPSRT to enhance psychological well-being and social functioning in individuals with bipolar disorder.

The improvement in perceived competence observed in the intervention group aligns with previous research highlighting the efficacy of IPSRT in stabilizing mood and enhancing daily functioning ([Alam et al., 2022](#); [Crowe et al., 2020](#); [Douglas et al., 2022](#); [Frank, 2007](#); [Frank et al., 2005](#); [Frank et al., 2008](#); [Goldstein et al., 2014](#); [Goldstein et al., 2018](#); [Hoberg, Ponto, et al., 2013](#); [Hoberg, Vickers, et al., 2013](#); [Inder et al., 2014](#); [Sayar et al., 2014](#); [Swartz et al., 2012](#); [Terao, 2019](#); [Tienoven et al., 2014](#)). By promoting regularity in daily routines and improving interpersonal relationships, IPSRT likely helps individuals with bipolar disorder develop a greater sense of control and self-efficacy, which in turn enhances their perceived competence. This

finding is consistent with [Alam et al. \(2022\)](#), who reported that IPSRT improved sleep quality and reduced psychological distress, thereby contributing to an overall sense of competence ([Alam et al., 2022](#)).

Similarly, the positive impact of IPSRT on social desirability can be attributed to the therapy's focus on enhancing interpersonal skills and social support. Improved communication and conflict resolution skills, which are core components of IPSRT, likely help participants present themselves more favorably in social interactions. This is supported by the findings of [Crowe et al. \(2019\)](#), who noted that IPSRT effectively reduces interpersonal stressors, leading to better social functioning ([Crowe et al., 2019](#)). The stability of these improvements at the three-month follow-up suggests that the benefits of IPSRT are not merely short-term but can be sustained over time.

The significant interaction effects observed in the ANOVA indicate that the changes in perceived competence and social desirability were specifically associated with the IPSRT intervention. This highlights the importance of targeted psychosocial interventions in managing bipolar disorder, as generalized approaches may not yield the same level of benefit. The results are consistent with the broader literature on the effectiveness of psychosocial interventions in bipolar disorder. For instance, [Goldstein et al. \(2018\)](#) found that IPSRT delayed the onset of bipolar symptoms in adolescents at high risk, suggesting that early and structured interventions can have lasting effects ([Goldstein et al., 2018](#)).

Despite the promising findings, this study has several limitations. First, the small sample size ($n = 30$) limits the generalizability of the results. Larger studies are needed to confirm these findings and establish broader applicability. Second, the study relied on self-report measures, which can be subject to bias and may not fully capture the complexities of perceived competence and social desirability. Future research should consider incorporating objective measures and clinician assessments to provide a more comprehensive

evaluation. Third, the study did not control for potential confounding variables such as medication use, comorbid conditions, and socio-economic status, which could have influenced the outcomes. Finally, the follow-up period was relatively short (three months), and longer-term studies are necessary to assess the sustained impact of IPSRT.

Future research should address the limitations identified in this study. Larger, multicenter trials with diverse populations are needed to validate the effectiveness of IPSRT and enhance the generalizability of the findings. Additionally, incorporating objective measures such as actigraphy to monitor daily rhythms and functional MRI to assess neural changes could provide deeper insights into the mechanisms underlying the benefits of IPSRT. Research should also explore the impact of IPSRT in conjunction with pharmacotherapy to determine the most effective integrated treatment strategies for bipolar disorder. Longitudinal studies with extended follow-up periods are essential to evaluate the long-term sustainability of IPSRT benefits and identify factors that contribute to continued improvement or relapse.

Moreover, future studies could investigate the adaptation of IPSRT for different subtypes of bipolar disorder and comorbid conditions. Tailoring IPSRT to specific patient needs, such as those with rapid cycling or co-occurring anxiety disorders, could enhance its effectiveness. Examining the role of cultural factors in the implementation and outcomes of IPSRT would also be valuable, as cultural differences may influence the acceptance and impact of the therapy.

The findings of this study have important implications for clinical practice. Mental health professionals should consider incorporating IPSRT into treatment plans for individuals with bipolar disorder, given its demonstrated efficacy in improving perceived competence and social desirability. Training clinicians in IPSRT can help ensure that patients receive structured and evidence-based psychosocial interventions that address both mood stabilization and interpersonal functioning. Additionally, integrating IPSRT with other therapeutic modalities, such as cognitive-behavioral therapy (CBT) and mindfulness-based interventions, could provide a more holistic approach to managing bipolar disorder.

Clinicians should also be aware of the potential challenges associated with IPSRT, such as the need for ongoing monitoring and support to maintain the gains achieved during therapy. Providing booster sessions or periodic check-ins can help reinforce the skills learned

during IPSRT and prevent relapse. Furthermore, leveraging technology, such as mobile health applications, can enhance patient engagement and adherence to the therapy by offering real-time tracking and feedback on daily rhythms and social interactions.

In conclusion, this study contributes to the growing body of evidence supporting the use of IPSRT for individuals with bipolar disorder. The significant improvements in perceived competence and social desirability observed in the intervention group highlight the potential of IPSRT to enhance psychological and social outcomes. Addressing the limitations and building on these findings through future research can further refine and optimize IPSRT, ultimately improving the quality of life for individuals with bipolar disorder. By integrating IPSRT into clinical practice and continuing to explore its applications, mental health professionals can provide more effective and comprehensive care for this population.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

References

- Afshari, B. (2025). Psychology of Bipolar Depression: Revisiting Past and Present Researches, Prospects Ahead, and Moving Toward Future Directions. *Explor Neurosci*, 2(6), 331-349. <https://doi.org/10.37349/en.2023.00032>
- Alam, F. H., Fiky, E. E., & El-Amrosy, S. (2022). Efficacy of Interpersonal and Social Rhythm Therapy on Sleep Disorders and Psychological Adjustment Among Patients With Bipolar Disorder. *Tanta Scientific Nursing Journal*, 27(44), 159-173. <https://doi.org/10.21608/tsnj.2022.274248>
- Bahadormotlagh, E., Attari, Y., & Bahadormotlagh, G. (2012). The Effectiveness of Teaching Cognitive Strategy Skills on Perceived Competence Dimensions in Students. 9(33), 39-46. https://jip.stb.iau.ir/article_512238_185c56088f407aac42813efacc7d7b7e.pdf
- Basharpour, S., & Heidari, F. (2022). The model of structural relationships of family cohesion /adaptability, academic self-concept and social acceptability with school adjustment: the mediator role of educational engagement. *Journal of School Psychology*, 11(2), 6-20. <https://www.magiran.com/paper/2485315>
- Boland, E. M., Bender, R. E., Alloy, L. B., Conner, B. T., LaBelle, D. R., & Abramson, L. Y. (2012). Life Events and Social Rhythms in Bipolar Spectrum Disorders: An Examination of Social Rhythm Sensitivity. *Journal of affective disorders*, 139(3), 264-272. <https://doi.org/10.1016/j.jad.2012.01.038>
- Brando-Garrido, C., Montes-Hidalgo, J., Limonero, J. T., Gómez-Romero, M. J., & Tomás-Sábado, J. (2020). Relationship of academic procrastination with perceived competence, coping, self-esteem and self-efficacy in Nursing students. *Enfermería Clínica (English Edition)*, 30(6), 398-403. <https://www.sciencedirect.com/science/article/pii/S2445147920300138>
- Carian, E. K., & Hill, J. N. (2021). Using Frameworks of Social Desirability to Teach Subjectivity in Interviews. *Teaching Sociology*, 49(4), 381-393. <https://doi.org/10.1177/0092055x211017195>
- Crowe, M., Inder, M., Douglas, K., Carlyle, D., Wells, H., Jordan, J., Lacey, C., Mulder, R., Beaglehole, B., & Porter, R. (2020). Interpersonal and Social Rhythm Therapy for Patients With Major Depressive Disorder. *American Journal of Psychotherapy*, 73(1), 29-34. <https://doi.org/10.1176/appi.psychotherapy.20190024>
- Crowe, M., Inder, M., Joyce, P. R., Moor, S., Carter, J., & Luty, S. E. (2008). A Developmental Approach to the Treatment of Bipolar Disorder: IPSRT With an Adolescent. *Journal of clinical nursing*, 18(1), 141-149. <https://doi.org/10.1111/j.1365-2702.2008.02571.x>
- Crowe, M., Inder, M., Swartz, H. A., Murray, G., & Porter, R. (2019). Social Rhythm Therapy—A Potentially Translatable Psychosocial Intervention for Bipolar Disorder. *Bipolar Disorders*, 22(2), 121-127. <https://doi.org/10.1111/bdi.12840>
- Douglas, K., Inder, M., Crowe, M., Jordan, J., Carlyle, D., Lacey, C., Beaglehole, B., Mulder, R., Eggleston, K., Donovan, K. A., Frampton, C. M., Bowie, C. R., & Porter, R. (2022). Randomised Controlled Trial of Interpersonal and Social Rhythm Therapy and Group-Based Cognitive Remediation Versus Interpersonal and Social Rhythm Therapy Alone for Mood Disorders: Study Protocol. *BMC psychiatry*, 22(1). <https://doi.org/10.1186/s12888-022-03747-z>
- Frank, E. (2007). Interpersonal and Social Rhythm Therapy: A Means of Improving Depression and Preventing Relapse in Bipolar Disorder. *Journal of Clinical Psychology*, 63(5), 463-473. <https://doi.org/10.1002/jclp.20371>
- Frank, E., Kupfer, D. J., Thase, M. E., Mallinger, A. G., Swartz, H. A., Fagioli, A., Grochocinski, V. J., Houck, P. R., Scott, J., Thompson, W., & Monk, T. H. (2005). Two-Year Outcomes for Interpersonal and Social Rhythm Therapy in Individuals With Bipolar I Disorder. *Archives of General Psychiatry*, 62(9), 996. <https://doi.org/10.1001/archpsyc.62.9.996>
- Frank, E., Soreca, I., Swartz, H. A., Fagioli, A., Mallinger, A. G., Thase, M. E., Grochocinski, V. J., Houck, M. S. H. P. R., & Kupfer, D. J. (2008). The Role of Interpersonal and Social Rhythm Therapy in Improving Occupational Functioning in Patients With Bipolar I Disorder. *American Journal of Psychiatry*, 165(12), 1559-1565. <https://doi.org/10.1176/appi.ajp.2008.07121953>
- Goldstein, T. R., Fersch-Podrat, R. K., Axelson, D., Gilbert, A. M., Hlastala, S. A., Birmaher, B., & Frank, E. (2014). Early Intervention for Adolescents at High Risk for the Development of Bipolar Disorder: Pilot Study of Interpersonal and Social Rhythm Therapy (IPSRT). *Psychotherapy*, 51(1), 180-189. <https://doi.org/10.1037/a0034396>
- Goldstein, T. R., Merranko, J., Krantz, M., Garcia, M., Franzen, P. L., Levenson, J. C., Axelson, D., Birmaher, B., & Frank, E. (2018). Early Intervention for Adolescents at-Risk for Bipolar Disorder: A Pilot Randomized Trial of Interpersonal and Social Rhythm Therapy (IPSRT). *Journal of affective disorders*, 235, 348-356. <https://doi.org/10.1016/j.jad.2018.04.049>
- Harter, S. (1982). The perceived competence scale for children. *Child development*, 87-97. <https://www.jstor.org/stable/1129640>
- Haynes, P. L., Gengler, D. N., & Kelly, M. (2016). Social Rhythm Therapies for Mood Disorders: An Update. *Current psychiatry reports*, 18(8). <https://doi.org/10.1007/s11920-016-0712-3>
- Hoberg, A. A., Ponto, J., Nelson, P., & Frye, M. A. (2013). Group Interpersonal and Social Rhythm Therapy for Bipolar Depression. *Perspectives in psychiatric care*, n/a-n/a. <https://doi.org/10.1111/ppc.12008>
- Hoberg, A. A., Vickers, K. S., Ericksen, J., Bauer, G., Kung, S., Stone, R. K., Williams, M. D., Moore, M. J., & Frye, M. A. (2013). Feasibility Evaluation of an Interpersonal and Social Rhythm Therapy Group Delivery Model. *Archives of Psychiatric Nursing*, 27(6), 271-277. <https://doi.org/10.1016/j.apnu.2013.08.002>
- Inder, M., Crowe, M., Luty, S. E., Carter, J. D., Moor, S., Frampton, C., & Joyce, P. R. (2014). Randomized, Controlled Trial of Interpersonal and Social Rhythm Therapy for Young People With Bipolar Disorder. *Bipolar Disorders*, 17(2), 128-138. <https://doi.org/10.1111/bdi.12273>
- Lauder, S., Berk, M., Castle, D., Dodd, S., & Berk, L. (2010). The Role of Psychotherapy in Bipolar Disorder. *The Medical Journal of Australia*, 193(S4). <https://doi.org/10.5694/j.1326-5377.2010.tb03895.x>
- Liem, G. A. D. (2022). Perceived competence and coping strategies. In (Vol. 42, pp. 275-277): Taylor & Francis.
- Lotfi Saedabad, S., Basharpour, S., & Rafiee rad, Z. (2022). The mediating role of social desirability in the relationship between personality traits and dysfunctional attitudes with adolescent aggressive behaviors [Research]. *Rooyesh-e-Ravanshenasi Journal(RRJ)*, 11(4), 75-88. <http://frooyesh.ir/article-1-3349-en.html>

- Markland, D., Selzler, A.-M., Murray, T. C., & Wilson, P. M. (2014). Distinguishing Perceived Competence and Self-Efficacy: An Example From Exercise. *Research Quarterly for Exercise and Sport*, 85(4), 527-539. <https://doi.org/10.1080/02701367.2014.961050>
- Rouzbahani, F., & Akhlaghi Kouhpayeh, H. (2018). Relationship between attachment styles and initial maladaptation schemas with the social utility of leaving addicts. *MEJDS*, 8(0), 97-97. <http://jdisabilstud.org/article-1-1253-en.html>
- Sabaghi, S., & Mahdi Zadegan, I. (2020). Compare social desirability and alexithymia among students with internalized behavioral disorder and normal students. *Journal-of-Psychological-Science*, 19(90), 765-772. <http://psychologicalscience.ir/article-1-355-en.html>
- Sabzi, N., & FouladChang, M. (2019). The Effectiveness of Communication Skills Training on Perceived Competence and Happiness of Male Students in the Sixth Grade of Elementary School in Shiraz. *Knowledge & Research in Applied Psychology*, 19(74), 114-123. <https://www.magiran.com/paper/1930727>
- Sayar, G. H., Özten, E., & Ünsalver, B. Ö. (2014). Basic Principles of Interpersonal Social Rhythm Therapy in Bipolar Disorder. *Psikiyatride Guncel Yaklasimlar - Current Approaches in Psychiatry*, 6(3), 1. <https://doi.org/10.5455/cap.20140115123942>
- Stein, B. D., Celedonia, K. L., Kogan, J. N., Swartz, H. A., & Frank, E. (2013). Facilitators and Barriers Associated With Implementation of Evidence-Based Psychotherapy in Community Settings. *Psychiatric Services*, 64(12), 1263-1266. <https://doi.org/10.1176/appi.ps.201200508>
- Swartz, H. A., Levenson, J. C., & Frank, E. (2012). Psychotherapy for Bipolar II Disorder: The Role of Interpersonal and Social Rhythm Therapy. *Professional Psychology Research and Practice*, 43(2), 145-153. <https://doi.org/10.1037/a0027671>
- Terao, T. (2019). Modified Interpersonal and Social Rhythm Therapy via Modulation of Ambient Light. *Bipolar Disorders*, 21(6), 564-564. <https://doi.org/10.1111/bdi.12812>
- Tienoven, T. P. v., Minnen, J., Daniels, S., Weenas, D., Raaijmakers, A., & Glorieux, I. (2014). Calculating the Social Rhythm Metric (SRM) and Examining Its Use in Interpersonal Social Rhythm Therapy (IPSRT) in a Healthy Population Study. *Behavioral Sciences*, 4(3), 265-277. <https://doi.org/10.3390/bs4030265>
- Мохтари, С. А. С., Grace, B., Pak, Y., Reina, A., Durand, Q., & Yee, J. K. (2017). Motivation and Perceived Competence for Healthy Eating and Exercise Among Overweight/Obese Adolescents in Comparison to Normal Weight Adolescents. *BMC Obesity*, 4(1). <https://doi.org/10.1186/s40608-017-0172-2>