

Cultural Differences in the Efficacy of Group Psychotherapy for Social Anxiety Disorder: A Meta-Analysis Comparing Asia and Western Countries

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Abstract

This study aims to evaluate the effectiveness of group-based psychotherapy interventions in reducing social anxiety. This meta-analysis included 12 articles involving 539 participants (323 in the intervention group and 216 in the control group). This study hypothesized that group psychotherapy is effective in reducing the symptoms of social anxiety disorder. Data analyzed included sample size (N), mean (M), and standard deviation (SD) to calculate the effect size using a random-effects model. The results showed a Hedge's g effect size of -0.809 (95% CI -1.202 to -0.416) with moderate heterogeneity ($I^2 = 73.84\%$). Moderator analysis based on country of origin revealed a difference in effect size of -1.217 (95% CI -2.109 to -0.325) with lower heterogeneity $(I^2 = 61.28\%)$. These findings indicate that group-based psychotherapy is significantly effective in reducing social anxiety. Furthermore, Asian countries demonstrated greater effectiveness compared to Western countries in using group psychotherapy to alleviate social anxiety symptoms. This study highlights the importance of incorporating cultural contexts into the development of group psychotherapy interventions.

Keywords: meta-analysis; group psychotherapy; social anxiety.

1. INTRODUCTION

Social anxiety disorder (also known as social phobia) is a condition in which an individual experiences intense and persistent feelings of fear, where the individual feels that they are being watched or evaluated by other people around them (National Institute of Mental Health [NIMH], 2016). The core symptomatology is characterized by persistent fear and avoidance of social and performance situations (see DSM 5-TR criteria, American Psychiatric Association [APA], 2022). Individuals who experience social anxiety disorder will have a negative impact, such as impairment in social function, role, and career development, as well as decreased subjective wellbeing and quality of life (Wittchen & Fehm, as cited in Swasti & Martani, 2013). Social anxiety disorder can affect the emergence of chronic feelings of loneliness, problems in school activities, the risk of developing other anxiety disorders, depression, and drug abuse (Agersnap et al., 2022).

Social anxiety is a rapidly increasing issue that is believed to affect young people more than others (Jefferies & Ungar, 2020). National Comorbidity Survey [NCS], as stated in Stein et al. (2017), suggests that social anxiety disorder is one of the most common of all mental disorders in the world. Furthermore, Stein et al. (2017) suggest that higher-income countries show higher levels of social anxiety than lower-income countries. Global estimates suggest that approximately 27% of all depression cases and 23% of all anxiety cases occur in the Southeast Asia Region (World Health Organization [WHO], 2016, as cited in Lemon et al., (2024)). A survey conducted by Indonesia National Adolescent Mental Health (2022) found that one in three adolescents in Indonesia have mental health issues, which equals 15.5 million people. One in 20 adolescents, equal to 2.45 people, is diagnosed with a mental health disorder. That survey stated that 3.7% of those are experiencing a Social Anxiety Disorder, followed by Major Depressive Disorder (1.0%), behavioral problems (0.9%), Post Traumatic Stress Disorder (0.5%), and Attention Deficit Hyperactivity Disorder (0.5%). This shows that social anxiety disorder is a prevalent concern globally in the world.

Several psychological interventions are known to be adequate to overcome social anxiety symptoms, such as Cognitive Behavioral Therapy, Mindfulness-Based Therapy, Interpersonal Therapy, Self Help Strategy, and Group Psychotherapy (Liu et al., 2021; Mayo-Wilson et al., 2014). Group psychotherapy can be a practical approach, remembering its cost-effectiveness in reducing symptoms of a social anxiety disorder (Barkowski et al., 2016). Although individuals with social anxiety tend to get anxious when confronted with a group of people, additional therapeutic factors are introduced by treating patients in specific settings, including in-session exposure to social situations and the ability to work with a broader range of interpersonal behavior (Barkowski et al., 2016). Group psychotherapy is an intervention that has been proven to be able to treat anxiety disorders using various scientifically proven approaches (Barkowski et al., 2020). Individuals gain therapeutic benefits through normalizing symptoms, learning from the experiences of others, practicing social skills, and having social pressure to complete treatment until the end (McEvoy, 2007).

Research conducted by Herbert, et al (2002) found that group psychotherapy carried out in a short and intensive time was shown to have a significant long-term effect on reducing symptoms of social anxiety. In line with this study, Colhoun et al. (2021) found that group psychotherapy was effective in reducing symptoms of social anxiety in individuals diagnosed with severe social anxiety disorder. Another study conducted by Bangun (2022) showed that group psychotherapy was able to reduce symptoms of anxiety and depression in individuals with anxiety and depression disorders. Referring to the results of the previous studies (Barkowski et al., 2016), we are interested in replicating and validating the previous meta-analysis and exploring specific moderators, such as cultural differences, in the treatment of social anxiety disorder. This replication is essential to validate the reliability of previous findings, further reinforcing the effectiveness of group therapy. Additionally, cultural norms play a significant role in shaping mental health treatment outcomes. A comparative analysis between Western and Asian countries provides valuable insights into how societal structures influence therapy success, enabling clinicians to refine and optimize treatment approaches for diverse populations. In this meta-analysis, our aim was (1) to quantify the effect size of group psychotherapy for social anxiety disorder, and (2) to compare the effectiveness of group psychotherapy on social anxiety disorder in Western and Asian countries.

2. METHODS

2. 1. Meta-Analysis

This study uses quantitative research design with meta-analysis techniques. Meta-analysis is a statistical approach used to collect and analyze data from several independent studies with similar research questions. This study looked at effect size (comparison of scores between experimental and control groups) to measure the effect of group psychotherapy on social anxiety. The effect size value illustrates the influence of the group psychotherapy intervention variable on the social anxiety variable. Data searches were conducted using the PRISMA 2020 standard (Page et al., 2021).

2. 2. Participants

This study's total number of participants was 539, consisting of 323 experimental and 216 control groups. The twelve articles combined obtained the number of participants based on the criteria determined by the researcher. From several studies analyzed, it is known that several countries were involved, including USA (25%), Indonesia (16.67%), Canada (16.67%), Australia (8.33%), Switzerland (8.33%), Iran (8.33%), Brazil (8.33%), and England (8.34%).

2. 3. Procedure

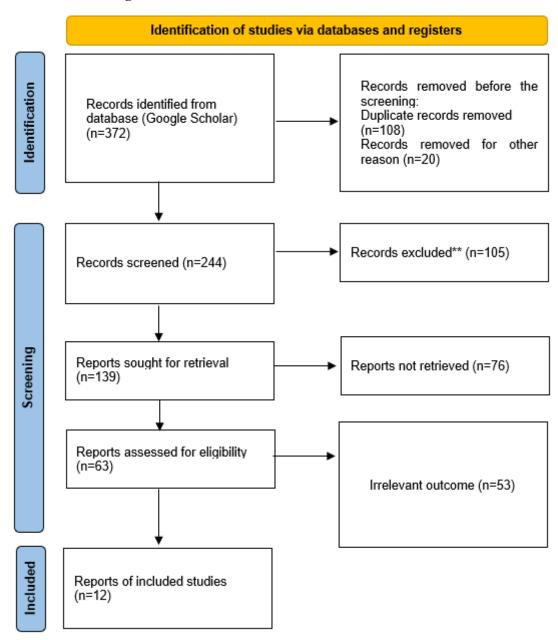
Researcher started the search by using the keywords "Group Therapy" AND "Social Anxiety Disorder"- "Review", "Psikoterapi Kelompok" AND "Gangguan Kecemasan Sosial"- "Review", and "Group Therapy" AND "Social Anxiety Disorder"- "Trial". Then, the researcher applied sorting based on the title and abstract of the article, until finally, twelve studies were found that met the inclusion criteria in this study. The inclusion criteria in this study are studies that use experimental research methods, use English or Indonesian as their writing, have control groups and experimental groups, and mention each group's mean, SD, and N values. The exclusion criteria in this study are articles that do not have control and experimental groups, do not have pre-test scores, and take measurements routinely (weekly). The effect sizes were extracted by a single coder using a standardized extraction protocol to minimize potential bias and ensure consistency.

2. 4. Data Analysis

The meta-analysis used for this research is Hedge's G model, which uses the mean, standard deviation, and number of participants to conduct the analysis. The data were analyzed using Jamovi 2.2.5 software (The Jamovi Project, 2021). The hedge's g value of 0.2 is classified as small effect size, then the value of 0.5 is classified as medium, while the value \geq 0.8 is classified as large (Cohen, 1992). In addition, the heterogeneity value is also seen, namely if the I² value is around 25% classified as low heterogeneity, 50% as moderate, and 75% classified as large, and I² \approx 0% represents homogeneity (Huedo-medina et al. as cited in Card, 2012). If the studies only differ by the sampling error (homogenous case), a fixed-effects model can be applied to obtain the effect size. By contrast, if the study results show a heterogeneous case, then meta-analysis can assume a random effects model (Huedo-medina et al., 2006). It is also noted that publication bias can occur if the significance value of Egger's bias <0.01, while if the significance is > 0.01 then it does not show publication bias.

Figure 1

PRISMA Flow Diagram



3. RESULTS

The researcher conducted an initial search, which led to the acquisition of 372 research articles. The researcher then selected the results based on the predetermined inclusion-exclusion criteria. In the end, the researcher found twelve pieces of literature that fit the criteria.

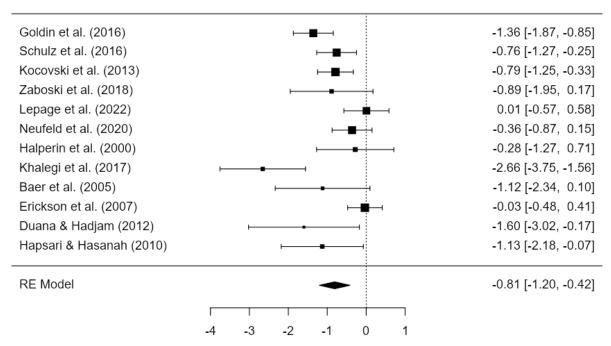
 Table 1

 Literature used in the analysis

Author	~	Measurement Tool	rement Tool Intervention		n		95%CI	
Author	Country	Measurement 1001	Intervention	EG	CG	g	93%C1	
Halperin et al. (2000)	Australia	SIAS	CBGT	7	9	-0.28	-1.27, 0.71	
Baer et al. (2005)	USA	SPAI	CBGT	6	6	-1.12	-2.34, 0.10	
Erickson et al. (2007)	Canada	BAI	CBGT	88	25	0.39	-0.09, 0.88	
Hapsari & Hasanat (2010)	Indonesia	SAS-A	SST	8	8	-1.13	-2.18, -0.07	
Duana & Hadjam (2012)	Indonesia	DCL	CBGT	5	5	-1.60	-3.02, -0.17	
Kocovski et al. (2013)	Canada	SPIN	CBGT	53	31	-0.82	-1.33, -0.30	
Goldin et al. (2016)	USA	LSAS-SR	CBGT	36	36	-1.35	-1.88, -0.82	
Schulz et al. (2016)	Switzerland	SIAS	CGGT	45	24	-0.76	-1.27, -0.25	
Khaleghi et al. (2017)	Iran	SAS-A	RTG	12	12	-2.66	-3.75, -1.56	
Zaboski et al. (2018)	USA	SAQ-A30	CBT- ERP	7	8	-0.89	-1.95, 0.17	
Neufeld et al. (2020)	Brazil	BAI	CBGT	27	33	0.68	0.15, 1.20	
Lepage et al. (2022)	England	SPIN, SIAS, BSPS (composite)	CBGT	29	19	-0.38	-0.97, 0.20	

Note. SIAS = The Social Interaction Anxiety Scale, SPAI = Social Phobia and Anxiety Inventory, BAI = Beck Anxiety Inventory, SAS-A = Social Anxiety Scale for Adolescents, DCL = Diary Checklist, SPIN = Social Phobia Inventory, LSAS-SR = Liebowitz Social Anxiety Scale, BSPS = Brief Social Phobia Inventory, SAQ-A30 = The Social Anxiety Questionnaire for Adults, CBGT = Cognitive Behavioral Group Therapy, CBT-ERP = Cognitive Behavioral Therapy Group Exposure and Response Prevention, RTG = Reality Therapy Group, CGGT = Clinician Guided Group Treatment, SST = Social Skills Training

Figure 2
Forest Plot



The results of a meta-analysis conducted on twelve previous research articles using the Random-Effects Model show the following data:

Table 2 *Effect Size*Random-Effects Model (k = 12)

	Estimate	se	Z	p	CI	CI	Heterogeneity		eity
					Lower Bound	Upper Bound	Q	p	I^2
Intercept	-0.809	0.201	-4.03	<.0001	-1.202	-0.416	38.049	<.001	73.84%

Note. Tau² Estimator: Restricted Maximum-Likelihood

According to the results of the analysis that has been done, the Hedge's effect size value is -0.809 (95% CI -1.202 to -0.416; p < 0.0001), so it can be said that the effect size of group psychotherapy to reduce social anxiety is in the large category. It indicates that group psychotherapy is significantly effective in reducing social anxiety symptoms. The heterogeneity test results in viewing variations also showed that the data consistency value I² was 73.84%, indicating the moderate level of heterogeneity of the data obtained (Borenstein et al., 2009).

Figure 3
Funnel Plot

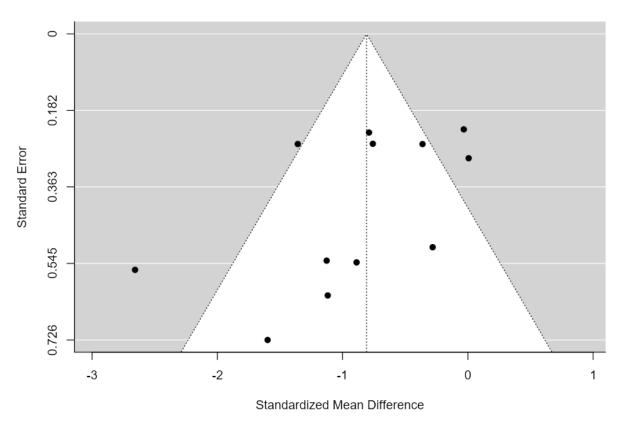


Table 3Publication Bias Assessment

value	p
239.000	<.001
-0.394	0.086
-1.947	0.052
2.000	
	239.000 -0.394 -1.947

Note. Fail-safe N Calculation Using the Rosenthal Approach

Egger's Regression test results show no publication bias in this study, as shown by the p-value = 0.052 (p > 0.01). This means that the research articles used in this study tend to provide diverse results.

Moderator Analysis

The moderator variable used in analyzing potential differences in effect size is country of origin. Out of the 12 studies used in the analysis, there are two countries coded: (1) Western (k=9), (2) Asian (k=3). The analysis shows the following data:

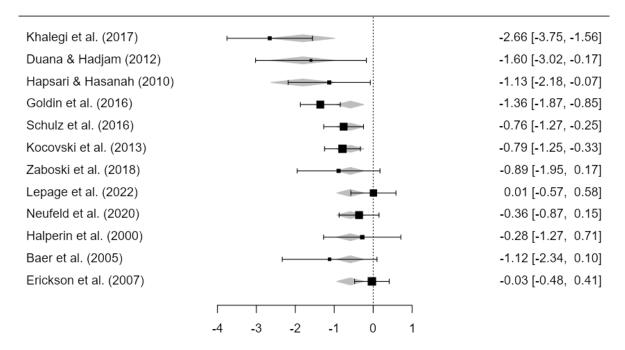
Table 4 *Moderator Analysis*Mixed-Effects Model (k = 12)

,	Estimate se		se Z p		CI CI	Heterogeneity			
					Lower Bound	Upper Bound	Q	p	I²
Moderator	-1.217	0.45	5 -2.67	0.007	-2.109	-0.325	25.975	0.004	61.28%

Note. Tau² Estimator: Restricted Maximum-Likelihood

Based on the statistical results obtained, different countries of origin significantly affect the treatment outcomes (Hedges'g = -1.217; 95% CI -2.109 to -0.325; p = 0.007). This indicates that group psychotherapy conducted in Asia is more effective in treating social anxiety disorder than in Western countries.

Figure 4
Forest Plot



4. DISCUSSION

Social anxiety is a psychological condition characterized by excessive fear when placed in social situations. According to Hedman et al. (2013), social anxiety can be identified by the emergence of excessive fear when dealing with other people and trying to avoid activities that can cause feelings of fear. Christensen et al. (2003) explained that people who experience social anxiety disorder will view themselves negatively and have the belief that other people also judge them negatively. If it continues, this can negatively affect daily life and the ability to interact with others.

The meta-analysis conducted in this study showed the results of a large, significant effect in the treatment of social anxiety disorder compared to control. It means that group psychotherapy has been proven to be effective in reducing symptoms of social anxiety disorder. This finding aligns with previous meta-analyses by Wersebe et al. (2013) and Barkowski et al. (2016).

The study with the highest effect size value was conducted by Khaleghi et al. (2017) entitled "Effectiveness of group reality therapy on symptoms of social anxiety, interpretation bias and interpersonal relationships in adolescents". This study used Group Reality Therapy intervention on ninth-grade female students in Sabzevar City in the 2016-2017 academic year with an average age of 15 years who had high social anxiety scores on the Social Anxiety Scale for Adolescents (SAS-A). Reality Therapy is a treatment that focuses on individual maladaptive behavior, developing the ability to cope with the pressures of reality, and taking greater responsibility in meeting their needs (American Psychological Association [APA], 2023). These results are in line with research conducted by Massah et al. (2015), which states that Group Reality Therapy is effective in reducing symptoms of stress, anxiety, and depression in individuals. However, the study that used Reality Therapy for reducing social anxiety is limited. Thus, we couldn't find meta-analyses of Reality Therapy in reducing social anxiety disorder to compare with these findings.

On the other hand, the study with the smallest effect size was conducted by Lepage et al. (2022), entitled "Manual group cognitive behavioral therapy for social anxiety in first-episode psychosis: a randomized controlled trial." This study used Cognitive Behavioral Group Therapy intervention for individuals with social anxiety who experienced a first episode of psychosis. The criteria for individual subjects aged 18-35 years who were diagnosed with psychotic disorders, had intermediate abilities in reading and writing English and French (education> eight years), had social anxiety scores above those set by researchers on the composite of Social Interaction Anxiety Scale, Social Phobia Inventory, and Brief-Social Phobia Scale, and met the criteria for a diagnosis of social anxiety disorder. The difference in effect size values may be due to the participants used in the study by Lepage et al. (2022), who were individuals who had been diagnosed with psychotic disorders, so they had more complex conditions and required more intensive and special attention individually to be able to deal with the symptoms they experienced. Michail et al. (2017) conducted a systematic review highlighting the effectiveness of group-based CBT in reducing social anxiety symptoms among individuals with psychosis. However, they emphasized the importance of tailoring and adapting the intervention to address this population's unique symptoms and challenges. Additionally, they suggested that the efficacy of group-based CBT for social anxiety in psychosis could be significantly improved by incorporating a focus on shame, feelings of entrapment, and concealment behaviors (Michail & Birchwood, 2013).

In comparison to the meta-analysis by Barkowski et al. (2016), which predominantly focused on evaluating the overall efficacy of group psychotherapy for Social Anxiety Disorder (SAD), our meta-analysis advances this research by incorporating recent studies and emphasizing cultural context as a moderator. Although Barkowski et al. (2016) identified a medium effect size for group psychotherapy, our analysis demonstrates a larger effect size, possibly attributed to cultural differences that their study did not explicitly examine.

Our research specifically investigates the influence of cultural factors on the efficacy of group psychotherapy for SAD, addressing a gap in Barkowski's work, which concentrated its moderator analyses on methodological variables, such as session frequency and therapist characteristics, rather than on cultural or geographical distinctions. By including cross-cultural comparisons between Asian and Western countries, our study makes a distinct contribution to understanding the impact of cultural variability on therapeutic outcomes. We acknowledge,

however, that the larger effect size observed might be influenced by the limited number of studies included in our analysis. To mitigate concerns about potential publication bias, we conducted an Egger's test, which confirmed its absence.

Hofstede's framework offers a valuable lens through which cultural dimensions, such as individualism and collectivism, can be analyzed in the context of group psychotherapy. These dimensions reflect how individuals integrate into their primary social groups, with individualistic societies emphasizing self-reliance, autonomy, and personal identity ("I" consciousness). Conversely, collectivist societies prioritize group harmony, shared identity ("we" consciousness), and mutual support (Hofstede, 2011). Indonesia and Iran, as indicated by Hofstede's Individualism Dimension (Hofstede Insights, 2023), rank among the lowest in individualism compared to other countries included in this analysis, highlighting their strong emphasis on collectivist values.

Group psychotherapy operates through mechanisms of change such as universality, altruism, instillation of hope, imparting information, interpersonal learning, and self-understanding (Malat & Leszcz, 2015). At its core, group cohesion plays a pivotal role as a precondition for other therapeutic factors to function effectively (Yalom & Leszcz, as cited in Malat & Leszcz, 2015). A cohesive group fosters trust among members and therapists, enabling participants to self-disclose, take interpersonal risks, and engage actively in group tasks. This dynamic aligns particularly well with collectivist values of interdependence and group harmony, which may contribute to better therapeutic outcomes in such societies. In these cultural contexts, group therapy creates a supportive environment that resonates with collectivist principles, offering individuals a sense of belonging, purpose, and hope throughout treatment.

In contrast, individualistic societies, which emphasize personal autonomy and self-reliance, might show a preference for individual therapy due to its focus on personalized and private therapeutic experiences. Furthermore, research has demonstrated that collectivist societies tend to exhibit higher levels of social support, which positively influences mental health treatment outcomes (Cheng, Rizkallah, & Narizhnaya, 2020). Collectivists also tend to achieve higher self-efficacy when working collaboratively within groups, while individualists tend to perform better in independent settings. Thus, within collectivist cultures, group therapy fosters mutual encouragement, trust, and shared purpose, enhancing its effectiveness and underscoring the importance of considering cultural values in tailoring therapeutic interventions.

The limitation of this research is that the cultural context used in this study is limited. The representation of the Asian region is limited to Indonesia and Iran, and the study included is rather small. This limitation arises because the researchers did not find studies that met the inclusion criteria. We recommend further research to include more data from other Asian countries get more data and explore other moderator possibilities, such as age, the severity of the disorder, etc. The practical recommendation is to consider group psychotherapy as the primary intervention to treat social anxiety disorder, especially in collectivist cultures, given the significantly large effect size in Asia regions.

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