

Contours of the Contemporary Mind

Edited by

Dr. Nilanjana Mitra



Swami Vivekananda University

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We hope that this book serves as a valuable resource for students, researchers, and professionals in the field of psychology.

With sincere appreciation,



Dr. Nilanjana Mitra

Swami Vivekananda University, Kolkata, West Bengal,
India

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BEYOND THE BINARY: THE ROLE OF EMOTIONAL INTELLIGENCE AND ORGANIZATIONAL COMMITMENT IN JOB SATISFACTION OF KOLKATA'S IT WORKFORCE

Tanusree Shaw¹ and Dr. Papia Mukherjee²

¹Student, M.Sc. in Applied Psychology, Swami Vivekananda University

²Assistant Professor, Dept. of Psychology, Swami Vivekananda University

Abstract

This research explores the intricate dynamics between Emotional Intelligence (EI), Organizational Commitment (OC), and Job Satisfaction (JS) within the IT workforce of Kolkata. In a rapidly evolving industry, understanding these interrelationships is crucial for enhancing employee well-being and productivity. Our study focuses on three dimensions of organizational commitment: affective, continuance, and normative, and examines their influence on job satisfaction alongside emotional intelligence. The sample comprised 160 IT professionals from various companies in Kolkata. Employing statistical techniques such as correlation, ANOVA, and regression analysis, we aimed to elucidate the connections between the variables. The findings reveal significant positive relationships between EI and JS, indicating that employees with higher emotional intelligence tend to experience greater job satisfaction. Similarly, each dimension of organizational commitment— affective, continuance, and normative—was found to be significantly related to job satisfaction, suggesting that different forms of commitment uniquely contribute to an employee's overall job satisfaction. Furthermore, the ANOVA results indicate that job satisfaction is significantly influenced by work experience, highlighting that employees' length of service impacts their job satisfaction.

levels. However, gender was found to have no significant effect on job satisfaction, and no interaction effect between gender and work experience was observed. These insights underscore the importance of fostering emotional intelligence and various forms of organizational commitment to enhance job satisfaction among IT professionals. The implications of these findings are discussed in terms of organizational strategies and policies that could be implemented to cultivate a more satisfied and committed workforce. By delving beyond binary considerations, this research provides a nuanced understanding of the factors driving job satisfaction in Kolkata's IT sector, offering valuable guidance for organizational development and employee retention strategies.

Keywords: Emotional Intelligence, Organizational Commitment, Job Satisfaction, IT employee

Introduction

In the contemporary business landscape, particularly within the Information Technology (IT) sector, understanding the determinants of job satisfaction has become increasingly important. Kolkata, a city renowned for its rich cultural heritage, has seen substantial growth in its IT sector, positioning itself as a key player in India's technological landscape. Despite this growth, employees in Kolkata's IT sector face distinct challenges that affect their job satisfaction, underscoring the need for a deeper exploration of the factors that influence their overall work experience.

Historically, job satisfaction has been examined through various perspectives, with a focus on concrete factors such as compensation, job security, and opportunities for career advancement. However, as the workforce in the IT sector becomes more complex and diverse, these traditional factors alone are insufficient to capture the full scope of job satisfaction. Increasingly, researchers and practitioners are recognizing the significance of Emotional Intelligence (EI) and Organizational Commitment (OC) as key contributors to job satisfaction.

Emotional Intelligence, a concept popularized by Daniel Goleman in the mid-1990s, is defined as the ability to recognize, understand, and manage one's own emotions, as well as the emotions of others. In a workplace environment, particularly in high-stress sectors like IT, EI is considered a crucial skill that enhances interpersonal relationships, communication, and the overall work atmosphere. Studies suggest that employees with high EI are better equipped to handle stress, overcome workplace challenges, and contribute positively to team dynamics, all of which are essential components of job satisfaction (Goleman, 1995; Mayer & Salovey, 1997).

Organizational Commitment, a concept extensively studied by Meyer and Allen (1991), refers to the psychological attachment an employee has to their organization. This attachment can be affective, where employees remain with an organization because they want to; continuance, where they stay because they perceive a need to; and normative, where they stay because they feel they ought to. High levels of organizational commitment are typically associated with greater job satisfaction, reduced turnover, and improved job performance (Meyer & Allen, 1991; Mowday, Steers, & Porter, 1979). In the IT industry, where the demand for skilled professionals often surpasses supply, fostering strong organizational commitment can be a vital strategy for retaining top talent and maintaining competitive advantage.

The interaction between Emotional Intelligence and Organizational Commitment is particularly pertinent within Kolkata's IT workforce. The IT sector in Kolkata is marked by a blend of traditional cultural values and modern business practices, creating a distinctive organizational environment. Employees in Kolkata's IT companies often navigate complex interpersonal dynamics, balancing the high expectations of global clients with the cultural nuances of a rapidly modernizing city. In this context, Emotional Intelligence can play a pivotal role in helping employees manage stress, build effective relationships, and remain committed to their organizations.

Despite the potential importance of these factors, research exploring the impact of EI and OC on job satisfaction in the

Indian IT industry, particularly in Kolkata, remains sparse. While existing studies have examined these relationships in Western contexts (Carmeli, 2003; Gardner & Stough, 2002), there is a significant gap in the literature when it comes to understanding these dynamics in the Indian context, where cultural and organizational differences may affect the relevance and impact of EI and OC.

This study aims to address this gap by investigating the role of Emotional Intelligence and Organizational Commitment in shaping job satisfaction among Kolkata's IT professionals. The research will explore how these two factors interact to influence job satisfaction and whether their impact varies based on demographic factors such as age, gender, and tenure. By focusing on the IT sector in Kolkata, this study not only contributes to the broader literature on job satisfaction but also offers valuable insights for managers and HR professionals seeking to improve employee well-being and organizational performance in a rapidly changing industry.

The significance of this research is underscored by the growing recognition that job satisfaction is influenced not only by external rewards but also by intrinsic factors such as emotional well-being and a sense of belonging within the organization. As the IT sector continues to grow and evolve, particularly in emerging markets like Kolkata, understanding the nuanced drivers of job satisfaction will be critical for sustaining growth and maintaining a motivated, resilient workforce.

Objectives

1. To determine the role of Gender and Working experience among IT sectors employees in Kolkata.
2. To determine the association between Emotional intelligence and Job Satisfaction among IT sectors employees in Kolkata, irrespective of their Gender.
3. To find out the association between Organizational Commitment (traits: a. Affective, b. Continuance, c. Normative) and Job Satisfaction among IT sectors employees in Kolkata, irrespective of their gender.

Methodology

In study, A multistage procedure employed to understand the noteworthy interplay among Emotional Intelligence, Organizational Commitment and Job Satisfaction among IT sectors employees in Kolkata. A significant relationship between Organizational Commitment, Emotional Intelligence, and job satisfaction in IT sectors employees.

Sampling Design

Since it is not possible to collect the data from the large population of IT employees, this study employed a snowball sampling method to recruit participants future subjects from among their acquaintances.

Tools and scale

This study utilized three validated instruments to assess the constructs of emotional intelligence, organizational commitment and job satisfaction among IT employees. Each instrument has been widely used in previous research and has demonstrated reliability and validity in measuring its respective construct.

In evaluating participants emotional intelligence, this study employed The Schutte Self Report Emotional Intelligence Test (SSEIT) was developed by Dr. Nicola Schutte and her colleagues in 1998. This tool consists of 33 items. All items are required to be rated on a 5- point Likert scale, ranging from 1 to 5. Items 5, 28, 33 are reversed scored. This instrument is also known as the 'Assessing Emotions Scale'. High EI is associated with more optimism, greater impulse control, better mood, more empathic perspective taking, more closeness and warmth in relationships, more persistence under frustrating circumstances, and other similar outcomes. The SSEIT has demonstrated good reliability and validity across diverse populations. It is a self-administered scale. There is no time to complete it. The instruction precedes the items in the inventory.

For evaluating participants' organizational commitment, the study utilized The Organizational Commitment Scale (OCS) revised version developed by Allen and Meyer in 1993. This

scale consists of a series of items designed to assesses an employee's psychological attachment to their organization and identifies the nature and strength of their commitment. It is an 18- item scale that measures of three dimensions of organizational commitment: affective commitment, continuance commitment and normative commitment. It is a 7-point Likert scale, ranging strongly disagree to strongly agree. It measuring both positive and negative about the organization. The Organizational Commitment Scale, a widely used self - report instrument for evaluating individual organizational commitment.

In gauging participants' job satisfaction, this study employed the Minnesota Satisfaction Questionnaire (MSQ), crafted by Weiss, Dawis, England, and Lofquist in 1967. Renowned for its

versatility, the MSQ serves as a prevalent tool for evaluating job satisfaction across diverse professional domains. Comprising 20 items, it delves into various dimensions of job contentment, encompassing both intrinsic and extrinsic facets. Respondents assess their satisfaction levels on a Likert-type scale, spanning from profound discontentment to utmost contentment.

The MSQ exhibits robust psychometric characteristics, such as excellent internal consistency and reliability upon repeated testing (Weiss et al., 1967). The scale's comprehensive coverage of job satisfaction dimensions allows for a nuanced assessment of participants' satisfaction with various aspects of their work. The MSQ has been widely used in research and has been validated across different occupational groups and cultural contexts, enhancing its applicability in diverse settings.

Ethical Issues

Ensuring participants anonymity and confidentiality. Adhering to ethical guidelines and, if necessary, seeking approval from the ethics review board.

Results

Table 1: Table 1 describes the descriptive statistics of following variables

Variables	N	Mean	Sd
Organizational Commitment	160		
· Affective		27.8063	6.04958
· Continuance		27.6938	5.92935
· Normative		29.3938	5.11392
Emotional Intelligence	160	119.0125	12.44459
Job Satisfaction	160	71.9937	15.70422

Table 1: Descriptive Statistics

Table 2: Table 2 represents the relationship among following variables

Variables	EI	Affective	Continuance	Normative	JS
EI	1	.0019	.117	.092	.256**
Affective	.019	1	.109	.090	.244**
Continuance	.117	.109	1	.321**	.249**
Normative	.092	.090	.321**	1	.262**
JS	.256**	.244**	.249**	.262**	1

Table 2: Correlation

Table 3: Tabular Presentation of two-way ANOVA

Levene's Test of Equality of Error Variances

Dependent Variable: JOB SATISFACTION

F	df1	df2	Sig.
.647	3	156	.586

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Gender + Exp + Gender * Exp

Tests of Between-Subjects Effects

Dependent Variable: JOB SATISFACTION

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3329.754 ^a	3	1109.918	4.825	.003
Intercept	826108.348	1	826108.348	3591.451	.000
Gender	355.215	1	355.215	1.544	.216
Exp	2750.357	1	2750.357	11.957	.001
Gender * Exp	160.782	1	160.782	.699	.404
Error	35883.239	156	230.021		
Total	868509.000	160			
Corrected Total	39212.994	159			

a. R Squared = .085 (Adjusted R Squared = .067)

This analysis provides comprehensive summary statistics for three variables EI, OC traits, JS from a sample size of 160 compliances. The mean values offer perceptivity into the central tendency of the data which EI averaging at 119.0125,

OC (Affective) at 27.8063, OC (Continuance) at 27.6938, OC (Normative) at 29.3938, JS at 71.9937. Standard diversions which measure the dissipation around the mean illustrate variability within the data with EI displaying a divagation that conforms to the standard at 12.44459, OC (Affective) at 6.04958, OC (Continuance) at 5.92935, OC (Normative) at 5.11392, and JS at 11.03287. This Study exploring the correlations between Emotional Intelligence, Organizational Commitment (a. Affective, b. Continuance, c. Normative) and job satisfaction in IT sectors employees. Other findings indicate a notable correlation between Emotional Intelligence and Job Satisfaction, also Organizational Commitment traits (a. Affective, b. Continuance, c. Normative) and Job Satisfaction. On the other hand, the data revealed an absence of noteworthy influence of gender on job satisfaction, but working experience would significantly impact job satisfaction levels.

Discussion

The summary statistics presented in this study Open up comprehensive overview of three key variables EI, OC, JS Based on a sample size of 160 observations. Through the analysis of mean values provide a measure of central tendency Indicating the average performance or measurement across the sample.

These findings lay the groundwork for further analysis such as hypothesis testing or correlation studies to explore potential relationship between variables or infer population characteristics based on the sample data.

From result, a significant correlation was found between Emotional Intelligence and Job Satisfaction at 0.01 level. It suggests that individuals with higher EI are likely to experience greater JS. This implies that their ability to understand, manage, and use their emotions positively impacts their perception and enjoyment of their work environment. Consequently, enhancing EI might be a valuable strategy for improving JS among employees.

Contrarily, a significant correlation emerged between Organizational Commitment (traits: a. Affective, b.

Continuance, c. Normative) and Job Satisfaction at 0.01 level. It indicates that employees who are emotionally attached to their organization (AC), feel obligated to remain (NC), or perceive high costs of leaving (CC) tend to have higher JS. This suggests that fostering strong OC can enhance employees' satisfaction with their jobs.

On the other hand, the result indicating a significant impact of working experience on job satisfaction but no significant effect of gender or the interaction between gender and working experience on job satisfaction.

The findings of this study underscore the intricate relationships between Emotional Intelligence (EI), Organizational Commitment (OC), and Job Satisfaction (JS). The significant correlation between EI and JS aligns with prior research, suggesting that individuals who possess higher levels of EI tend to experience greater job satisfaction. This outcome is consistent with the work of Wong and Law (2002), who found that employees with higher EI are better equipped to navigate the social complexities of the workplace, leading to improved job satisfaction. EI enables individuals to manage stress, maintain positive relationships, and understand their own emotional triggers, which, in turn, enhances their overall satisfaction with their job roles. In addition to EI, the study also highlights the role of OC in influencing JS. The significant correlations between the three dimensions of OC – Affective Commitment (AC), Continuance Commitment (CC), and Normative Commitment (NC) – and JS suggest that the strength of an employee's commitment to their organization plays a crucial role in their job satisfaction. This finding is supported by Meyer and Allen's (1991) model of organizational commitment, which posits that employees who are emotionally attached to their organization (AC), feel a moral obligation to stay (NC), or perceive the costs of leaving as high (CC), tend to report higher levels of job satisfaction. Such commitments foster a sense of stability and belonging, which can enhance the positive feelings employees associate with their work. Moreover, the study's finding that work experience has a significant impact on job satisfaction, while gender does not, adds another layer to the understanding of JS determinants. This result is in line with previous research

by Clark (1997), who suggested that as employees gain more experience, they develop a better understanding of their job roles, which contributes to increased job satisfaction. The lack of a significant gender difference in job satisfaction also reflects findings from earlier studies, such as those by Spector (1997), which indicate that job satisfaction is more strongly influenced by job-related factors than by demographic characteristics such as gender.

In summary, this study reinforces the importance of EI and OC in shaping job satisfaction. It suggests that organizations looking to improve employee satisfaction might benefit from initiatives aimed at enhancing EI and strengthening organizational commitment. For instance, providing training programs that focus on developing emotional intelligence skills could help employees manage workplace challenges more effectively, leading to greater job satisfaction. Similarly, fostering a work environment that promotes emotional attachment, recognizes the costs of leaving, and encourages a sense of obligation could strengthen organizational commitment and, in turn, enhance job satisfaction. These findings contribute to the growing body of literature on the psychological and organizational factors that influence job satisfaction, offering valuable insights for both researchers and practitioners.

Limitations of the study may include the use of self-report measures, potential social desirability bias, and the generalizability of findings limited to the selected sample size and demographic characteristics.

The outcomes of this investigation offer significant implications for employers, policymakers, and professionals seeking to enhance job satisfaction. Future research could involve exploring additional factors influencing job satisfaction and conducting longitudinal studies to assess changes over time.

Conclusion:

The findings of the present study underscore the significant roles of Emotional Intelligence and Organizational Commitment in shaping Job Satisfaction among employees. The strong positive correlations between EI and JS, as well

as between the dimensions of OC and JS, demonstrate that both individual emotional capabilities and organizational attachment are vital contributors to employee satisfaction. Additionally, the influence of work experience on job satisfaction highlights the importance of career development and long-term engagement in the workplace.

From a practical perspective, these findings suggest that organizations seeking to enhance job satisfaction should focus on fostering emotional intelligence and strengthening organizational commitment. Training programs aimed at developing emotional awareness, emotional regulation, and interpersonal skills may help employees cope more effectively with workplace challenges, thereby improving job satisfaction. Similarly, creating a supportive organizational culture that promotes emotional attachment, acknowledges employee contributions, and reinforces loyalty can enhance commitment and satisfaction levels.

Despite its contributions, the study has certain limitations. The reliance on self-report measures may introduce social desirability bias, and the findings may have limited generalizability due to the specific sample size and demographic characteristics. Future research could address these limitations by incorporating larger and more diverse samples, using mixed-method approaches, and conducting longitudinal studies to examine changes in EI, OC, and JS over time. Additionally, exploring other psychological and organizational variables may provide a more comprehensive understanding of job satisfaction.

In conclusion, this study contributes to the growing body of literature on job satisfaction by highlighting the combined influence of emotional intelligence, organizational commitment, and work experience. The insights gained offer valuable guidance for researchers, practitioners, and policymakers aiming to promote employee well-being and organizational effectiveness.

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SUPERSTITION IN THE 21ST CENTURY: TRADITION MEETS TECHNOLOGY

Sneha Barman¹, Sanchari Dey² & Dr Nilanjana Mitra³

¹M.Sc. in Applied Psychology, Swami Vivekananda University

²M.Sc. in Applied Psychology, Swami Vivekananda University

³Assistant Professor & Head of the Department of Psychology, Swami Vivekananda University

Abstract

In the 21st century, even though there has been remarkable progress in science and technology, superstitious beliefs continue to influence individual actions and society in general. This study examines the survival and adaptation of superstitions in contemporary society, noting their psychological underpinnings and the contribution of technology in their dissemination. It explores the rituals of the net and the social media phenomenon to consider their influence on individuals' beliefs. This research also aims to account for the continuity of superstitions since the psychological comfort they bring in periods of uncertainty. This predisposition cuts across all ages, but the manner in which people practice it varies in line with age. The elderly are more associated with traditional superstitions rooted in culture, religion, and family rituals. Conversely, digitally connected youths are introduced to modern-day superstitions such as angel numbers, manifestation practices, and astrology apps. These are framed as part of spirituality, wellness, or "positive energy," hence more palatable and trendier. The research aims to complete the picture of the blend of tradition and technology on superstitious activities, i.e. the research provides insights into how superstitious practices are transforming in the modern era.

Key Words: Superstition, Technology, Tradition, Modernity, Technological superstition

Introduction

Superstitions are often considered as false beliefs that aren't based on scientific evidence. According to Austrian psychologist Gustav Jahoda (2007) superstition refers to "A belief that one event is happening because of another without any natural process that links the two." They usually arise from cultural traditions or personal experiences and are not supported by scientific reasoning. Merriam-Webster defined superstition as a practice or belief that arises from ignorance, a fear of the unknown, faith in magic or chance, or an illusion of causation. Most individuals act upon superstitious things out of routine or to sense control over unpredictable events. They can also provide a sense of comfort in uncertain situations. For instance, believing in a lucky charm may help reduce person's anxiety. A person is more likely to stick with a superstition in the future if it appears to "work" because it gets reinforced. Even if there is no real connection, the belief persists because of the perceived positive outcome. Superstitions are conditioned by a combination of psychological, societal and cultural, individual experience. They offer an avenue whereby individuals are able to feel more control of live in unpredictable circumstances. Superstitions have existed throughout history since ancient times, typically based on religious rituals, mythologies, and primitive efforts to explain natural events. When scientific knowledge was scarce, superstition was used as a means of explaining the unpredictability of life and keeping society together.

Table-1: Most common superstitious activity and belief response for it

Sl. No.	Most Common Superstitious Activity	Belief Responses
1.	Use of lemon and chillies outside house door	To reduce the evil effects
2.	Eating curd and sugar before heading out	Brings good luck
3.	Adding one rupee coin to a gift of sum	It is a blessing

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4.	Women not allowed to enter kitchen, temples during menstruation	Women are impure and unclean
5.	Sneezing while starting a new work or stepping out of house	Face some problems
6.	Avoiding the number 13 or "Unlucky 13"	Brings bad luck
7.	Not looking at oneself in a broken mirror	Brings Poverty in Home
8.	Itchy palm has financial repercussions	Gains wealth
9.	Pregnant women not allowed to go out during eclipse	Protect unborn baby from any deformities
10.	Making a wish when you see a falling star	Will make the wish come true

Technological advancement, the process of creating and applying new technologies that improve upon existing ones, leading to more efficient, effective, or powerful solutions. The 21st century has brought with it an extraordinary pace of technological change, altering nearly every aspect of human life—from how we communicate and work to how we think and make decisions. But this rapid transformation didn't appear overnight. It is the product of centuries of scientific exploration and technological advancement that started as far back as the Industrial Revolution in the 18th century. That period was marked by starting the mechanization of diligence and the development of machines that would gradually replace manual efforts. The 20th century next led to electricity, the telephone, the computer, and ultimately the internet—each innovation remaking human societies in fundamental ways. Now, the digital world has carried this momentum ahead with artificial intelligence (AI) technology, machine learning, robotics, and biotechnology becoming part of daily life. In today's highly interconnected and technologically driven world, we find people endowing human emotions in robots, performing ritualistic acts when operating devices, or having faith in unexplained powers governing algorithms or results. Such tendencies reflect that although technology has progressed, human cognition continues to have magical

or superstitious modes of thinking. In spite of replacing tradition, technology seems to be blending with it, and this is forging a new ground where the traditional superstitious beliefs are resurrected in contemporary contexts.

Across history, technological advancement has generally been linked to modernity. This era of modernity where rational thinking, empirical evidence, and scientific reasoning are meant to displace, the presence of the traditional irrational beliefs based on superstition is undeniable. Still, superstitious thinking has not vanished in this era of technology. Instead, it has evolved to present an intriguing paradox at the core of contemporary society. In the digital world of today, there are numerous individuals who still practice behaviours and beliefs that resemble old-fashioned superstitions. Whether it is attributing poor internet connectivity to bad luck, addressing a failing device as though it possesses intention or emotion, or over-relying on algorithms and automation, contemporary people are progressively combining new technology with old belief systems. This phenomenon which is also referred as *technological superstition* or *superstitious technological belief*, illustrates the way that psychological patterns of magical thinking endure even in hyper-rational settings.

The aim of this research paper is to examine in what ways superstitious beliefs continue to exist and evolve during the modern 21st century, particularly in the technologically advanced societies. It will inquire into how traditional superstitions are adapt, reinterpreted, or reinforced through contemporary digital and technological contexts. By examining the intersection of tradition and technology; and drawing from interdisciplinary sources in psychology, cultural and social studies, and science, the paper seeks to understand why and how superstition remains relevant in 21st century which is known as an age of data, logic, and machines and what this says about the human condition in modern times.

Review of Literature

Evaluation of Superstition as a Modern Invention

Superstition, the unreasonable beliefs or practices based on the

presumption of a supernatural cause-and-effect connection, frequently in absence of any empirical rationale, has had an important contribution in the history of shaping human knowledge of the world. In its earliest forms, superstition was extremely dependent on religious belief, nature and survival. Early cultures such as Egyptians, Greeks, and Indians accounted for eclipses, diseases and crop harvests in terms of supernatural explanations like gods, spirits, or ancestral powers. They provided psychological reassurance, particularly during periods of uncertainty, and helped communities develop rituals that provided them a sense of order and mastery over their existence.

Superstition often tended to be institutionalized and deeply entangled with religious beliefs, during the medieval era. Practices like using talismans, performing rituals to stave off evil, and believing in omens were usuals. Although the Renaissance and Enlightenment brought scientific inquiry and logical reasoning to the forefront, superstition was never completely eliminated. Rather, it was marginalized or reframed as folklore, cultural legacy or irrational beliefs. In the modern era, especially the 20th and 21st centuries, rapid advancements in science, education, and technology led many people to predict that superstition would disappear. Lindeman & Aarnio (2007) found that analytical thinking and scientific reasoning are negatively correlated with superstitious beliefs.

However, contrary to these expectations, superstition has not only persisted but adapted to contemporary life. This marks a significant transition: from overt traditional rituals to subtle, often digital, expressions of belief. In the 21st century, superstition has increasingly merged with technology and modern living. According to Hendrix (2019), Superstition developed its modern meaning during the nineteenth century, when anthropologists reified the concept of superstition in contradistinction to religion. This settling of boundaries between what is religion and what is superstition was part of the process of “self-conscious distancing from a past or a situation regarded as naive.”” The definition of superstition, as understood today in Western settings, is

not just a byproduct of pre-modern thought but a construct concurrent with modernity. This redefinition functioned to mark off acceptable kinds of knowledge (science and reason) from irrational ones. This new type of superstition is usually disguised in terms of “harmless habits” or individual rituals but operates through the same psychological forces as with classic beliefs: seeking control, anxiety reduction, and meaning-making with uncertainty. For instance, some users have the belief that they will somehow “magically” resolve issues by repeatedly rebooting a device.

Hendrix (2019), also added that, “in the Habermas’s publication of *The Theory of Communicative Action*, it became impossible to miss the fact that religion stubbornly refused to disappear and continued to demonstrate strength as a legitimizing force in the public sphere.” Modernity promoted the belief that science and reason would replace superstition over time—a view known as the secularization thesis. Hendrix shows that this idea is historically biased and overly simplistic. In reality, superstition isn’t obsolete—it’s just changed form, and sometimes even become more widespread in new media.

Technological Mediation of Superstition

In 21st century, Technology becomes a vessel through which superstition is expressed, not eradicated. Jinhee Kim (2015), reimagines superstition as something that can coexist with, adapt to, and even be expressed through modern media technologies. Her work consists of interactive installations like a robot that sketches lucky charms, a fortune-telling mechanical bird, and machines that dispense blessings or prophecies through electronic means like code, sensors, and mechanical parts.

Furthermore, Kim’s work demonstrates how agency and personification of machines play a role in sustaining superstitious behaviour. When users interact with robots or AI-driven interfaces that “predict” or “bless,” they often anthropomorphize these tools, attributing them with intentionality or power. This aligns with that people often ascribe human traits or supernatural abilities to technology,

especially in uncertain or emotionally charged situations. The genius of it is in the intentional marriage of magical thinking and algorithmic reasoning. Take the fortune-telling gadgets, for instance. They seem goofy and illogical but are run on ordered, calculable programming. The contradiction speaks to the essence of technological mediation: harnessing rational technology to mimic irrational practice. The user's interaction with the devices is analogous to their use of conventional superstitious artifacts—getting comfort, control, or direction in precarious situations. Therefore, it can be argued that technology can be utilized not only as a utility tool but as a vehicle of belief, ritual, and symbolism. Moreover, where people once relied on shamans or talismans, they now engage with technology—such as apps, bots, and AI-driven rituals. Rather than eradicating superstition, technology recontextualizes it, blending tradition with innovation, belief with design.

Internet Superstition

In the digital era, traditional superstitions have not disappeared; rather, they have transformed and found new life within online spaces. This phenomenon, known as internet superstition or technological superstition, is an irrational belief or ritualistic practice that occurs on online platforms—such as forwarding chain messages to prevent misfortune, trusting algorithmic horoscopes, or performing symbolic digital rituals like copying a specific emoji, username, or “lucky” reposts. Young adults specially Gen Z and millennials are not immune to traditional superstitious thinking; they simply manifest it through modern platforms—web-based rituals, viral luck-based memes, and gaming superstitions. Lou & Li (2021), found that online superstitious behaviours are widespread among younger users and often linked to emotional coping. Internet superstition reflects the psychological need for control and comfort in uncertain circumstances, just as traditional superstitions did in pre-modern societies. Li (2017), uses Hobsbawm's concept of “invented tradition” to show that this is not just a continuation of old beliefs, but a reinvention—where tradition is adopted for a new social context. Other examples of Hobsbawm's concept such as digital horoscopes,

angel numbers on TikTok, or ritualized tech habits, arguing they are all modern “inventions” rooted in tradition.

Superstitious Technological Beliefs (STBs)

Simon, G., Sosa, A., Sweetman, R., Rupp, M., & McConnell, D. (2022) [8] define STBs as irrational beliefs about technology’s capabilities or behaviours, including assumptions about luck, intention, or supernatural influence behind technical functions. Individuals who believe in paranormal phenomena (e.g., ghosts, astrology) are more likely to also believe in STBs. It was discovered that increased STB scores were linked to greater trust in technology – i.e., those who had higher levels of superstitious beliefs in technology were more likely to trust machines, automation, and robots. Interestingly, unlike early assumptions, anthropomorphism by itself did not directly lead to trust. Rather, STBs served as an intermediary, mediating between machine personality belief and technological trust. Instead, STBs acted as a mediator, bridging belief in machine personalities and technological trust. To ensure scientific rigor, Simon et al. (2022) developed a novel STB measurement scale, verified through factor analyses and found to correlate strongly with established superstition measures, thereby confirming its reliability and validity. For instance, individuals who heavily use technology but lack deeper technical understanding may be more likely to believe that the “algorithm” rewards them for certain actions – akin to believing in a digital form of karma or fate. STBs thus act as a bridge between traditional magical thinking and modern technological environments, reconfiguring superstition in a way that feels intuitively compatible with 21st-century digital life.

Cultural Transmission of Superstition

Cultural transmission refers to the passing on of beliefs, values, and customs from one generation to the next. For superstitions, that includes oral tradition, group rituals, family routines, mass media, and now electronic technology. Superstitions are not disappearing in the 21st century – they are revamped and disseminated through traditional and technological venues. While families, rituals, and oral tradition

still pass along cultural superstitions (e.g., walking behind black cats, evil eye prevention), virtual spaces now play the same function. In 2018, American psychologist S. A. Vyse has written one of his articles on superstition; *Superstitions: A Culturally Transmitted Human Behaviour*. Here, Vyse points out that superstitions are transmitted through observational learning, imitation, and social reinforcement, particularly in situations of uncertainty. This goes a long way in explaining how traditional beliefs end up being carried over and even evolving within new digital spaces. Even China, the Asian nations like China, India exhibits a parallel co-existence of tradition and modernity where an individual can employ AI, smartphones, and digital banking but still refer to horoscopes.

S. Bag & B. Panda (2019), have released their article on *Prevalence of Superstitions in Indian Society in the 21st Century*. They've stated that Indian cultural practices such as astrology, Vastu, and evil-eye rituals continue to exist because of deeply ingrained social beliefs and education deficits. The authors state that superstition evolves instead of disappearing, even in educated groups. This article brings out how technology is a new avenue for irrational beliefs. For instance, virtual poojas and astrology apps are technology-enabled forms of superstition. Moreover, Li (2017), has explained about the invented tradition of auspicious mobile phone numbers in China.

The studies have quoted that the social beliefs like Vastu, astrology, and evil-eye ceremonies in India exist because they are highly rooted and because of educational gaps. The authors note that superstition progresses rather than decreases, even among educated groups. This article highlights the manner in which technology is exploited as a new medium for irrationals. Astrology applications and virtual poojas are technology-enabled versions of traditional superstition.

Psychological Comfort behind the Superstition

Even in the 21st century, with so much advancement in science and technology, there are still superstitions that go deep in people's lives. This is because they offer something technology cannot always provide which is a psychological

comfort. Superstitions help people cope with uncertainty, fear, and lack of control. Whether it's wearing a lucky charm, following astrology apps, or avoiding certain dates, these beliefs give individuals a sense of safety and assurance. Today, rather than going to astrologers, people consult their horoscopes on the internet; rather than religious ceremonies, they perform virtual rituals such as manifesting on social media or applying "positive energy" apps. They may appear in a different form, but they serve the same emotional and psychological needs. In his article, "Superstitions in the Digital Age: How Technology Shapes Our Beliefs" (2024), Sagar Bakshi focuses on the fact that old superstitions remain because they satisfy a deep-seated human need, which is control over situations of uncertainty.

Participating in rituals such as crossing the fingers before making a presentation or tossing salt over one's left shoulder provides people with a feeling of control, particularly when the outcome is in doubt. In our rapidly changing, technology-drenched lives, where change is ubiquitous and sometimes infuriating, these traditions are anchors, a source of emotional comfort, that help alleviate anxiety. Individuals continue to find comfort and control in superstitions, either by refraining from walking underneath ladders or by conforming to online rituals like applying "evil-eye" on social media sites' posts.

Discussion

It is generally assumed that scientific progress and technological development would deter superstitious activities and beliefs. Although it is true to a certain extent, our findings suggest a different reality. Superstition is still present and also relevant in the 21st century; it has just changed its form. Rather than diminishing, superstitious beliefs have adapted to modern circumstances, particularly through using digital technology. Among young adults, we can observe a visible transition from old superstitions – like beliefs in omens, rituals, or astrological prognoses – to new technological superstitions. These include algorithm-oriented beliefs, artificial intelligence (AI) -related beliefs, and perceived "mysteries" of digital machinery. This evolution illustrates how superstition adapts itself according to the environment and instruments that people are normally exposed to on a regular basis.

Research by Simon et al. (2022) supports this trend, showing that superstitious beliefs related to technology (or Superstitious Technological Beliefs – STBs) are influenced by factors such as computer use, technological skill, paranormal beliefs, and anthropomorphic tendencies. In other words, people who attribute human-like qualities to machines or hold beliefs in the supernatural are more likely to develop superstitions connected to technology.

Furthermore, Luo and Li (2021) found that younger generations are especially prone to engaging in online superstition, often using it as a way to cope with uncertainty or emotional stress. This suggests that, even in a highly digital age, the emotional and psychological functions of superstition remain relevant. People continue to seek comfort and control in uncertain situations—only now, they do so through the digital world. The increasing complexity and opacity of technology, especially algorithms and automated systems, create conditions where people may feel a lack of control or understanding. This can give rise to new kinds of superstitious thinking, such as believing that posting at a certain time improves visibility on social media, or that certain apps act irrationally differently depending on user activity.

Ultimately, this discussion points to an important insight: technology has not eliminated superstition, but instead has reshaped and relocated it. Today's superstitions are less about ancient rituals and more about digital habits, online behaviours, and algorithmic beliefs. In this way, superstition in the 21st century reflects a blend of tradition and modernity, revealing how deeply rooted psychological needs continue to influence human thinking, even in an age defined by logic and innovation.

Conclusion

During the age of modernity, superstition demonstrates not its vanishing, but its evolution. Though ancient beliefs may be in decline, superstitious reasoning still remains—reformed through technological advancements and psychological needs. Nowadays, superstitions among young people tend to be expressed as beliefs regarding algorithms, digital

rituals, and the seeming behaviours of machines. This change stresses that superstition is still embedded in fundamental psychological processes including controlling emotions, perceived control on emotions, and handling uncertainty. Superstition has evolved to fit technology and not be abolished by it, proving the resilience of belief in the human mind in a time of reason and innovation.

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ROLE OF MUSIC AND DANCE IN EXPRESSING AND COPING MECHANISM OF EMOTIONS IN BENGALI CULTURE

Debosmit Ghosh¹ & Ms. Lina Sarkar²

¹UG Student, Department of Psychology, Swami
Vivekananda University

²Assistant Professor & Coordinator Department of
Psychology, Swami Vivekananda University

Abstract

Music and dance are inseparable parts of Bengali culture, through which a wide range of emotions found their way out to provide coping strategies to the people at large. This review article is aimed at exploring the visceral link between these two artistic expressions of Bengal with its relation to emotional expression and their contribution toward well-being, both to the self and society. Bengali music, particularly Rabindra Sangeet, Baul songs, and folk traditions like Bhawaiya and Bhatiali, has a rich fund of emotive narratives of love, grief, joy, and spiritual longing. It provides a medium of expression – not just self-expression but also an expression of a common cultural language in which individuals communicate and actualize their feelings. Therapeutic elements are present as it could be used in therapy. It is in Rabindra Sangeet that melody and lyrics have been used to soothe psychological ailments and bring about calmness in times of grief and anxiety. Indeed, this very fact has also been portrayed through rites, ceremonies, and religious functions; music has been coupled with emotional discharge, social bonding, and spiritual elevation. Another important aspect in Bengali cultural life is dance, which enables people to express their feelings through postures and bodily movements. It is through classical dances like Kathak and Bharatanatyam, both in their traditional and more contemporary expressionist techniques of expression, that emotional and social colors of Bengali life are represented. Furthermore, the performances

were an expression of what the performers themselves were feeling, and thus the audience was taken into a shared experience, socially and culturally identifying themselves with each other. The research also investigates how different art forms serve as coping mechanisms within the Bengali community. The musical and dance performances are all part of the collective celebration of festivals, hence constituting a form of collective coping mechanism through which people from that community overcome the emotional ups and downs of life. By combining literature with cultural studies, this review aims to identify the centre of music and dance in the emotional landscape of Bengal, while highlighting their functions as instruments of expression and therapy. These two art disciplines have become so deep-rooted in Bengali life that they seem to act as channels for expressing and overcoming emotions, thus helping to strengthen the social and emotional fabric of Bengali society.

Keywords: Dance, Music, Bengali culture, Emotional expression, Coping mechanisms, Rabindra Sangeet, Baul songs, Folk traditions

Introduction

This is a pride long cherished in Bengali culture: its rich and diversified traditions of musical and dance presentation. These are factors that form the identity and the emotional landscape of this region. These art forms have transcended performances through centuries and have become integral components of social and ritual and festival-related life. These range from the finest classical Rabindra Sangeet, which so perfectly fulfils all the vistas of philosophical and emotional depth that characterize Rabindranath Tagore's works, to the lively rhythms of folk dances like Baul, Jhumur, Kirtan, and Bengali elements of music-wearing a cultural face everywhere. This tradition happens to be an expression of joys that evoke historical events too. They are a quintessence of despair, so human, collective, always finding voice.

After all, the importance of music and dance shouldn't be something meant to entertain them, nor express their culture. Bengali life, on a whole, is very closely linked with their

emotional and spiritual well-being. Bengali music has its very numerous forms-classical, folk, and devotional-but in many cases, is a reflection for introspection and healing and self-reflection. Whether it is the soulful melodies of Nazrul Geeti-that sing rebellion and spiritual fervour-or the tranquil harmonies that Bhatiyali folk songs sung by boatmen rowing on rivers portray, these musical forms have thus provided an outlet for people to process that complicated mix of sorrow, joy, love, and longing that they harbour within.

While almost exclusively staged on festivals and sacred celebrations, entirely physical dance forms outline the expression of emotional states as well. The Manipuri and classical traditions embody mythological stories and the experience of emotional states through the entire body and thru rhythmic vocalizations, affecting the performers almost as much as they touch the hearts and souls of their audience. For while music and dance may take the easy form of a collective experience, it is gathering to make a point of expressive celebration or communal reflection that assumes mournfulness.

Besides all these traditional uses of music and dance, in contemporary Bengali society, they have evolved to meet the needs of the problems of modern life. As changes in modern life within the context of these urbanization and technological changes; further social revolutions have altered, so have the potentialities of therapeutic arts: no longer cultural artifacts but a coping mechanism that helps in every individual and community to work with stress, anxiety, and despair. Other studies indicated that listening to music and dancing frequently activate psychological strength since they promote peace and sound mental wellness. However, folk practices of the old ways are implemented in the countryside to eliminate the psychology of desolation and fear. In the city, however, music therapy and dance therapy have become an additive tool since it has changed to be used as another form of therapy for depression, PTSD, among other psychological disorders.

This paper seeks to review the existing literature on the role of Bengali music and dance in the emotional resilience in contemporary Bangladesh society. More specifically, it

will focus on how these arts support mental health. To this end, the paper will explore the emerging role that these art forms take on in contemporary Bengali society, where rapid modernization and growing mental health issues have meant new interpretations and uses of these ancient traditions. The current paper aims to find the continued role that music and dance played in Bengali emotional and psychological life both historically and in current times.

Investigative Objectives

1. To explore the role of traditional and contemporary Bengali music and dance in emotional expression.
2. To assess the psychological and emotional benefits of engaging with these art forms as coping mechanisms for stress, anxiety, and grief.
3. To examine how music and dance contribute to communal emotional resilience, especially during

Literature Review

Emotional Power of Music in Bengali Culture

By any definition, music becomes an outlet to pour out the depth of emotions—the confluence that actually underlines the complexity of humanity. Bengali music thus comes more commonly in the most revered and studied forms, as Rabindra Sangeet, composed by the national poet and thinker Rabindranath Tagore. The lyrical value and depth that Rabindra Sangeet brings is something else because people ascribe their love, nature, loss, or soulful side of spirituality within a frame put across in these songs. Banerjee (2015) further asks how Rabindra Sangeet is sustained not only as an instrument of artistic expression but also as a release platform for audiences who have grievances personal or collective. The music composition by Tagore provides a channel of reflection as well as bonding to one's innermost emotions through the subtle play of melody and meaning intertwined with each other. About Banerjee, Rabindra Sangeet creates emotional strength according to the author. This is because of the fact that the interlocutor can be in a position to talk about complex emotions like misery and happiness. "Rabindra Sangeet

engages listeners in a meditative state when they attend festivals or when they experience personal pain,” writes Banerjee (2015).

On the other hand, Baul music also succumbs to contrasting but powerful emotional experience. This originates from mysticism and spirituality because Baul songs centre around transcending material concerns and finding divinity within oneself. Sarkar (2018) states that the psychological impact of Baul music may be described in words such as a psychological balm which may help to grapple with existential questions as well as deep emotional dilemmas. The unbridled and informal nature of Baul music opens up an area of emotional expression for listeners, as the focus on spiritual detachment and acceptance gives individuals a venue to let out emotional stress. Sarkar argues that Baul music opens up the public space of emotional expression, in which members of the group gather and transcend the monotony of daily life to reveal ties to a greater spiritual and emotive sense of existence. As Sarkar puts it, this catharsis creates resilience because the listeners are called to realize uncertainty and find peace in the impermanence of life (2018).

Besides that, researchers also mentioned curative properties of Bengali music for mental health. In an empirical study, Dutta (2020) used mainstream Bengali folk music, Rabindra Sangeet and Baul songs to ease the symptoms of depression and anxiety. As reported by her data, these genres of music aid manage emotions in making mindfulness and self-expression besides healing emotional hurts. According to Dutta, these music traditions control and therapeutic enable individuals to face their emotions thus leading to lower levels of psychological distress which subsequently leads to the positive outcomes of mental health according to Dutta (2020).

Catharsis and Activity of Emotional Purification through Dance

In Bengali culture, dance is a very important tool for emotional expression and catharsis. This is beyond mere performance form. In this classical form of Bengali dance, one can give an even structure to individual as well as collective emotions

by releasing his mind. Sen and Chatterjee (2019) have learnt emotional catharsis through Gaudiya Nritya, an ancient form of classical dance influenced by the Bhakti movement. This dance style, which replete with elaborate hand gestures and face expressions, abhinaya, utilizes the artists to depict a variety of emotions: from joy and sorrow to love and devotion. In this manner, Sen and Chatterjee term Gaudiya Nritya as the plot rich emotional expression event because it absorbs the emotions in the course of religious festivals-the collective performance of which helps the individuals and communities handle the state of mind. The findings were that Gaudiya Nritya empowered both performers and audiences to release their emotions in a serene and safe environment to obtain emotional comfort and psychological healing (Sen & Chatterjee, 2019).

In the same line, Dasgupta (2021) states that Manipuri dance holds inherent therapeutic potential. It is a classical form of dance characterized by fluid motion and graceful movements. Many mythological stories are narrated through Manipuri dance followed by stories of devotion, spiritual love, etc. According to Dasgupta, "In Manipuri dance, rhythmic and gentle movements bring harmony between the physical movements of the dancer and his emotions, which can keep emotional balance intact.". This synch creates meditative and therapeutic space for the performer in reconstructing emotions and gaining relief from tension. The emotional rewards of Manipuri dance are akin to the benefits of modern dance therapy, offering structured yet expressive outcomes of emotional tension, through which the performer or viewer can achieve clarity with their emotions as well (Dasgupta, 2021).

Collective Emotional Coping Through Festivals

Bengali festivals-Durga Puja - are complex interfaces of emotional expression and healing. The collective emotional experience is composed of music and dance. Roy and Mitra (2018) derived insights from performances of music and dances during the Durga Puja in order to understand the role of the Dhak or bhajanais to evoke a gamut of emotions from reverence to joy, sorrow, and longing. This study reflected that

the rhythmic rhythms of Dhak, accompanied by joint singing of Bhajans, provided a setting in which participants could share and ventilate their feelings together. Such communally performed acts, as noted by Roy and Mitra, served as an avenue for reducing the burden of emotions while at the same time promoting social cohesion in terms of shared emotional resilience. They do this in drama and dance by engaging in a common form of emotional regulation, by spreading personal emotions and allowing these to flow within the overarching social context (Roy & Mitra, 2018).

Chowdhury 2020 Discusses Baul and Kirtan performances in the festivals and other social ceremonies. Baul and Kirtan are devotional song traditions that are generally sung in ensemble with various dance and rhythmic movements. Chowdhury's study not only indicates how such performances induce emotional contagion and entrainment among participants but also illustrates how emotions across participants in this music and movement demonstrate synchronization. The group psychological alignment enhances emotional discharge as it becomes a therapeutic field that the participants experience a deep sense of unity and, consequently, emotional healing. Chowdhury is explicit in stating that these performances are communal as they are enhancing not only social bonding but like communal therapy, where emotional burdens are shared and lightened through a collective expression (Chowdhury, 2020).

Psychological and Therapeutic Aspects of Music and Dance in Mental Health

Studies are being developed concerning the use of traditional Bengali music and dance for therapeutic purposes, and the appeal is rising from the background of mental health. Here, Ghosh (2019) describes how Rabindra Sangeet and classical dance can be integrated into clinical music and dance therapy to assist clients in recovery from anxiety, depression, and trauma. What is really beautiful in Ghosh's study is how art forms can create emotional regulation: making structured yet emotionally rich spaces for people to express pent-up emotions. She illustrates how both the narrative and emotive strength of Rabindra Sangeet in combination with

the expressiveness of the body in the art form of dance helps the sufferer psychologically heal by letting them express their feelings in a controlled environment. With the results by Ghosh, it seems like this is quite specific in helping a patient have feelings that are inexpressible verbally (Ghosh, 2019).

Moving on to the therapeutic effects, Mukherjee (2022) explains further neurosciences underpinnings which depict how music and dance improve emotional and cognitive performance. The author, Mukherjee discusses the neural synchrony which is coordination of the wave patterns of the brain through rhythmic, melodic presentation of music and similarly coordinated movement presentation in case of dance. In this sense, she advocates that active participation in these art forms with observational engagement elevates emotional intelligence and cognitive flexibility. Mukherjee's work relates to the fact that these art forms activate key regions in the brain related to emotional regulation, memory, and social bonding; hence, they can be invaluable tools in therapeutic interventions with emotionally or cognitively challenged individuals such as mental health cases (Mukherjee, 2022).

Role of Music and Dance in Mental Health during the COVID-19 Pandemic

The COVID-19 pandemic has undoubtedly created a global mental health crisis for many, in which anxiety, stress, depression, and loneliness dominated the experience, while music and dance proved to be possible coping mechanisms that could provide emotional comfort and bonding in the face of physical separation. Digital dimensions created an easy way to express oneself emotionally, connect with others, and thus create communities around shared art forms.

Music played a great role in reducing stress and conserving emotional resilience. Studies like Mas-Herrero et al. 2020 showed that subject subjects are willing to suffer solitude and apprehension while listening to music. With the virtual concerts and socialization platforms, the possibility of sharing and enjoying music opened the way for imparting a sense of connectivity in distance.

Dance as an Embodiment of Emotion and Body Experience: The dance provided an opportunity to orchestrate releasing stress and reaching social bond. Tarr et al. (2016) demonstrate how communal dance shapes the emotional dimension. Digital media, like TikTok, allowed for dances to spread virally and aid in social emotional connection through the world, building virtual community, according to Zhang et al. (2021).

But over the pandemic period, music and dance slowly became helpful and essential instruments for well-being, intimacy, and mental health support.

Discussion

Psychological Theories on Emotional Regulation Through Music and Dance

Music and dance facilitate emotional regulation through several psychological mechanisms:

Catharsis Theory:

In music and dance form it is catharsis or the emotional release that people undergo whenever they hear or perform art. In this emotional release, it processes and solves inner tensions that people hold, and most times this is through a feeling of release or rebirth. Bengali culture, particularly with regard to the song Rabindra Sangeet by Rabindranath Tagore, seems to be a very useful tool for catharsis.

Most of Rabindra Sangeet or Tagore's songs often carry an inexpressible, indefinite sound, revolving around love, sorrow, longings, and spirituality. It is those sounds that one internalizes at a fantastic speed because they always go on to create a bridge between the artist and the listener; after all, this expresses the power of a variety of emotions-albeit joy, sorrow, or loss-through voice. End. Similarly, in Bengal, Gaudiya Nritya has represented itself to the world through sharp ornate gesture and facial movement expressions. Therefore, this is a common channel of communication on emotions by the actor to the audience. The ballets of such types would relate mythological or historical events, with which most of them are filled with emotions like love, devotion, anger, or glee.

By imbuing these emotions into movement, it is the performance and the performers themselves who cry out for catharsis of emotional tension but, simultaneously and more profoundly, truly need this catharsis from the audience; these well composed performances offer the emotionally safe and controlled space where emotions can be transferred and addressed and ultimately released, and therefore contribute toward achieving balance and resilience.

Emotional Contagion and Synchronization:

This would be the phenomenon of sending and receiving emotions between persons, therefore developing group emotional synchronization. Music and dance, especially in communal performances, can stimulate shared group experiences that bind together participants. In Bengali culture, people use the gathering context of Kirtan-a devotional song tradition often performed during religious or festivity gathering examples like this process.

Since them as they sing and dance together can then feel the shared emotions of devotion, joy or perhaps grievance. Whichever, the states of emotions of the participants would be harmonized by rhythm, tempo, and vibration of the music, this way a source of unity and emotional arousal. It would therefore very well serve to enhance emotional synchronization inasmuch as persons realize a pervasive sense of belonging, key to communal healing. The Baul tradition is one of the mystical examples of folk music: it places spiritual freedom and unity with the divine upon a pedestal. In this way, the Baul gathering often unites in an intimate space where music by simple instruments strikes deep emotions, deep to spirituality. When participants sing, clap, and sway to music, they exercise a kind of joint emotional catharsis.

Not limited to positive emotions, it even allows shared sorrowing or communal coping at every sign of loss or adversity. This confluence of emotions allows for the consortia attending Kirtan and Baul events in general to be more cohesive hence contributing to enhanced collective well-being and emotional resilience (Mitra, 2017).

Mood Regulation and Affective Arousal:

According to the arousal-and-mood hypothesis, music and dance can change or manipulate emotions by revving up or soothing the emotional centres of the brain based on tempo, rhythm, and style of performance. In the case of Bengali music, Rabindra Sangeet largely decides the mood regulating content. Melodic compositions of it mostly are rather slow or more thought-provoking and have the effect of relief and trance-like state on listeners' minds.

This soothing quality helps to lighten anxiety and diminish stress levels, thus contributing to emotional well-being. The lyrics, philosophical at times and introspective, call for reflection, which allows people to feel and express their emotions in a soft, non-invasive manner. On the other hand, dance forms offer Manipuri and Kathakali, together an apparently opposite mood control itself, as they stimulate affective activation by their rhythmic, dynamic movement of body. Such dance types, basically spectacular for their accurate steps and energetic footwork, heighten the levels of endorphins-the body's natural chemical messengers related to moods.

This makes them lively both in terms of physicality and the complex storytelling, which works directly on emotions by activating sectors in the brain that regulate feelings-a situation that would leave performers and audiences highly emotive. The dances have all the rhythmic movement- music, storytelling, and are a perfect means of raising moods, reducing stress, and making persons emotionally resilient.

Mindful Exercise:

Music and dance is also a mind power exercise in that it demands focused concentration and cultivates awareness of emotions. In Bengal, much more is made out of classical music, like the ragas, to bring the listener into a deep reflection of feelings. Ragas are actually the melodic structures that create moods or emotions; hence, any kind of listening or performance requires concentrated attention to the emotional subtleties of sounds along with the technicalities of performance.

This piercing awareness allows the individual to become more thoughtful of inner emotional states and, therefore, foster mindfulness and self-awareness. Similarly, the classical dances like Odissi and Bharatanatyam look towards this relationship between the mind and the body. The dancers must always think of their action, expressions and emotional content in the dance. These performances thus become more instinctive, offering clarity and symmetry inside their emotional balance because they have to stay present in the moment and become fully immersed in the dance.

Such practices can foster higher emotional self-regulation and resilience through mindful development, which can lead to the holistic management of stress, anxiety, and other mental health-related problems.

Cognitive Theories and Neural Synchrony

It has also been shown that neurosciences studies regarding music and dance stimulate areas of the brain. In this regard, the specific focus given to how the coordination of movements in the case of dance and the oscillatory rhythms of music contribute to neural synchronization during cognitive operations. For example, rhythmic musical elements modulated the synchronization of brain wave activity, which should positively influence memory, attention, and emotional regulation.

But this coordination proves most fruitful for those who musically trained and regularly listen and dance, since such improves cognitive flexibility as well as emotional intelligence. • For instance, studies have shown that individuals who experience music-making-from listening to it or through musical education-show higher emotional intelligence. Emotional intelligence is the ability of a person to recognize and accurately label emotional states, as well as to regulate emotional responses. Similarly, dance engages the coordination, rhythm, and expressive movement of the body. It enhances cognitive flexibility-the ability to make adjustments to change in states of emotion and external contexts.

These cognitive effects, therefore, add not only to emotional strength but also to the enhancement of the overall psychological state. The neural involvement supports both therapeutic and cognitive elements in interacting with music and dance, (Thaut & Hoemberg, 2014), (Papatzikis, 2020).

Modern Variation and Technological Environment:

This brings about the growth of Bengali music and dance under modern expressions with the digital world. New, modern, fusion genres of Rabindra Sangeet with western pop and jazz or contemporary dance styles that integrate something from the old, well-known Bengali dance show a great interest for such newfound artistic expressions among the young generations.

Such democratizing forces also reached the field of Bengali music and dance via social media and streaming applications, reaching out to citizens across the globe. Online events, including Durga Puja celebrations, are perhaps one way in which emotional connections between individuals were kept alive during the COVID-19 pandemic; technology had successfully transformed participation into new meaning and dimensions (Das, 2022).

Music and Dance as Holistic Therapies:

Today, music and dances have been exhibited to contain several healing virtues. Inculcation in extended periods highly increases emotional control, cognitive practice, and mental well-being. Research findings have backed the overall change worldwide in mental health care remedies in which music and dances are used in holistic, non-invasive remedies. These forms- like Rabindra Sangeet and classical dance- can be used in reducing fear levels, providing mindfulness increase, and improving emotional intelligence (Koelsch, 2020).

Conclusion

Bengali culture becomes complete with music and dance because it denotes not only a symbol of artistic expression but also plays a very crucial role in balancing one's emotions and psychology. Rabindra Sangeet, composed by the noted poet Rabindranath Tagore, may well be said to be one of the

greatest utensils for meditation. Through its enthralling lyrics and melodious richness, it has offered a way to introspect, thus creating emotional catharsis, intellectual peace, and acting as a valuable source for personal emotional regulation. Gaudiya Nritya, on the other hand, is a classic dance form in the ancient tradition because it permits rhythmic physical expression in which one may find release from stressful situations by acting them out. Both these art styles have scope for healing but simultaneously continue to nourish the common sense of identity and emotional community of society. With inventions like digital streaming, and online dance tutorials, access to these cultures has expanded into an international arena. That is not only conserving their history but is also pushing through the progression of their ability to serve for healing purposes in contemporary society. In fact, virtual access to such forms of art has been found to be especially pertinent during periods of social isolation wherein it serves as an emotional lifeline for those seeking solace and resilience. Such practices are increasingly being recognized to harbor therapeutic potential within the world of mental health itself. Music and dance, both by their very nature, affect the mind and the body alike, thus contributing toward wholesome well-being. Because of that, they can very well fit into current care models for mental illnesses as noninvasive treatments, which largely depend on the culture. Thus, Rabindra Sangeet might be used in mindfulness-based therapy to make meditation easier. Similarly, the bodily expressiveness of Gaudiya Nritya may be accommodated within movement therapies like trauma or anxiety. Another possible avenue would be systematic studies into how these art forms might formalize in the treatment of mental illnesses.

There is an ever-growing need to scrutinize their specific emotional and cognitive benefits, including symptomatic relief offered from depression, anxiety, and trauma, as well as the enhancement of resilience. It will allow practitioners to tap fully into opportunities that such cultural traditions yield for holistic, culturally relevant approaches toward the regulation of emotions and mental health.

That is to say, music and dancing in Bengali cultures cannot be regarded as simple art forms; it is profoundly meaningful when regulating one's mind and psychology. Their introduction into the current parameters of mental health promises to be working toward emotional and cognitive well-being in an increasingly holistic, intervention-approaching world.

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**EXPLORING THE RELATIONSHIP BETWEEN ADULT
ATTACHMENT
STYLE AND PERCEIVED PARTNER
RESPONSIVENESS
IN ROMANTIC RELATIONSHIP**

Pritha Ghosh¹ & Rudrani Mitra²

¹Student of Applied Psychology, Swami Vivekananda
University

²Assistant Professor of Applied Psychology, Swami
Vivekananda University

Abstract

The current study explores the complex relationship between adult attachment styles and perceived partner responsiveness in the context of romantic relationships. Rooted within the framework of attachment theory, this study specifically examines how two core dimensions of adult attachment—attachment anxiety and attachment avoidance—are related to an individual's perception of their romantic partner's emotional responsiveness. A total of 60 participants were selected through convenience sampling and were currently involved in romantic relationships. Data were collected via online self-report questionnaires, including the Experiences in Close Relationships - Short Form (ECR-S) to measure attachment anxiety and avoidance, and the Perceived Partner Responsiveness Scale (Short Version) to assess partners' perceptions of their partner's understanding, validity, and emotional support. Both scales were selected due to their strong psychometric properties and relevance to romantic attachment and intimacy processes. Statistical analyses were conducted using Microsoft Excel, where descriptive statistics were calculated, followed by Pearson correlation analysis

to examine the relationship between attachment variables and perceived partner responsiveness. Results revealed a moderate negative relationship between attachment anxiety and perceived partner responsiveness, indicating that those who are more anxious in relationships perceive their partners as less emotionally responsive. A weak negative relationship was also observed between attachment avoidance and perceived partner responsiveness, suggesting that those who are uncomfortable with emotional intimacy may experience difficulty recognizing emotional support from their partners.

Keywords: Adult Attachment, Perceived Partner Responsiveness, Attachment Anxiety, Attachment Avoidance.

Introduction

Love is one of the deepest emotions known to man. There are many forms of love, but many find its expression in a romantic relationship with a suitable partner (or partners). For these individuals, romantic relationships are one of the most meaningful aspects of life and a source of deep fulfillment.

A romantic relationship is a voluntary connection between two individuals, emotionally and physically connected bonds, characterized by feelings of love, attraction, and often, intimacy. It involves to share attraction commitment, trust, infatuation, and a deep emotional connection with each other.

A romantic relationship is defined as mutual, ongoing and voluntary interactions between two partners that is characterized by specific expressions of affection and intimacy (Collins, et al., 2009).

Romantic relationships are among the most transformative experiences in a person's life, especially during adolescence — this stage is important because of search for identity, emotional fulfillment, and interpersonal connection. Young adults navigate the complexities of love and intimacy due to both digital communication and changing social values which is increasingly shaped in world. These relationships, whether fleeting or long-term, often leave a lasting emotional imprint. They shape how individuals perceive themselves, their partners, and the broader concept of love and attachment.

Yet, while some relationships provide warmth, mutual understanding, and growth, others are marred by insecurity, misunderstanding, and unmet emotional needs.

Understanding why people experience relationships so differently—why one partner may feel loved and secure, while the other feels anxious or distant—requires exploration of the psychological underpinnings that govern emotional behaviours. One of the most powerful and empirically supported frameworks in this context is attachment theory, which explains how early emotional bonds shape our adult relationships. In parallel, another important construct is perceived partner responsiveness, which refers to how well individuals feel understood, cared for, and validated by their romantic partners.

The aim of this study is to explore these two key psychological variables—adult attachment style and perceived partner responsiveness—and how they interact to shape relationship dynamics. Focusing on young adults in romantic relationships, particularly within the culturally rich and evolving landscape of India, the current study provides insights into how internal mental models and self-concepts jointly influence relationship satisfaction and emotional security.

Attachment theory was first developed by John Bowlby (1969/1982), a British psychoanalyst who proposed that humans have an innate need to form close emotional bonds with others. Although his work began with an emphasis on infant-caregiver relationships, later research by Hazan and Shaver (1987) extended attachment theory to adult romantic relationships. They argued that the same behavioural mechanisms that guide children's relationships with caregivers—such as seeking closeness, expressing grief, and seeking comfort—are also evident in romantic relationships.

According to contemporary models of attachment, adult attachment is measured on two dimensions:

Attachment anxiety: This refers to the extent to which a person fears abandonment, craves closeness, and is excessively concerned about the availability of their partner.

Attachment avoidance: This dimension reflects discomfort with intimacy, dependence, and emotional closeness.

These dimensions combine to create four general attachment styles: secure (low anxiety, low avoidance), anxious-preoccupied (high anxiety, low avoidance), dismissive-avoidant (low anxiety, high avoidance), and fearful-avoidant (high anxiety, high avoidance). People with secure attachments trust their partners and feel confident in their relationships. In contrast, those with insecure attachments often struggle with miscommunication, unmet emotional needs, and dissatisfaction.

Perceived Partner Responsiveness (PPR) is a psychological construct that measures the extent to which an individual believes that their romantic partner is understanding, caring, and valid. According to Reiss and colleagues (2004), PPR is important and crucial for increasing intimacy and satisfaction in intimate relationships. When individuals feel that their partners genuinely care about them and respond to their emotion, they are more likely to experience emotional closeness, trust, and overall relationship satisfaction.

However, perceptions are not always objective. An individual's attachment style can determine how they interpret their partner's behaviours and view. For example, someone high in attachment anxiety may perceive their partner as inattentive or distant, even if the partner is generally supportive. Similarly, someone high in attachment avoidance may reject or minimize expressions of affection and support, viewing them as intrusive or unnecessary.

Multiple studies have confirmed that attachment style plays a crucial role in how individuals perceive and experience their romantic relationships. Mikulincer and Shaver (2007) emphasize that insecurely attached individuals are often less accurate in interpreting their partner's behaviours. Those with high attachment anxiety tend to exaggerate problems and interpret ambiguous actions as signs of rejection. In contrast, avoidantly attached individuals often withdraw emotionally, making them less likely to acknowledge or seek emotional support.

Collins and Feeney (2004) conducted an experimental study in which individuals watched videos of their partners providing support during stressful tasks. They found that those with high attachment avoidance perceived their partner's supportive behaviours as unnecessary or even uncomfortable. In contrast, individuals with high attachment anxiety often doubted the sincerity of the support, viewing it as inadequate.

Brennan, Clark, and Shaver (1998) developed the Experiences in Close Relationships (ECR) scale, which helped researchers more precisely measure attachment-related anxiety and avoidance. This scale and its revised versions (ECR-R, ECR-S) have been widely used in psychological research to study romantic attachment. These instruments provide consistent evidence that individuals with secure attachments are more likely to perceive their partners as emotionally responsive.

In India, romantic relationships among young adults are often influenced by a mix of traditional cultural values and modern perspectives. On the one hand, personal preferences and emotional connection are increasingly emphasized; on the other hand, family approval, gender roles, and social expectations regarding marriage continue to influence relationship experiences (Dhawan & Lutz, 2020).

Many young adults in India experience stress while balancing romantic relationships with family expectations. These stresses can affect attachment behaviours. For example, attachment anxiety may increase in places where romantic partners cannot openly express commitment due to family constraints. Similarly, attachment avoidance may become a coping strategy in conservative environments that discourage emotional vulnerability.

Moreover, social pressures can influence how responsiveness is perceived. In a culture where overt emotional expression is often restrained, small gestures of care can be deeply meaningful – or go unnoticed, depending on one's attachment orientation. Therefore, it is necessary to carefully consider both psychological and cultural aspects to understand how Indian young adults perceive their partner's responsiveness.

Theoretical Framework

This study is guided by two complementary frameworks:

- Attachment Theory (Bowlby, 1982; Fraley & Shaver, 2000): This theory explains how internal working models formed in early relationships influence adult emotional regulation, relationship expectations, and behaviours.
- Process Model of Interpersonal Intimacy (Reiss & Shaver, 1988): This model suggests that intimacy develops when one partner expresses thoughts and feelings and perceives that the other partner responds in a way that conveys understanding, validation, and care.

Together, these frameworks suggest that individuals with insecure attachment styles may bias or misinterpret their partner's attempts to connect emotionally. As a result, these individuals may report lower levels of perceived partner responsiveness, even when their partners are objectively supportive.

Aim of the Study

While there has been extensive research on attachment theory in Western countries, relatively few studies have explored how attachment style influences perceptions of partner responsiveness in the Indian population. This gap is important, as cultural norms significantly shape relationship behaviours and expectations. Furthermore, most existing research currently uses large-scale surveys rather than focusing on young adults involved in romantic relationships, particularly in the Indian context.

This study fills this gap by exploring how attachment anxiety and avoidance in romantic relationships among young Indian adults aged 18 to 30 years are related to perceived partner responsiveness. These findings may contribute to culturally sensitive relationship counseling and interventions aimed at improving emotional communication between romantic partners.

Review of literature

Research conducted by Bowlby (1969/1982) laid the

foundation for attachment theory, emphasizing how early bonds with caregivers create internal working models that shape relationship expectations across the lifespan. These models influence the way individuals experience intimacy, security, and trust in romantic relationships.

Hazan and Shaver (1987) extended this theory to adult romantic relationships. Their research found that adult romantic love is functionally similar to infant-caregiver bonds. Adult attachment was categorized into secure, anxious, and avoidant styles, based on behaviours such as seeking intimacy, responding to separation, and using the partner as a secure base.

Fraley and Shaver (2000) further refined adult attachment research by conceptualizing attachment along two core dimensions: anxiety (fear of abandonment and excessive desire for closeness) and avoidance (discomfort with closeness and emotional dependence). These dimensions provide a more nuanced and continuous measure of adult attachment patterns.

The Experiences of Close Relationships (ECR) scale was introduced in a study conducted by Brennan, Clark, and Shaver (1998), which became the gold standard for assessing adult attachment. Their work transformed attachment anxiety and avoidance into measurable constructs, allowing researchers to examine how these adaptations influence perceptions and behaviours in relationships.

The ECR was later refined into shorter forms (e.g., ECR-R, ECR-S), which maintained high reliability and validity. These instruments have enabled extensive cross-cultural research on attachment and have made it possible to correlate attachment styles with other psychological constructs such as emotional regulation and partner responsiveness.

Reiss and Shaver (1988) introduced the interpersonal intimacy process model, proposing that intimacy is created when one partner expresses feelings and the other responds with understanding and care. Perceived partner responsiveness (PPR) refers to the perception that one's partner is emotionally connected, valid, and supportive (Reiss, Clark, & Holmes, 2004).

Meisel and Gable (2009) found that PPR is important not only during times of emotional distress but also during times of shared positive experiences. Their research highlighted that partners who respond supportively to both successes and failures increase relationship satisfaction and intimacy.

A study conducted by Mikulincer and Shaver (2007) found that attachment insecurity (both anxiety and avoidance) influences how individuals interpret partner behaviours. Anxiously attached individuals may misinterpret neutral actions as rejection, while avoidantly attached individuals may underestimate or ignore supportive gestures.

Collins and Feeney (2004) supported this with experimental results that avoidant individuals perceive their partners as objectively supportive but less supportive. Anxious individuals, despite actively seeking intimacy, are often dissatisfied due to increased emotional demands and fear of abandonment.

Grime et al. (2015) conducted a longitudinal study that showed that securely attached individuals report stable and positive perceptions of their partner's responsiveness during times of stress. In contrast, anxious individuals experience fluctuating perceptions, often influenced more by internalized insecurities than by the partner's actual behaviours.

Hudson, Lucas, and Donelan (2020) also reported that anxiously attached individuals showed high variability in their daily assessments of partner responsiveness, whereas avoidant individuals consistently underestimated their partner's emotional availability.

In the Indian context, attachment behaviours are influenced by strong family and social norms. Dhawan and Lutz (2020) explored romantic love in India and noted that the tension between modern relationship norms and traditional values often exacerbates emotional stress. Anxiously attached individuals may struggle even more when family support for romantic relationships is lacking.

Raval, Martini, and Raval (2017) examined the intergenerational transmission of attachment in Indian families. Their study

found that attachment security or insecurity developed in childhood continues to shape emotional expectations and perceptions of relationships in adulthood.

Furthermore, cultural norms often reinforce avoidant behaviours, especially among men, who may have been socialized to suppress emotional expression. This cultural reinforcement complicates the accurate perception of emotional support and contributes to a decrease in perceived partner responsiveness.

A study by Shaver and Mikulincer (2012) explored how attachment style influences emotional regulation strategies. They found that insecurely attached individuals—both anxious and avoidant—struggle with effective emotional regulation. This difficulty results in misunderstanding a partner's cues and a reduced ability to engage in emotionally responsive interactions.

Gillath, Shaver, Baek, & Chun (2008) examined neural responses related to attachment activation and found that anxiously attached individuals display heightened emotional reactivity when experiencing a lack of support from their romantic partners, reinforcing their tendency to interpret emotional cues negatively.

As a result, attachment style serves not only as a predictor but also as a mediator of emotional intimacy. Misinterpreting a partner's behaviours, avoiding emotional contact, or being overly dependent—all stem from attachment-driven regulatory patterns, which make emotional communication more difficult and stressful.

Etcheverry, Le, Wu, & Wei (2013) found that avoidantly attached individuals are more likely to devalue their partners after experiencing relationship threats. This behavior serves as a self-protective strategy but reduces emotional closeness and perceived support.

Kane, McCall, Collins, & Blascovich (2012) used experimental methods to show that anxious individuals display heightened physiological arousal and stress when their partner is unavailable, even temporarily, linking this to lower perceived reactivity.

Dewitte, De Houwer, & Buysse (2008) found that adult attachment styles influence attentional biases toward emotional faces, which can distort how individuals interpret their partner's mood and responsiveness in real time.

Knobloch & Solomon (2003) found that individuals with attachment insecurity experience greater relationship uncertainty, which affects their ability to accurately assess their partner's behavior.

Brumbaugh & Fraley (2006) studied consistency and change in adult attachment styles and concluded that stressful relationship experiences can reinforce poor perceptions of support, especially in anxious and avoidant individuals.

Rodrigues, Lopes, & Kumashiro (2017) emphasized that responsiveness is context-sensitive. They found that anxiously attached individuals are more affected by small changes in their partner's behavior, making them more reactive and more likely to experience neglect.

Lemay & Clark (2008) reported that anxiously attached individuals often put more effort into monitoring their partner's behavior, leading to emotional exhaustion and lower satisfaction with perceived support, even when their partners were caring.

Overall & Simpson (2015) found that responsiveness to romantic partners was more effective in reducing stress among securely attached individuals. In contrast, anxious and avoidant individuals showed limited benefit, suggesting a perceptual filter formed by attachment orientation.

Joel, Gordon, Impet, McDonald, & Keltner (2013) highlighted that anxious individuals may experience emotional ambivalence—they desire intimacy but feel unworthy of it—which makes them hypercritical or suspicious of their partner's responses.

Hadden, Smith, & Webster (2014) showed that insecurely attached individuals are less likely to recognize emotional availability during partner relinquishment, such as compromise or forgiveness.

Tani, Pascuzzi, and Raffagnoni (2015) conducted a cross-cultural comparison and found that attachment styles predicted emotional dissonance similarly in both Italian and Indian samples, highlighting the cross-cultural relevance of the theory.

Pistole (1993) found that avoidant individuals actively block emotional messages from their partners, often dismissing support as “unnecessary,” which contributes to emotional detachment.

McClure and Lydon (2014) revealed that anxious individuals catastrophize a partner’s absence, interpreting even temporary unavailability as rejection, resulting in reduced emotional responsiveness.

Shallcross, Howland, Bemis, Simpson, and Frazier (2011) found that individuals with insecure attachment react poorly to a partner’s disclosures and are less likely to reciprocate emotional openness, resulting in reduced perceived mutual support.

Debrot, Cook, Perez, and Horn (2012) showed that physical affection initially improves perceived support among secure individuals. Insecurely attached participants are more likely to feel emotionally detached despite physical closeness.

Borelli, David, Crowley, and Mays (2011) studied co-regulation in couples and found that securely attached dyads manage stress more effectively, while avoidant partners are less emotionally present, which reduces perceived support.

Morris, Webb, and Fletcher (2020) emphasized that partner responsiveness depends not only on behavior but also on perceptions and interpretations—areas where attachment style plays an important role.

Shaver and Mikulincer (2009) developed the concept of “attachment security priming”, finding that increasing a person’s sense of security increases their ability to perceive responsiveness from others, even in previously misperceived situations.

Methodology

This section outlines the detailed research methodology adopted for the current study that explored the relationship between adult attachment styles and perceived partner responsiveness in romantic relationships. Every stage of the study – from conception and design to data analysis – was conducted with the utmost adherence to ethical principles and academic rigor. The methodology is organized under several key areas, providing a transparent and human-centered view of the research process.

Research Design

This study utilized a quantitative, cross-sectional, and correlational research design. Quantitative research methods are highly effective for quantitatively measuring psychological constructs and analyzing relationships using statistical tools. This design was particularly well-suited to exploring the strength and direction of the association between adult attachment styles (anxiety and avoidance) and perceived partner responsiveness.

Being cross-sectional, the study collected data at one point in time, providing a real-time snapshot of participants' relational and emotional experiences. The correlational nature of the study allowed the researcher to examine the natural associations between variables without manipulating any factors, making it theoretically appropriate for a non-clinical population. The overall structure of the design ensured the necessary expertise, feasibility, and scientific reliability for a postgraduate-level study.

Objectives and Hypotheses

The main objective of this study was to examine how adult attachment styles are related to how individuals perceive emotional responsiveness from their romantic partners. Drawing from psychological theories of attachment and intimacy, this study aimed to provide insight into the psychological basis of romantic relationships among young adults.

Objectives:

- To assess attachment anxiety and avoidance using a psychometrically valid scale.
- To measure perceived partner responsiveness using a structured and validated scale.
- To examine the correlation between attachment style and perceived emotional support in romantic relationships.

Hypotheses:

- H1: There is a negative relationship between attachment anxiety and perceived partner responsiveness.
- H2: There is a negative relationship between attachment avoidance and perceived partner responsiveness.

Participants

The sample consisted of 60 participants, all of whom were young adults aged 18 to 30 years and were currently in a romantic relationship. Participants were recruited through digital means, specifically social media platforms, educational WhatsApp groups, and online peer networks.

Inclusion Criteria:

- Aged 18 to 30 years
- Currently in a romantic relationship
- Able to understand English (as the instruments were in English)
- Informed consent provided

Exclusion criteria:

- Individuals not in a current relationship
- Participants with incomplete information or inconsistencies in responses
- Self-reported history of serious mental disorders that may affect the perception of relationships

- The sampling method used was non-probability convenience sampling, chosen for its feasibility in an academic setting and its suitability for exploratory psychological research.

Tools Used

Two standardized and widely used self-report instruments were used to measure the variable of interest: the Experiences of Close Relationships - Short Form (ECR-S) and the Perceived Partner Responsiveness Scale (PPRS). These instruments were selected based on their theoretical basis, reliability, validity, ease of use, and relevance to the study variable.

Experiences in Close Relationships Scale - Short Form (ECR-S)

The Experiences in Close Relationships Scale - Short Form (ECR-S) is a 12-item self-report measure

designed to assess adults' attachment patterns in romantic relationships, representing a more concise version of the original 36-item ECR (Wei et al., 2007). Built on contemporary attachment theory,

the ECR-S assesses how individuals think, feel, and behave in romantic relationships, focusing specifically on attachment-related anxiety and avoidance dimensions.

The ECR-S measures a two-dimensional framework of adult romantic attachment:

- Anxiety - assessing fear of rejection and abandonment, need for approval, and distress over the relationship
- Avoidance - measuring discomfort with intimacy, dependence, and intimate self-disclosure

For clinicians, the ECR-S offers several distinct advantages. Its concise format makes it ideal for routine clinical assessments, providing robust insights into relationship functioning and taking only a few minutes to complete. This measure helps clinicians quickly identify attachment-related difficulties at the root of relationship conflict, as well as larger attachment themes that may be affecting interpersonal style or the

therapeutic alliance.

The ECR-S is particularly useful in the context of couples therapy and relationship counseling. It helps clinicians understand each partner's attachment style, anticipate relationship dynamics, and tailor interventions accordingly. For example, identifying high attachment anxiety in one partner and high avoidance in the other can help explain patterns of pursuit-withdrawal and inform specific therapeutic strategies. The importance of this measure on current romantic relationships makes it particularly relevant for addressing current relationship difficulties and developing targeted treatment plans. In addition to assessing current relationship patterns, the ECR-R can be used retrospectively where a respondent recalls how they felt during a previous romantic attachment and responds accordingly.

Scoring and Interpretation

The ECR-S scores are composed of two main attachment dimensions, Attachment Avoidance and Attachment Anxiety. The scoring system reflects the distinct patterns of attachment in close relationships:

- Attachment Avoidance (items 1,3,5,7,9,11; score range: 6 to 36): High scores indicate intense discomfort with intimacy and dependence in relationships, which manifests as emotional distance, excessive self-reliance, and a reluctance to share personal feelings or rely on others. Individuals high in Avoidance tend to maintain strict emotional boundaries and may use defensive strategies to protect themselves from perceived relationship threats.
- Attachment Anxiety (Items 2,4,6,8,10,12; Score Range: 6 to 36): High scores reflect intense fear about the stability of the relationship and the availability of the partner, which manifests as hypervigilance to relationship cues, excessive need for reassurance, and difficulty maintaining emotional balance when partners are unavailable. Individuals with high anxiety tend to seek excessive closeness and validation from relationship partners.

Contours of the Contemporary Mind

Each score is converted to a percentage based on normative data and is assigned based on the range of descriptive (low, average, high) percentages:

Low: 25th percentile or below

Average: 26th to 74th percentile

High: 75th percentile or above

Percentages are calculated based on an undergraduate sample, with 50 percent representing the typical pattern of responses. The normative sample was undergraduate students.

The explanatory text includes an initial attachment pattern analysis. This pattern analysis is based on a specific combination of scores on both dimensions descriptors (low, average, high). These patterns range from secure styles (e.g., "secure style") to various insecure styles (e.g., "avoidant style", "dismissive style", "preoccupied style"). Each style provides specific insights into the organization of attachment and the dynamics of relationships, as well as associated therapeutic implications and approaches. The interpretation considers the interaction between the avoidant and anxious dimensions to provide a comprehensive understanding of the individual's attachment style and its implications for relationships and therapeutic work. The specificity of the overall attachment pattern allows for highly tailored therapeutic recommendations and insight into potential treatment challenges and opportunities

Brennan et al. (1998) derived the ECR-S from the 36-item ECR. Wei et al. (2007) demonstrated the strong psychometric properties of the ECR-S through six validation studies. The scale showed satisfactory internal consistency across studies with coefficient alphas ranging from .77 to .86 for the anxiety subscale and from .78 to .88 for the avoidance subscale. Test-retest reliability was strong over a 1-month period, with coefficients of .80 and .83 for the anxiety and avoidance subscales, respectively. Factor structure analysis confirmed two relatively orthogonal dimensions (anxiety and avoidance) that provided a good fit to the data after removing response sets, with CFI values ranging from .95 to .97 across studies.

Consistent with the predictions of attachment theory, the construct validity of the ECR-S was supported by the positive association of attachment anxiety with emotional reactivity and the positive association of attachment avoidance with emotional cutoff (Wei et al. 2007). Convergent validity was established by correlation analysis using several tests (Wei et al. 2007): excessive reassurance seeking was significantly associated with attachment anxiety but not with attachment avoidance. Frustration was significantly associated with both attachment anxiety and avoidance.

Normative data from college students collected by Wei et al. (2007) were synthesized to generate means and standard deviations for scores and subscales. The initial sample consisted of 851 undergraduate students at a large public university. Participants ranged in age from 18 to 45 years.

($M = 20.36$ years, $SD = 2.04$).

Anxiety subscale (6 items; $M = 21.73$, $SD = 7.04$)

Avoidance subscale (6 items; $M = 16.28$, $SD = 6.97$)

NovoPsych assigned descriptors for each attachment score that were determined by percentages. The selected percentage ranges were consistent with those of previous attachment researchers (e.g., Kaitz et al., 2004; Mayseless & Scher, 2000; Rain et al., 2016):

‘High’ score: 75th percentile or higher

‘Low’ score: 25th percentile or lower

‘Average’ score: 26th-74th percentile

The NovoPsych version of the ECR-S uses a sophisticated pattern analysis system that examines the interaction between avoidant and anxious attachment dimensions. These attachment patterns were developed by three PhD-level psychologists with extensive clinical experience (Hegarty, D., Smith, C., Buchanan, B., 2024). The analysis produces attachment pattern interpretations based on specific combinations of scores across the dimensions. The patterns focus on the fundamental interactions between anxious and avoidant attachment dimensions, classifying individuals into broad attachment styles. For example:

Secure style (both avoidance and anxiety below the 75th percentile)

Avoidant-avoidant style (high avoidance, high anxiety: both above the 75th percentile)

Avoidant-avoidant style (high avoidance, low anxiety)

Anxious-avoidant style (low avoidance, high anxiety)

This two-level pattern analysis system, supported by empirical attachment research (Bartholomew & Horowitz, 1991; Brennan et al., 1998), provides both the specificity needed for clinical intervention and the broad taxonomic framework useful for research and general understanding of attachment organization.

Perceived Partner Responsiveness Scale (PPRS)

The PPRS was developed by Reis, Clark, and Holmes (2004) and is based on the Interpersonal Process Model of Intimacy (Reis & Shaver, 1988). It measures the extent to which individuals perceive their romantic partners to be understanding, valid, and emotionally responsive. Description

The PPRS is a measure of people's perceptions of their relationship partners' responsiveness to themselves. This 12-item measure includes two closely related constructs, originally based on the interpersonal process model of intimacy proposed by Reiss and Shaver (1988): understanding (the extent to which the other person "believes things are right about oneself") and validation (the extent to which the other person believes that he or she appreciates and values oneself). This measure is intended to assess the responsiveness of a specific target to the respondent and is typically used for romantic partners. It can be easily adapted to refer to other types of relationships, such as friends, family, and acquaintances. The scale explicitly asks about global perceptions of a partner's responsiveness; such perceptions will not necessarily correspond to the partner's attitudes, intentions, or perceptions or to objectively coded behavior.

Developments

The 18-item PPRS was first introduced by Harry Reiss and

Cheryl Carmichael (2006) in an unpublished study of married couples' experiences of intimacy and support. Since then, some of the item wording has undergone minor changes. Subsequently, a 12-item version of the measure has been developed (Reiss, Maniachi, Caprarillo, Eastwick, & Finkel, 2011), which has generally produced similar reliability and demonstrated adequate validity compared to the longer version. A three-item version has also emerged, which is more suitable for protocols that demand brevity, such as empirical sampling and daily diary studies (Gable, Gosnell, Meisel, & Strachman, 2012).

Reliability

The internal consistency of both the 12-item and 18-item PPRSs is high, ranging from 91 to 98 in most published and unpublished samples (e.g. Birnbaum & Reis, 2006; Reis et al., 2011; Reis, Maniachi, & Rogge, 2014).

Validity

A close, exploratory factor analysis using principal axis extraction using data from an Internet-based sample of over 2000 individuals who were asked to complete the PPRS supported a unidimensional construct solution, in which all items load highly on a single factor. This solution has emerged. Consistently (with the same factor loadings) across different types of relationships (e.g., with a romantic partner, close friends, and family members). In the Internet-based sample and several other samples, there was mildly suggestive evidence of a two-factor solution related to understanding and validity, but even in this setting, the two factors were significantly related, 94. This likely reflects the fact that understanding and validity tend to co-occur in close relationships.

Several studies have demonstrated convergent validity through correlations with other scales designed to measure responsiveness, including relationship satisfaction ($r=.82$), trust ($r=.67$), empathy (51), and emotional support ($r=.49$). Other findings that contribute to the validity of the measure include an experimental study in which PPRS scores increased as first-year college students became better acquainted with

each other (Reis et al., 2011). In another study, PPRS scores were significantly related to reports of a partner's daily empathetic behavior. ($r=.33$), suggesting that givers and receivers agree on behavioral manifestations of responsiveness (Reis et al., 2014). Another unpublished study found significant agreement ($r=.33$) between ratings of responsiveness given by relationship partners and independent coders in laboratory conversations (Rasbult, Kumashiro, & Reis, 2011).

Availability

The romantic partner version of the PPRS is shown at the end of this profile. Other versions can be created by changing the wording of the relationship of interest (e.g., best friend, parent, or work supervisor). The scale is freely available to researchers, with appropriate citations.

Core dimensions measured:

- Understanding: The perception that the partner truly listens to and understands the emotional experience.
- Validation: The feeling of acceptance and validation of the partner's thoughts and emotions.
- Caring: The feeling of warmth, empathy, and emotional support from the partner.
- Structure and Format: The short version of the PPRS consists of 12 items.
- Each item is rated on a 9-point Likert scale from 1 (not at all true) to 9 (very true).

Sample items:

"My partner listens to me attentively."

Scoring and Interpretation

The total PPRS score is calculated by summing the scores on the 12 items, resulting in a score range from 12 to 108.

Higher scores indicate greater perceived emotional responsiveness from the partner.

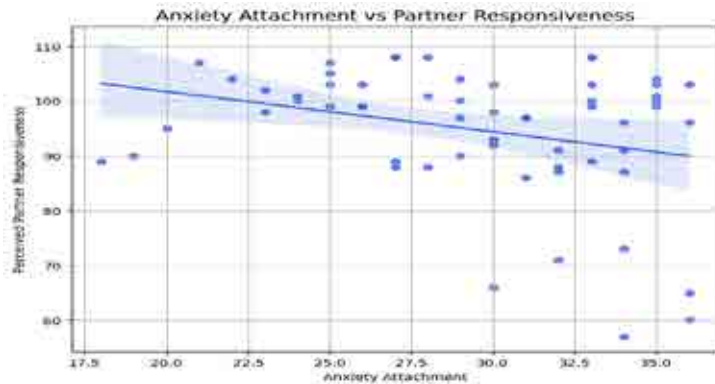
Psychological Properties

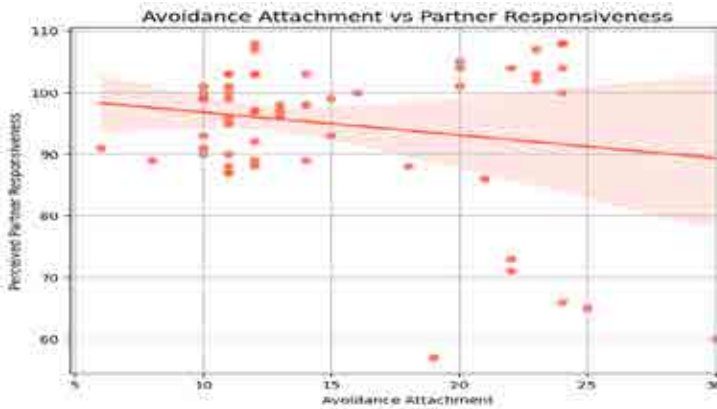
- The PPRS shows high internal consistency, with Cronbach's alpha typically ranging from 0.86 to 0.90.
- The construct validity of this scale is strong and is significantly related to measures of relationship satisfaction, intimacy, and attachment security.

Applicability

- The PPRS is particularly useful in romantic relationship research due to its strong theoretical basis and psychological relevance.
- It is acceptable in both Western and non-Western cultural contexts.

Both instruments were administered in digital format via Google Forms. Their selection was based on their relevance to the construct being studied, strong psychometric support, and ease of completion for participants. Together, the ECR-S and PPRS provided a comprehensive measure of both internal attachment styles and interpersonal perceptions of emotional support.





Discussion

The purpose of this research was to explore the relationship between adult attachment styles and perceived partner responsiveness (PPR) in romantic relationships among young adults. The study focused specifically on two dimensions of attachment: avoidance and anxiety. These were measured using the Experiences in Close Relationships – Short Form (ECR-S), while perceived partner responsiveness was assessed using the Perceived Partner Responsiveness Scale (PPRS – Short Version). The final sample comprised 60 participants aged between 18 and 30 years. Data were analyzed using Microsoft Excel, and Pearson’s correlation coefficients were calculated to assess the relationship between the attachment dimensions and perceived partner responsiveness. This chapter discusses the findings in light of existing literature, theoretical frameworks, and cultural contexts, while also reflecting on the implications and limitations of the study.

Attachment Avoidance and Perceived Partner Responsiveness

One of the main objectives of this study was to examine whether a significant relationship exists between attachment avoidance and perceived partner responsiveness. The findings revealed a **negative correlation ($r = -0.18$)**, suggesting that individuals who exhibit higher levels of attachment avoidance

tend to perceive their partners as less emotionally responsive. Although the strength of this correlation is weak, the direction of the relationship is consistent with existing theoretical and empirical literature.

Attachment theory, originally developed by Bowlby (1969), posits that individuals with avoidant attachment patterns typically value independence, are uncomfortable with closeness, and tend to withdraw emotionally in relationships. Consequently, they are less likely to seek out or respond positively to emotional support from partners. As a result, even when a partner is genuinely caring or attentive, the avoidant individual may downplay or disregard such behaviours, leading to a reduced perception of responsiveness.

This pattern has been observed across various studies. For instance, Mikulincer and Shaver (2007) found that avoidantly attached individuals often suppress their attachment needs and distance themselves during emotional interactions, which leads to misinterpretations of partner behaviours. Similarly, Fraley and Shaver (2000) noted that such individuals tend to devalue emotional intimacy and may interpret partner support as intrusive or unnecessary.

In the present study, the weak correlation may be attributed to a number of contextual and individual factors. One possibility is that the participants, despite scoring higher on avoidance, may still be in relationships where partners offer consistent and visible emotional support. This could soften the negative impact of avoidant tendencies, resulting in a relatively small effect size. Another explanation might be the influence of social desirability bias, where participants underreport their avoidant behaviours or overreport their perceptions of partner support.

Cultural factors may also play a role. In collectivist societies such as India, where family values and interdependence are emphasized, even avoidant individuals might conform to relational norms that value emotional closeness. Hence, despite internal discomfort, they may still acknowledge their partner's supportiveness, albeit with some ambivalence. Such cultural balancing could dilute the strength of the observed negative relationship.

Overall, the findings support the theoretical proposition that avoidance in adult attachment is associated with reduced perception of partner responsiveness, albeit weakly in this sample.

Attachment Anxiety and Perceived Partner Responsiveness

The second major focus of this study was to investigate the relationship between attachment anxiety and perceived partner responsiveness. The results showed a **moderate negative correlation ($r = -0.51$)**, indicating that individuals with higher attachment anxiety tend to perceive their partners as less emotionally responsive.

This result aligns strongly with theoretical expectations. Attachment anxiety is characterized by a heightened sensitivity to signs of rejection, an excessive need for reassurance, and a tendency to overinterpret ambiguous behaviours as negative. Individuals high in attachment anxiety are often preoccupied with doubts about their partner's commitment and love, which distorts their ability to accurately perceive emotional support.

Previous research has consistently found this pattern. Collins and Feeney (2000) reported that anxious individuals are prone to perceive even supportive actions as insufficient or conditional. Their hypervigilance toward relational cues often results in the misinterpretation of neutral or even positive behaviours as signs of detachment or neglect. Mikulincer et al. (2003) also emphasized that anxious individuals frequently seek reassurance but may remain dissatisfied even when partners attempt to meet those needs.

In the current study, the moderate strength of the correlation indicates a meaningful inverse relationship. This suggests that as anxiety increases, individuals' capacity to recognize or believe in their partner's emotional support decreases significantly. This has critical implications for relationship satisfaction and emotional well-being. High levels of perceived unresponsiveness can reinforce the anxious individual's fear of abandonment, creating a cycle of insecurity and dissatisfaction.

It is important to consider the relational context when interpreting these results. While attachment anxiety is an internal trait, perceived partner responsiveness is inherently relational. If an anxious individual is in a relationship where the partner is inconsistent, emotionally distant, or dismissive, the effects of anxiety may be magnified. Conversely, even in supportive relationships, the anxious person may feel persistently unsure due to their internal cognitive and emotional biases.

Cultural norms may again play a role. In Indian settings, emotional expression within romantic relationships is evolving, particularly among urban youth. Traditional expectations may conflict with the emotional needs of anxious individuals, resulting in a mismatch that exacerbates their perception of low responsiveness.

These findings reinforce the idea that attachment anxiety is a significant risk factor for relational dissatisfaction and underscores the importance of emotional communication and reassurance in romantic dynamics.

Implications

The findings of this study provide several theoretical, clinical, and sociocultural implications, particularly in understanding how adult attachment styles—specifically attachment anxiety and avoidance—shape perceptions of emotional support in romantic relationships among young people.

Theoretical Implications

This study reinforces the basic concepts of attachment theory (Bowlby, 1988; Hazan & Shaver, 1987), affirming that adult attachment styles act as psychological filters through which individuals perceive their romantic partner's behavior. The observed negative relationships—specifically the moderating relationship between attachment anxiety and perceived partner responsiveness (PPR)—highlight the role of internal working models in distorting interpersonal perceptions (Mikulincer & Shaver, 2016). It also validates the application of the attachment framework beyond childhood, providing theoretical support for models that emphasize perception-driven intimacy (Reiss & Shaver, 1988).

Additionally, the results of this study support the interpersonal process model of intimacy, which states that intimacy increases when individuals perceive their partners as responsive (Lorenzo et al., 1998). Anxiously attached individuals may disrupt this process due to their hypervigilance and emotional disorganization, while avoidant individuals may inhibit intimacy by suppressing or rejecting emotional cues.

Clinical and Counseling Implications

The results are highly relevant to relationship counselors and psychologists, as they reinforce the importance of assessing and addressing attachment insecurity in romantic partnerships. Individuals with high attachment anxiety may misinterpret their partner's support due to an internalized fear of abandonment or rejection (Collins & Feeney, 2000). On the other hand, avoidant individuals may be less likely to seek or acknowledge emotional intimacy, which can create a communication gap.

Therapists can use these insights to develop interventions. For example:

Emotionally Focused Therapy (EFT) can help partners explore unmet attachment needs and improve emotional connection (Johnson, 2004).

Cognitive-behavioral techniques can help reframe negative interpretations and build trust in anxious individuals.

Attachment security priming can be incorporated to change insecure attachment patterns over time (Shaver & Mikulincer, 2009).

Educational and Preventive Effects

For young adults, who are often in the process of forming long-term romantic relationships, early education on attachment styles and emotional communication can encourage healthy patterns of intimacy. Relationship education programs in universities and counseling centers can:

- Promote awareness of how past experiences shape current attachment patterns.

- Teach emotional regulation and communication strategies.
- Encourage recognition of supportive behaviors from partners.
- Incorporating such training into college counseling services or premarital counseling may serve as a preventative strategy to reduce relationship dissatisfaction.

Cultural and Social Implications

This study also contributes to the growing understanding of romantic dynamics within the Indian cultural context, where emotional expression is often shaped by traditional norms, family structures, and gender roles (Dhawan & Lutz, 2020). Individuals with insecure attachments may experience greater conflict between personal emotional needs and cultural expectations, especially when navigating romantic relationships in conservative environments.

In this cultural environment, perceived partner responsiveness may be interpreted differently, with small gestures taking on significant meaning or going unnoticed depending on one's attachment orientation. These findings emphasize the need for culturally sensitive counseling that considers how attachment processes emerge in collectivistic societies like India (Raval et al., 2017).

Digital and Modern Relationship Context

The collection of data through online platforms reflects a larger trend – digital intimacy and communication are central to modern relationships. In this context, perceived responsiveness can be mediated through text, video calls or social media. Attachment-related biases can not only affect face-to-face interactions, but also how individuals perceive responsiveness in digital spaces (Finney & Collins, 2015). This opens up new avenues for exploring how attachment styles operate in technology-mediated or long-distance relationships.

Limitations

Despite its contributions, the study is not without limitations.

These issues should be taken into account when interpreting the results and planning future research:

Small sample size:

The study was limited to 60 participants, which limits the generalizability of the results. A larger and more diverse sample would provide greater statistical power and improve the robustness of the conclusions.

Cross-sectional design:

The use of a cross-sectional design provides only a snapshot in time and does not allow for causal inferences. Future studies using longitudinal designs could better examine how attachment styles and perceived responsiveness evolve over time.

Self-report bias:

Reliance on self-reported data introduces the potential for social desirability bias, especially in the Indian context where disclosing relationship dissatisfaction or emotional struggles may be culturally discouraged.

Uncontrolled variables:

The study did not control for important contextual variables such as relationship duration, cohabitation status, family involvement, or past relationship trauma. These factors can significantly influence both attachment behavior and perceptions of responsiveness.

Limited to non-clinical sample:

All participants were from the general population, and the results may not generalize to individuals with clinically significant attachment disorders, history of abuse, or mental health conditions that affect relationship functioning.

Language and Cultural Nuances

Although participants were required to understand English, the cultural and emotional subtleties included in the PPR

Suggestions for Future Research

While the current study provides valuable insight into the relationship between adult attachment styles and perceived partner responsiveness, several areas remain open for future research:

Larger and more diverse samples

Future research should include a larger and more demographically diverse population to increase the generalizability of findings across different ages, cultures, and relationship contexts.

Longitudinal design

A longitudinal approach will help explore how attachment styles and perceived partner responsiveness develop over time and across different stages of romantic relationships.

Dyadic research model

Collecting data from both partners in a relationship will provide a more complete picture of mutual perceptions, attachment dynamics, and emotional responsiveness.

Qualitative exploration

Incorporating qualitative methods such as interviews or open-ended responses can provide deeper insights into how individuals perceive and interpret emotional support based on their attachment orientation.

Cultural Comparisons

Future research may benefit from cross-cultural studies to understand how attachment and emotional reactivity vary in societies with different relationship norms and communication styles.

Conclusion

This study aimed to investigate the relationship between adult attachment styles—specifically attachment anxiety and attachment avoidance—and perceived partner responsiveness (PPR) in romantic relationships among young adults. Guided by attachment theory, the research explored whether

individuals with higher levels of insecure attachment perceive their partners as less emotionally responsive. Using validated psychometric tools – the Experiences in Close Relationships – Short Form (ECR-S) and the Perceived Partner Responsiveness Scale (PPRS) – and a sample of 60 participants, the study uncovered insightful patterns that both affirm theoretical expectations and prompt further inquiry.

The results revealed two key findings. First, a moderate negative correlation was found between attachment anxiety and PPR, suggesting that individuals who are more anxious in relationships tend to perceive their partners as less emotionally supportive and validating. This finding is consistent with existing literature, which suggests that anxious individuals often misinterpret or discount their partner's positive behaviours due to fears of abandonment and heightened emotional sensitivity. Second, a weak negative correlation was observed between attachment avoidance and PPR, indicating that individuals who are emotionally distant or uncomfortable with intimacy also tend to perceive lower responsiveness from their partners, although to a lesser extent.

Together, these results underscore the impact of internal attachment orientations on interpersonal perceptions. Even when partners are supportive, individuals with insecure attachment may struggle to recognize or accept that support. This has direct implications for relationship satisfaction, conflict resolution, and emotional intimacy. An anxious or avoidant attachment style can subtly distort how individuals perceive their romantic experiences, often leading to dissatisfaction or miscommunication.

From a theoretical standpoint, the findings validate core principles of attachment theory, especially in the context of adult romantic relationships. The observed patterns reflect the idea that early relational experiences shape internal working models, which in turn influence emotional expectations and interpretations in later life. Attachment styles are not merely static traits but active psychological filters that color how people see and respond to love and support.

In practical terms, this research holds value for counselors, therapists, and individuals in romantic partnerships. For clinicians, understanding a client's attachment style may offer clues about recurring relational struggles, fears, or communication patterns. Interventions aimed at building emotional awareness, self-regulation, and communication skills can empower individuals to move toward more secure attachments. For couples, this study highlights the importance of understanding how internal insecurities may influence perceptions and behaviours within the relationship.

The study also adds to the growing body of psychological research emerging from the Indian context. As romantic relationships evolve in Indian society—shaped by both traditional family values and modern individualistic ideals—understanding emotional dynamics becomes increasingly important. Findings like these contribute to culturally relevant relationship counseling and emotional wellness strategies tailored for young adults in transitional societies.

However, it is essential to acknowledge the limitations. The relatively small sample size and cross-sectional design limit the generalizability and causality of findings. Additionally, self-report tools, while efficient, are subject to social desirability bias and may not capture the full complexity of emotional experiences. Future studies could benefit from larger, more diverse samples and mixed-method approaches that include qualitative insights.

In conclusion, this study provides meaningful evidence that adult attachment styles—particularly anxiety and avoidance—are related to how individuals perceive their romantic partner's responsiveness. These insights not only affirm established psychological theories but also point toward real-world applications in relationship support, therapy, and emotional growth. As romantic relationships remain central to human well-being, understanding the internal mechanisms that influence them is essential for fostering healthier emotional lives.

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THE ENDURING IMPACT OF CHILDHOOD TRAUMA ON ADULT MENTAL HEALTH

**Anjali Saroj¹, Shreya Banerjee², Priyam Adhikary³ & Dr.
Nilanjana Mitra⁴**

¹²³Student M.A./M.Sc in Applied Psychology, Swami
Vivekananda University, West Bengal, India

⁴Corresponding Author, Assistant Professor & Head,
Department of Psychology
Swami Vivekananda University, West Bengal, India

Abstract

Childhood trauma exerts a profound and enduring influence on mental health outcomes in adulthood. A growing body of research demonstrates that early experiences of abuse, neglect, or household adversity disrupt stress response systems, impair emotional regulation, and compromise relational functioning, thereby increasing vulnerability to psychiatric disorders. This review synthesizes empirical findings linking childhood trauma to anxiety, depression, post-traumatic stress disorder (PTSD), and substance use disorders, while also examining the moderating effects of resilience and social support. Evidence from longitudinal and cross-cultural studies highlights not only the neurobiological and psychological mechanisms underlying trauma's long-term impact but also the protective factors that foster recovery. Future directions emphasize the need for culturally sensitive interventions, trauma-informed care, and longitudinal research to better understand adaptive pathways and inform prevention strategies. The findings underscore the critical importance of early intervention and resilience-focused approaches in mitigating the adverse effects of childhood trauma and promoting lifelong mental health.

Keywords: Childhood trauma, adult mental health, anxiety, depression, PTSD, resilience, substance use disorders

Introduction

Childhood is a critical developmental stage during which biological, psychological, and social foundations are laid for later life. Experiences of warmth, safety, and stability promote resilience and adaptive functioning, whereas adverse events such as abuse, neglect, or chronic household dysfunction can profoundly disrupt developmental trajectories. Over the past three decades, research on adverse childhood experiences (ACEs) has provided compelling evidence that early trauma is a pervasive risk factor for adult mental health difficulties (Felitti et al., 1998; Teicher & Samson, 2016).

Childhood trauma is broadly defined as exposure to events that threaten a child's sense of safety and overwhelm their coping capacity, including physical, sexual, or emotional abuse; emotional or physical neglect; and environmental stressors such as parental substance misuse or domestic violence (McLaughlin et al., 2014). While trauma can occur at any age, its impact is particularly pronounced during childhood because of the heightened plasticity of the brain and the sensitivity of developing stress-response systems (Anda et al., 2006).

A large body of research demonstrates that childhood trauma not only increases risk for psychiatric disorders in adulthood but also influences symptom severity, age of onset, treatment responsiveness, and chronicity (Nanni, Uher, & Danese, 2012; Widom, Czaja, & Dutton, 2008). Yet the relationship is not deterministic. Some trauma survivors display remarkable resilience, highlighting the importance of protective factors such as supportive relationships and access to effective interventions (Masten, 2014).

This review synthesizes empirical evidence on the enduring impact of childhood trauma on adult mental health. Four domains are examined: anxiety disorders, depression, post-traumatic stress disorder (PTSD), and substance use disorders. In addition, the role of moderating factors such as resilience and social support is considered. The paper concludes by discussing future research directions, drawing on gaps identified in the literature, and emphasizes implications for clinical practice and policy.

Literature Review

Effect of Childhood Trauma on Anxiety Disorders

Anxiety disorders are among the most prevalent psychiatric outcomes of childhood trauma. Epidemiological studies consistently find that individuals exposed to early abuse or neglect have higher rates of generalized anxiety disorder (GAD), panic disorder, and phobias (Green et al., 2010). In the National Comorbidity Survey Replication, exposure to multiple childhood adversities was strongly associated with the onset of anxiety disorders in adulthood, with cumulative risk increasing as the number of adversities increased (Kessler et al., 2010).

Neurobiological research has clarified mechanisms underlying this association. Early trauma is linked to hyperreactivity of the amygdala and altered connectivity between the amygdala and prefrontal cortex, impairing regulation of fear responses (McLaughlin et al., 2015). Etkin and Wager (2007) reported that trauma survivors with anxiety disorders display exaggerated activation in neural circuits related to threat detection, explaining symptoms of hypervigilance and anticipatory worry.

Clinical studies also highlight functional impairments. For example, women with histories of childhood sexual abuse report heightened anxiety sensitivity, difficulties in emotion regulation, and increased risk of comorbid panic symptoms (Bremner et al., 2003). Importantly, the timing of trauma matters: exposure during early childhood (ages 0–5) appears to confer greater risk for later anxiety than trauma experienced during adolescence (Gee et al., 2013). This suggests sensitive developmental windows during which the brain is especially vulnerable.

Effect of Childhood Trauma on Depression

Depression represents one of the most extensively studied outcomes of childhood trauma. Meta-analyses demonstrate that maltreatment increases risk for both first onset and recurrent depressive episodes (Nanni et al., 2012). In addition, childhood trauma predicts earlier age of onset, greater

severity, and poorer treatment response in depression (Heim et al., 2008).

One pathway involves dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, the body's primary stress-response system. Heim et al. (2008) found that adults with histories of early abuse exhibit altered cortisol secretion patterns, reflecting maladaptive stress regulation that predisposes them to mood disorders. Neuroimaging studies also show reduced hippocampal volume and altered prefrontal functioning in trauma-exposed individuals with depression (Teicher & Samson, 2016).

Longitudinal research has clarified the enduring impact. Widom et al. (2007) followed children with documented cases of abuse and neglect into adulthood, finding significantly elevated rates of major depressive disorder decades later. Moreover, interpersonal factors such as insecure attachment and maladaptive coping strategies often mediate the link between trauma and chronic depressive symptoms (McCrory et al., 2017).

Notably, the interplay between trauma and gender has also been highlighted. Women exposed to early trauma are disproportionately vulnerable to depression, possibly due to combined effects of biological sensitivity and social stressors (Kendler et al., 2000). This underscores the importance of considering sociodemographic moderators in understanding trauma's impact.

Relationship between Childhood Trauma and Post-Traumatic Stress Disorder (PTSD)

Although PTSD can emerge following any traumatic event, childhood trauma appears to create a particularly strong and persistent vulnerability. Adults who experienced childhood abuse or neglect are more likely to develop chronic PTSD symptoms than those exposed to trauma later in life (Widom, Czaja, & Dutton, 2008).

Neurobiological research provides important insights. Bremner et al. (2003) documented deficits in hippocampal structure and function among women with histories of childhood sexual abuse and PTSD, suggesting that early

trauma disrupts memory processing and fear regulation. Altered prefrontal cortex functioning further impairs the ability to modulate fear responses, contributing to intrusive memories and avoidance behaviours (Herringa, 2017).

Beyond individual neurobiology, social context plays a role. Cloitre et al. (2009) emphasized that childhood trauma often involves interpersonal betrayal, leading to relational difficulties that compound PTSD symptoms in adulthood. Survivors frequently struggle with trust, intimacy, and emotional regulation, making recovery more complex.

Moreover, trauma type and chronicity are important. Repeated or chronic abuse, particularly when perpetrated by caregivers, predicts more severe and treatment-resistant PTSD symptoms than single-incident trauma (Cloitre et al., 2009). This has led to increasing recognition of complex PTSD, characterized by emotional dysregulation and interpersonal disturbances, as distinct from traditional PTSD.

Effect of Childhood Trauma on Substance Use Disorders

Substance use disorders (SUDs) are strongly associated with childhood trauma, often conceptualized as maladaptive attempts to regulate trauma-related distress. Data from the Adverse Childhood Experiences (ACE) study revealed a graded relationship: as the number of childhood adversities increased, so did the likelihood of alcohol and drug dependence (Dube et al., 2003).

Khoury et al. (2010) found that trauma survivors often use substances to manage hyperarousal, numb intrusive memories, or escape negative emotions. This “self-medication” hypothesis helps explain high comorbidity between trauma and SUDs. Neurobiological evidence also supports this view: early trauma sensitizes the brain’s reward circuitry, increasing vulnerability to addictive behaviors (Enoch, 2011).

Clinical samples further illustrate the risks. Ouimette, Goodwin, and Brown (2006) observed that patients with co-occurring PTSD and SUDs had higher relapse rates and poorer treatment outcomes than those without trauma histories. Similarly, Shin et al. (2018) found that women with

histories of childhood sexual abuse were at elevated risk for both alcohol dependence and polysubstance use.

Importantly, the relationship is bidirectional. Substance use increases exposure to risky environments, raising the likelihood of revictimization (Widom et al., 2008). This cyclical pattern highlights the need for integrated treatment approaches that address both trauma and addiction simultaneously.

Moderating and Protective Factors: Resilience and Social Support

Although the risks of childhood trauma are well documented, outcomes are not uniform. Many individuals demonstrate resilience, defined as positive adaptation despite adversity (Masten, 2014). Research identifies multiple protective factors, including supportive relationships, adaptive coping strategies, and community resources.

Social support consistently emerges as one of the strongest buffers. Schumm, Briggs-Phillips, and Hobfoll (2006) found that trauma survivors with strong interpersonal support networks reported lower levels of PTSD and depression. Similarly, supportive caregiving relationships in childhood can mitigate neurobiological consequences of trauma by promoting emotion regulation and secure attachment (Cicchetti & Toth, 2016).

Resilience-based interventions also show promise. Trauma-focused cognitive behavioral therapy (TF-CBT) has been demonstrated to reduce PTSD symptoms and improve emotional regulation among children and adults with trauma histories (Cohen & Mannarino, 2008). Mindfulness-based interventions and community-based programs further enhance coping skills and foster resilience (Haase et al., 2016).

These findings suggest that while trauma confers significant risks, recovery is possible when individuals have access to stable, supportive environments and effective interventions.

Future Directions

Although substantial progress has been made, important

gaps remain in understanding and addressing the long-term impact of childhood trauma.

Longitudinal Research

While many studies establish associations, fewer track individuals over extended periods. Prospective longitudinal designs are needed to clarify causal pathways and identify sensitive periods. For example, Dunnet al. (2018) demonstrated that timing of trauma (early vs. later childhood) differentially predicts adult psychopathology, underscoring the need for more nuanced developmental models.

Biological Mechanisms

Epigenetic research offers emerging insights into how trauma “gets under the skin.” Studies reveal that childhood adversity alters gene expression linked to stress regulation and immune functioning (Cicchetti & Handley, 2019). Future work should explore how these biological changes interact with environmental factors to shape long-term outcomes.

Cross-Cultural Perspectives

Most research has been conducted in Western contexts. Yet resilience processes and trauma responses vary across cultural settings. A study by Panter-Brick and Leckman (2013) highlighted the role of community rituals and collective identity in fostering resilience among trauma-exposed populations. Expanding cross-cultural research will improve the global applicability of findings.

Intervention Research

Although trauma-focused therapies are effective, access remains limited. More randomized controlled trials (RCTs) are needed to evaluate scalable, culturally sensitive interventions. For example, recent trials of group-based TF-CBT in low-resource settings have shown promising results (Murray et al., 2015). Technology-based interventions, such as mobile health apps, also warrant exploration as accessible tools for trauma recovery.

Systemic and Policy-Level Approaches

Individual treatment is essential but insufficient. Research indicates that trauma-informed schools and healthcare systems improve outcomes by fostering safety and empowerment (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Future evaluations should assess how such systemic approaches reduce long-term psychiatric risk.

Conclusion

Childhood trauma is a potent predictor of adult mental health outcomes, shaping vulnerability to anxiety, depression, PTSD, and substance use disorders. These effects are mediated by neurobiological changes, maladaptive stress regulation, and interpersonal difficulties. However, resilience and social support demonstrate that adverse trajectories are not inevitable.

The evidence underscores the need for early intervention, trauma-informed care, and policies that address the systemic roots of adversity. As research advances, integrating biological, psychological, and social perspectives will be crucial for developing comprehensive strategies to break the cycle of trauma and promote recovery. Ultimately, by acknowledging both the risks and the possibilities for resilience, clinicians, researchers, and policymakers can work toward a future where childhood adversity no longer dictates adult mental health outcomes.

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SYNERGISTIC HEALING: EVALUATING PAROXETINE WITH PSYCHOTHERAPY IN PANIC ATTACK MANAGEMENT

Rudrani Mitra

Assistant Professor Department of Psychology, Swami
Vivekananda University

Introduction

Paroxetine was the first selective serotonin reuptake inhibitor (SSRI) approved for the treatment of panic disorder, with or without agoraphobia. It acts as a highly selective inhibitor of presynaptic serotonin (5-HT) reuptake and shows minimal interaction with adrenergic, dopaminergic, histaminergic, or serotonergic receptors. Clinical trials have demonstrated that oral paroxetine, administered at doses of 10–60 mg/day, is significantly more effective than placebo in reducing the frequency of panic attacks and alleviating associated symptoms. Its therapeutic benefits were sustained for up to six months, with ongoing treatment reducing relapse risk. In comparative studies, paroxetine was found to be at least as effective as clomipramine (10–150 mg/day), with a more rapid onset of action in some cases.

The tolerability profile of paroxetine is consistent with that of other SSRIs, most commonly involving nausea, headache, somnolence, insomnia, dizziness, dry mouth, tremor, asthenia, sweating, constipation, and sexual dysfunction. Importantly, it was generally better tolerated than clomipramine, with fewer anticholinergic side effects such as dry mouth and constipation. Unlike benzodiazepines, paroxetine does not produce dependence and appears safer in overdose compared to tricyclic antidepressants. Moreover, doses of 20–30 mg do not significantly impair psychomotor performance or interact with alcohol.

In summary, paroxetine's favourable tolerability, lack of dependence potential, and relative safety in overdose make it a strong candidate for treating panic disorder. While further comparative studies against tricyclic antidepressants (particularly imipramine), high-potency benzodiazepines, and monoamine oxidase inhibitors are warranted, current evidence supports its role as a potential first-line therapy for panic disorder.

Panic disorder (PD) is a common, persistent and disabling mental disorder. The efficacy of various psychotropic medications (mainly antidepressants and benzodiazepines) as well as the efficacy of cognitive behaviour therapy (CBT) for treating the disorder has been established in numerous randomized controlled trials.

In DSM-IV-TR, a panic attack is described as a discrete episode of intense fear or discomfort that develops abruptly and reaches a peak within ten minutes. The episode is accompanied by a sense of imminent danger or an urge to escape and must include at least four of the following thirteen somatic or cognitive symptoms: (1) palpitations or accelerated heart rate; (2) sweating; (3) trembling or shaking; (4) shortness of breath or sensations of smothering; (5) feelings of choking; (6) chest pain or discomfort; (7) nausea or abdominal distress; (8) dizziness, light-headedness, or faintness; (9) derealization or depersonalization; (10) fear of losing control or "going crazy"; (11) fear of dying; (12) paraesthesia (numbness or tingling); and (13) chills or hot flushes. Attacks with fewer than four symptoms are termed limited-symptom attacks.

Agoraphobia, as defined in DSM-IV-TR, is characterized by anxiety about being in places or situations where escape may be difficult or help unavailable should a panic attack or panic-like symptoms occur. This fear commonly leads to avoidance of various situations, including being outside alone, staying home alone, entering crowded places, traveling in vehicles, or being in enclosed spaces such as elevators or bridges. Some individuals confront these situations only with great distress, while others require the presence of a companion. Such avoidance can significantly interfere with occupational and domestic responsibilities. Agoraphobia may arise at any

stage of PD but most frequently develops within the first year of panic attack onset. According to DSM-IV-TR, the essential feature of agoraphobia is anxiety about being in places or situations from which escape might be difficult (or embarrassing) or in which help may not be available in the event of having a panic attack or panic-like symptoms. The anxiety typically leads to a pervasive avoidance of a variety of situations that may include being alone outside the home or being home alone; being in a crowd of people; travelling in a automobile, bus, or airplane; or being on a bridge or in an elevator. Some individuals are able to expose themselves to the feared situations but endure these experiences with considerable dread. Others require the presence of a companion to confront the feared situation. Individuals' avoidance of situations may impair their ability to travel to work or to carry out homemaking responsibilities. According to DSM-IV-TR, agoraphobia may develop at any point in the course of PD, but onset is usually within the first year of occurrence of panic attacks.

There are 3 characteristic types of panic attacks, with different relationships between the attack and the presence or absence of situational triggers: unexpected (un-cued) panic attacks, situationally bound (cued) panic attacks, and situationally predisposed panic attacks. Panic attacks can occur in a variety of anxiety disorders, e.g., PD, social phobia, specific phobia, acute stress disorder, and post-traumatic stress disorder. In DSM-IV-TR, the occurrence of at least 2 unexpected panic attacks is required for a diagnosis of PD with or without agoraphobia.

Depending on whether criteria are also met for agoraphobia, PD with agoraphobia or PD without agoraphobia is diagnosed. PD without agoraphobia is characterized by recurrent unexpected panic attacks and by the absence of agoraphobia. PD with agoraphobia is characterized by both recurrent unexpected panic attacks and agoraphobia.

PD with or without agoraphobia is a highly prevalent psychiatric disorder that affects up to 5% of the population at some point in life. As shown by the results of the National Comorbidity Survey Replication (Kessler et al 2006), life-

time prevalence for PD with agoraphobia is 1.1 and 3.7 for PD without agoraphobia. PD with agoraphobia is diagnosed 3 times as often, and PD without agoraphobia twice as often in women as in men. PD is often disabling, especially when complicated by agoraphobia. The disorder may persist for years and be associated with a considerable impairment in functioning and with a substantial reduction in quality of life. PD with or without agoraphobia is associated with increased use of health care, high rates of absenteeism, and reduced workplace productivity.

For a diagnosis of panic disorder, DSM-IV-TR requires at least two unexpected panic attacks. The disorder is further classified as PD without agoraphobia, characterized by recurrent unexpected attacks in the absence of agoraphobia, or PD with agoraphobia, defined by the co-occurrence of recurrent unexpected attacks and agoraphobic avoidance.

Cognitive behavioural therapy (CBT) for PD with or without agoraphobia usually combines cognitive restructuring with interoceptive exposure and with progressive exposure to places and situations from which escape might be difficult (or embarrassing), or in which help may not be available in the event of having a panic attack or panic-like symptoms. The efficacy of CBT for the treatment of PD as well as for agoraphobia has been established in a number of randomized controlled trials.

Pharmacotherapy

Medications with proven efficacy in PD include various antidepressants (TCAs), monoamine oxidase (MOA) inhibitors, selective serotonin reuptake inhibitors (SSRIs), serotonin norepinephrine reuptake inhibitors (SNRIs), and benzodiazepines.

Paroxetine is generally well tolerated by both younger and older individuals and its adverse event profile is consistent with that expected for an SSRI. The tolerability profile of paroxetine in patients with panic disorder appears to resemble that in patients with depression. Headache, nausea, somnolence, dry mouth and insomnia were the most common adverse events among 469 patients with panic disorder who

received paroxetine 10 to 60 mg/day in short term clinical trials. The individual incidences for these events ranged from 18 to 25%; however, the incidence of headache in paroxetine-treated patients was the same as that in placebo recipients.

Pharmacodynamic properties of Paroxetine: Paroxetine increases serotonergic neurotransmission by inhibiting presynaptic reuptake of serotonin (5-hydroxytryptamine; 5-HT) and thereby increasing the level of the neurotransmitter at the synaptic cleft. In vitro, it is a more potent inhibitor of serotonin uptake than the selective serotonin reuptake inhibitors (SSRIs) Citalopram, fluvoxamine and fluoxetine. Paroxetine was more potent than sertraline in one study that compared mean inhibition constants for serotonin uptake, but not in another study that compared the concentrations required to inhibit serotonin uptake by 50%. In contrast to the tricyclic antidepressants, paroxetine has little effect on the uptake of dopamine or noradrenaline (norepinephrine) in vitro. Various studies in healthy volunteers without sleep disorders or volunteers reporting poor sleep have indicated that paroxetine disturbs normal sleep patterns by reducing rapid eye movement (REM) sleep time and lengthening REM latency. The effect of paroxetine on sleep in patients with panic disorder has not been determined, but in patients with depression the drug improves subjective quality of sleep. In electroencephalographic studies in healthy volunteers, administration of a single dose of paroxetine 30mg produced changes indicative of a sedative profile, whereas administration of 70mg produced changes indicative of activating properties. No significant impairment of psychomotor function was observed after administration of single or multiple doses of paroxetine 20 or 30mg to healthy volunteers or patients with depression. The sedation and impairment of psychomotor function caused by haloperidol, amobarbital, oxazepam or alcohol (ethanol) were not potentiated by the administration of paroxetine 30mg. In contrast to amitriptyline 150 mg/day or doxepin 150 mg/day, 2 to 6 weeks' treatment with paroxetine 20 or 30 mg/day did not produce clinically significant haemodynamic or electrophysiological effects on cardiac function in healthy volunteers or patients with depression. Fewer adverse cardiac effects were reported by

paroxetine than nortriptyline recipients in a study in patients with depression and ischaemic heart disease. The anxiolytic activity of paroxetine has been demonstrated after 7- or 21-days' administration in several rodent models.

Paroxetine is efficiently absorbed following oral administration but undergoes extensive first-pass metabolism, resulting in only about 1% of the administered dose reaching systemic circulation. The drug is rapidly distributed into tissues and exhibits high plasma protein binding, with approximately 95% bound. Steady-state concentrations are typically achieved within 7 to 14 days, and the terminal elimination half-life ($t_{1/2\beta}$) averages 24 hours, although considerable interindividual variability is observed.

Paroxetine is primarily metabolized via the cytochrome P450 (CYP) system, involving at least two enzymes, notably CYP2D6. Because CYP2D6 activity is subject to genetic polymorphism, pharmacokinetics differs between extensive and poor metabolizers. The resulting metabolites are pharmacologically inactive. Importantly, CYP2D6-mediated metabolism is saturable, leading to increased bioavailability and nonlinear pharmacokinetics during repeated or higher-dose administration.

Elimination occurs predominantly through metabolism, with nearly two-thirds of the dose excreted in urine and the remainder in faeces; less than 3% of the drug is recovered unchanged. Elderly individuals, as well as patients with hepatic or severe renal impairment, exhibit higher plasma concentrations, greater area under the curve (AUC), and prolonged half-life compared with healthy adults. Paroxetine also passes into breast milk, achieving concentrations comparable to those in plasma.

As shown in 3 short term placebo-controlled trials in patients with panic disorder with or without agoraphobia, oral paroxetine 10 to 60 mg/day is significantly more effective than placebo for most variables measuring reduction in panic attack frequency. The drug also produced significantly greater improvements in various anxiety and depression scales than placebo. An extension phase of one of the placebo-

controlled studies showed that the efficacy of paroxetine in reducing panic attack frequency is maintained during up to 6 months' treatment and that the drug reduces the risk of relapse. Oral paroxetine 10 to 60 mg/day was at least as effective as clomipramine 10 to 150 mg/day in a comparative study. During weeks 7 to 9 of treatment, 51% of paroxetine recipients had no full panic attacks, compared with 37% of clomipramine recipients. The onset of action appeared to be more rapid for paroxetine than for clomipramine. The 2 drugs were equally effective in improving generalised anxiety, phobic avoidance and social, family and work interactions. In patients who elected to continue treatment for a further 36 weeks in an extension phase of the above study, response rates increased further in all groups, including the placebo group. During weeks 34 to 36 of extended treatment, 85% of paroxetine recipients, 72% of clomipramine recipients and 59% of placebo recipients had no panic attacks. The difference between paroxetine and placebo was statistically significant at this time point; however, there was no significant difference between groups at the primary efficacy endpoint (weeks 22 to 24).

In a randomized, double-blind, placebo-controlled study (Oehrberg et al 1995), patients received 12 weeks of treatment with paroxetine (20, 40, or 60 mg) or placebo. Analysis of the results showed statistically significant differences in favour of paroxetine between the two treatment groups in 2 primary measures of outcome, i.e., 50% reduction in total number of panic attacks and number of panic attacks reduced to one or zero over the study period. In a 12-week, double-blind, parallel group, placebo-controlled study, Lecrubier et al (1997) compared paroxetine with clomipramine in 367 patients with DSM-III-R defined PD. Paroxetine produced significant improvements compared with placebo in various measurements of panic attack frequency, and was as effective as clomipramine. In a large, double-blind, fixed-dose, placebo-controlled, multicentred study of paroxetine in the treatment of PD (Ballenger et al 1998), patients were assigned to 10, 20, or 40 mg/day of study medication. At week 10, 86% of the patients taking 40 mg/day, 65.2% of those taking 20 mg, 67.4% of those taking 10 mg, and 50.0% of the placebo-treated patients were free of full panic attacks.

Sheehan et al (2005) compared controlled-release (CR) paroxetine with placebo in patients with DSM-IV PD with or without agoraphobia in 3 large, identical, double-blind, placebo-controlled, 10-week clinical trials that were pooled for analysis. Paroxetine CR was statistically superior to placebo in the primary outcome measure, i.e., percentage of patients who were free of panic attacks in the 2 weeks prior to endpoint. Of the total population that completed or prematurely terminated treatment, 63% and 53% of paroxetine CR- and placebo-treated patients, respectively, were panic-free during the final 2 weeks. For week 10 completers (72% of total), 73% and 60% of paroxetine CR- and placebo-treated patients, respectively, were panic-free at week 10.

A meta-analysis including 43 studies (Bakker et al 2002) compared the short-term efficacy of selective serotonin reuptake inhibitors vs tricyclic antidepressants in the treatment of PD. Outcome was measured with the proportion of patients becoming panic-free, and with pre/post Cohen's *d* effect sizes, calculated for four clinical variables: panic, agoraphobia, depression, and general anxiety. There were no differences between SSRIs and TCAs on any of the effect sizes, indicating that both groups of antidepressants are equally effective in reducing panic symptoms, agoraphobic avoidance, depressive symptomatology and general anxiety. In addition, the percentage of patients free of panic attacks at post-test did not differ. The number of drop outs, however, was significantly lower in the group of patients treated with SSRIs. The authors conclude that SSRIs and TCAs are equal in efficacy in the treatment of PD, but SSRIs are tolerated better. In a study by Mavissakalian (2003), imipramine was found to act more rapidly than sertraline, but there was no difference in efficacy between the two drugs at week 8. Side effects were more frequent with imipramine.

During the past 10 years, SSRIs have emerged as first-line pharmacological treatments for PD with or without agoraphobia. Six SSRIs are effective and well-tolerated short term treatments of PD: fluvoxamine, paroxetine, fluoxetine, sertraline, citalopram, and escitalopram.

In a randomized, double-blind, placebo-controlled study (Oehrberg et al 1995), patients received 12 weeks of treatment with paroxetine (20, 40, or 60 mg) or placebo. Analysis of the results showed statistically significant differences in favour of paroxetine between the two treatment groups in 2 primary measures of outcome, i.e., 50% reduction in total number of panic attacks and number of panic attacks reduced to one or zero over the study period. In a 12-week, double-blind, parallel group, placebo-controlled study, Lecrubier et al (1997) compared paroxetine with clomipramine in 367 patients with DSM-III-R defined PD. Paroxetine produced significant improvements compared with placebo in various measurements of panic attack frequency, and was as effective as clomipramine. In a large, double-blind, fixed-dose, placebo-controlled, multicentred study of paroxetine in the treatment of PD (Ballenger et al 1998), patients were assigned to 10, 20, or 40 mg/day of study medication. At week 10, 86% of the patients taking 40 mg/day, 65.2% of those taking 20 mg, 67.4% of those taking 10 mg, and 50.0% of the placebo-treated patients were free of full panic attacks.

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Bearing in mind that pharmacological treatment guidelines for PD have changed as newer treatment options have become available, Bruce et al (2003) examined how the use of psychotropic drugs in patients with PD with or without agoraphobia has shifted over the course of 10 years. A total of 443 patients with PD were interviewed to examine

their use of psychotropic medications. Treatment patterns for psychotropic drugs appeared to have remained stable over the past decade, with benzodiazepines being the most commonly used medication for PD. These results highlight a gap between pharmacological treatment guidelines and actual delivery of care.

There has been little systematic work done regarding the long-term treatment of PD with or without agoraphobia, and data on the prophylactic effectiveness of maintenance treatment are still limited, as well as information on the risk of relapse due to discontinuation of pharmacological treatment after an initial response to acute therapy.

Lecrubier and Judge (1997) studied the longer-term effects of continuous paroxetine or clomipramine treatment in patients with DSM-III-R defined PD. Patients who satisfactorily completed a 12-week, double-blind, placebo-controlled study of paroxetine and clomipramine could choose to continue receiving their randomized treatment for a further 36 weeks. Paroxetine and clomipramine were significantly more effective than placebo throughout the long-term study in reduction from baseline of full panic attacks, and at the end of treatment in the proportion of patients who eventually experienced no panic attacks. There were no significant differences between paroxetine and clomipramine. Not only was efficacy maintained, but continued improvement was also seen, indicating the importance of long-term treatment in patients with PD.

A controlled, prospective, double-blind, long-term treatment study of citalopram (Lepola et al 1998) followed patients for 1 year. Patients were assigned to 1 of 3 fixed dosage ranges of citalopram, 1 dosage range of clomipramine, or placebo. After an 8-week acute treatment period, patients could continue the treatment for up to 1 year. Of the 475 patients who were randomly assigned for the short-term trial, 279 agreed to continue double-blind treatment at their assigned doses. In all drug-treated groups, except the group receiving the lowest citalopram dose, the treatment outcome was generally better than with placebo. As determined by a life table analysis of response, the probability of response during the 12 months

was significantly greater with all treatment regimens than with placebo, with citalopram 20 or 30 mg/day demonstrating the best response.

In a study by Michelson et al (1999), patients who responded to acute fluoxetine treatment were randomized to 24 weeks of continued fluoxetine or placebo. Fluoxetine responders randomized to continue on their acute-phase fluoxetine dose experienced statistically significant improvement in panic attack frequency and phobia rating scale score over 24 weeks of therapy, while those switched to placebo experienced statistically significant worsening in Hamilton Anxiety (HAM-A), Hamilton Depression (HAM-D), and SCL-90-R rating scores.

According to Roy-Byrne and Cowley (2002), many studies show clearly that discontinuation of medication results in relapse in a substantial proportion of patients, with rates of 25%–50% recorded within 6 months, depending on study design. With reference to a study by Rickels and colleagues (1993), the same authors state that, in addition, SSRIs, SNRIs, tricyclic antidepressants, and benzodiazepines are associated with a time-limited withdrawal syndrome.

Mavissakalian and Perel (1999) have assessed the 12-month cumulative risk of relapse specifically due to discontinuation of imipramine and tested the hypothesis that maintenance treatment with imipramine protects patients with PD and agoraphobia from such reversals. After an acute-phase open trial with imipramine (2.25 mg/kg daily) for 6 months, 56 patients who were in stable remission were randomly assigned to double-blind maintenance or discontinuation conditions. Patients were then followed with planned assessments every 2 months during a 1-year period. Maintenance treatment (1 relapse) and discontinuation (10 relapses) conditions had significantly different survival curves. The results confirm the very high degree of prophylactic effectiveness of maintenance imipramine treatment and confirm that relapse is substantial after discontinuation of treatment.

Mavissakalian and Perel (2002) further explored the relationship between relapse and duration of imipramine treatment in

PD with or without agoraphobia. Fifty-one patients, all in remission at the end of six months acute phase open trial with imipramine 2.25 mg/kg/day, and randomized to double-blind maintenance or placebo substitution, discontinued imipramine treatment eventually and were followed over a 12-month risk period: 27 during first year placebo substitution, 7 after 12 months of imipramine maintenance in placebo substitution, and 17 after variable durations of imipramine maintenance in open discontinuation. The rate of relapse after only 6 months of treatment (10 out of 27, 37%) was identical to the rate of relapse after 12–30 months of treatment (9 out of 24, 37.5%). The results suggest a lack of specific protective effects beyond prophylaxis and underscore the difficulty in predicting relapse in fully remitted PD with agoraphobia patients.

Two 3-year naturalistic, uncontrolled, non-randomized outcome studies have yielded divergent results. Toni et al (2000) have reported on systematic data from a 3-year naturalistic prospective study on 336 patients with PD with or without agoraphobia treated with antidepressants in a setting of routine clinical practice. The antidepressants used were mainly imipramine, clomipramine, and paroxetine. Of those patients who interrupted the treatment, only 38% stayed in remission. Relapses after a period of at least 2 months of complete remission were also common, and the probability of presenting at least 1 relapse during the 3-year follow-up period was 67.1% for PD and 39% for agoraphobia.

In a study by Dannon et al (2004), 143 patients with PD, with or without agoraphobia, who had responded to a 12-week trial of paroxetine treatment, continued to receive paroxetine maintenance therapy for a total of 12 months or 24 months. After the period of maintenance treatment, patients were monitored throughout a 1-year discontinuation follow-up phase. Only 21 of 143 patients (14%) relapsed during the 1-year medication discontinuation follow-up phase. There were no significant differences in relapse rates between the patients who received intermediate-term (12 months) and those who chose the long-term course (24 months) paroxetine treatment.

Cognitive behavioural therapy and combination of treatments

Cognitive behavioural therapy (CBT) for PD with or without agoraphobia usually combines cognitive restructuring with interoceptive exposure and with progressive exposure to places and situations from which escape might be difficult (or embarrassing), or in which help may not be available in the event of having a panic attack or panic-like symptoms. The efficacy of CBT for the treatment of PD as well as for agoraphobia has been established in a number of randomized controlled trials.

In an early meta-analysis of treatment outcome for PD, Gould et al (1995) compared cognitive interventions with exposure treatments and various control conditions. CBT treatments in general had the highest effect size compared with pharmacological treatments or combination treatments. The CBT treatment showed virtually no slippage in effect size by 1-year follow-up compared with sizable slippage for pharmacological treatment. Importantly, there was also a significantly lower attrition rate among CBT treatments compared with pharmacological treatments.

According to 2 recent meta-analyses by Westen et al (2005) and Mitte et al (2005), rates of patients who are panic-free or meet criteria for recovery and high end-state functioning after treatment with CBT compare well with pharmacotherapy, with evidence that CBT is at least as effective as pharmacotherapy, with strong tolerability, maintenance of treatment gains, cost efficacy, improvements in comorbid conditions, and quality of life.

In a recent review, Roy-Byrne et al (2006) concluded that the nature of the evidence concerning the efficacy of CBT is robust, but that CBT approaches are underused in most countries, compared with drug treatment. According to the same authors, low rates of use are probably due to public unfamiliarity with the nature and efficacy of CBT relative to medication, to restricted access to professionals who are familiar with its efficacy and delivery, and to little training and familiarity with CBT for many mental-health professionals who currently treat patients with PD.

The empirical status of CBT for a wide range of disorders, including CBT for PD with or without agoraphobia, has also been reviewed recently by Butler et al (2006). According to the authors, the outcome findings on CBT for PD are supportive and robust. In addition, the authors state that there appears to be robust and convergent metanalytic evidence that CBT produces vastly superior long-term persistence of effects, with relapse rates half those of pharmacotherapy.

A recent study by Craske et al (2006) raises the possibility that remaining focused on CBT for PD may be more beneficial for both principal and comorbid diagnoses than combining CBT for PD with “straying” to CBT for co-morbid disorders.

Treatments combining pharmacotherapy and CBT

A considerable proportion of patients show only partial or poor response to either pharmacotherapy or CBT when used in isolation. Given that both treatments can be effective, it is reasonable to hypothesize that their combination may enhance outcomes compared to either approach alone. Reviews by Otto et al. (2005) and Pull (2006, 2007) emphasize that the relationship between pharmacotherapy and CBT is complex, underscoring the need for further research, particularly regarding the long-term effectiveness of combined treatments and the consequences of discontinuing one modality after joint administration.

Over the past two decades, multiple randomized controlled trials have investigated combination treatments for panic disorder (PD) with and without agoraphobia. Two recent meta-analyses have synthesized findings on the short- and long-term benefits, as well as potential drawbacks, of combining pharmacotherapy with CBT versus using either treatment independently. Mitte's (2005) meta-analysis, which included 124 studies, reported that in 20 studies directly comparing psychotherapy with combined therapy, the combination yielded significantly greater effects at post-treatment. However, at follow-up (conducted in about half of the studies), no significant differences were found between CBT alone and the combined approach. Similarly, Furukawa et al. (2006), through a comprehensive search, identified 21

trials comparing psychotherapy – predominantly CBT – with antidepressant pharmacotherapy, either as monotherapies or in combination.

The authors conclude that either combined therapy or CBT alone may be chosen as first-line treatment for PD with or without agoraphobia, depending on the patient's preferences.

According to a recent study, the addition of CBT to medication may be associated with less severe side effects and fewer dropouts due to perceived side effects than treatment with medication alone. Marcus et al (2007) assessed whether adding CBT to imipramine for patients with PD decreased the severity of side effects and dropouts from side effects. Data were analyzed for 172 PD patients who were randomly assigned to receive imipramine alone, imipramine plus CBT, or placebo. Patients treated with imipramine plus CBT experienced less severe fatigue/weakness, dry mouth, and sweating and had a lower rate of dropout due to side effects compared with those treated with imipramine only.

Emerging combined methods

Three novel combination strategies have recently been explored in the treatment of PD with or without agoraphobia: the sequential use of pharmacotherapy and CBT, the combination of virtual reality exposure therapy with CBT, and the use of cognitive enhancers such as d-cycloserine in combination with CBT.

Fava et al (2005) have reviewed clinical trials in which treatment components were used in a sequential order, i.e. pharmacotherapy followed by psychotherapy, psychotherapy followed by pharmacotherapy, one drug treatment after another, or one psychotherapeutic technique after another. According to the authors, the sequential use of pharmacotherapy and CBT introduces a conceptual shift in current treatment approaches of mood and anxiety disorders. It is an intensive, 2-stage approach, which is based on the fact that one course of treatment with a specific treatment (whether pharmacotherapy or psychotherapy) is unlikely to entail the solution to the complex array of symptoms of patients with these disorders.

In the review by Fava et al (2005) the sequential use of pharmacotherapy and psychotherapy was not found to improve long-term outcome in anxiety disorders. In contrast, 2 recent randomized, double-blind, placebo-controlled study do suggest that patients with PD who are unsuccessfully treated with initial CBT may in fact benefit from the addition of an SSRI as a second treatment modality and vice versa.

In a randomized, double-blind, placebo-controlled study Kampman et al (2002) examined the effects of adjunctive paroxetine in PD patients unsuccessfully treated with CBT alone. 161 patients with PD with or without agoraphobia underwent a manual-guided CBT of 15 sessions. Forty-three unsuccessfully treated patients from this group were included in a double-blind, placebo-controlled, next-step treatment study consisting of continued CBT plus adjunctive paroxetine at a dose of 40 mg/day or continued CBT plus placebo. Overall, patients in the CBT plus paroxetine condition improved significantly on agoraphobic behavior and anxiety discomfort, whereas patients in the CBT plus placebo condition did not.

Heldt et al (2006) reported the results of an open next-step treatment study involving 63 patients who completed group CBT for PD after failing to respond adequately to previous pharmacotherapy. All patients had been undergoing pharmacological treatment for PD at the time of treatment, with a mean duration of pharmacotherapy of 3 years. In order to be part of the study, patients had to have residual symptoms of PD with or without agoraphobia, such as panic attacks, anticipatory anxiety, and phobic avoidance despite being on a stable dose of medications for at least 4 months. Patients were treated in 1 of 9 groups (with a mean of 7 patients per group) during 12 sessions of CBT provided over 4 months by 2 therapists. Significant reductions in symptoms were evident for all outcome measures (frequency of panic attacks, agoraphobia and anticipatory anxiety) with maintenance of these gains at 1-year follow-up. Follow-up after 1 year showed significant benefit on all dimensional outcome scores, and nearly two-thirds of the sample met remission criteria.

Synergistic use of VR exposure therapy and CBT

Recent studies provide evidence that virtual reality exposure therapy (VRET) is a promising tool for the treatment of several anxiety disorders. As shown in a review by Pull (2005), the efficacy of standard treatments of anxiety disorders may be significantly enhanced using virtual reality exposure therapy. Most studies in the field have been on specific phobias, in particular on fear of flying, acrophobia, fear of driving, claustrophobia, and fear of spiders. In addition, several studies have been published on the use of virtual reality exposure therapy for social anxiety disorder, posttraumatic stress disorder and PD with or without agoraphobia.

In an ongoing, randomized controlled study by Botella et al (2004a, 2004b), patients with or without agoraphobia are assigned to either VRET, to exposure *in vivo*, or to a waiting list control group. Initial results of the study indicate that patients in the VRET and in the CBT groups improve significantly more than patients in the waiting list control group, and that there are no significant differences in outcome measures between patients treated by VRET and patients treated by exposure *in vivo*.

Another ongoing randomized controlled investigation involving the Collège de France and 3 university hospitals (in Luxembourg, Lyon, and Paris) compares the efficacy of traditional CBT, VRET, and a waiting list in patients meeting DSM-IV criteria for PD with agoraphobia (Pull et al 2006). CBT and VRET are given in 12 sessions of 90 minutes' duration. Both types of treatment are provided by the same clinicians who are experienced therapists. CBT includes respiratory control, cognitive restructuring, exposure in imagination to anxiety provoking scenes and interoceptive exposure to anxiety-related physical sensations, and homework involving exposure to real-life situations. VR environments are presented using a head mounted display and tracking head movement (Kaiser Electro-Optics Proview 60™, Germany). VRET includes exposure to 12 virtual environments (taking a subway, walking in a tunnel, taking an elevator, shopping in a supermarket, driving a car on a lonely country road, traveling by plane, entering a movie theatre, driving a car

in a city, driving a car in a tunnel, traveling by bus, walking in a crowd, being caught in a sensorial conflict) provoking a feeling of derealization. Initial results of the study indicate that there are no significant differences in outcome measures between patients treated by VRET and patients treated by traditional CBT.

The first cognitive enhancer to be used in addition to CBT in the treatment of anxiety disorders is D-cycloserine (DCS), a partial agonist at the N-methyl-d-aspartate receptor that has previously been shown to improve extinction of fear in rodents. As fear reduction in exposure therapy is similar to extinction learning, DCS has been used recently in 2 investigations, one for the treatment of acrophobia, the other the treatment of social phobia, to determine whether DCS will also improve extinction of fear in human phobic patients undergoing behavioural exposure therapy. The pilot data provide initial support for the use of acute dosing of DCS as an adjunct to exposure-based psychotherapy to accelerate the associative learning processes that contribute to correcting the psychopathology of anxiety disorders.

Ressler et al (2004) enrolled 28 subjects with acrophobia in a randomized, double-blind, placebo-controlled trial examining DCS versus placebo treatment in combination with a precisely controlled exposure paradigm. Subjects were treated with 2 sessions of behavioural exposure therapy using virtual reality exposure to heights within a virtual glass elevator. Single doses of placebo or DCS were taken prior to each of the 2 sessions of virtual reality exposure therapy. Subjects, therapists, and assessors were blind to the treatment condition. Subjects returned at 1 week and 3 months post-treatment for measures to determine the presence and severity of acrophobia symptoms. Included were measures of acrophobia within the virtual environment, measures of acrophobia in the real world, and general measures of overall improvement. An objective measure of fear, electrodermal skin fluctuation, was also included during the virtual exposure to heights. Symptoms were assessed by self-report and by independent assessors at approximately 1 week and 3 months post-treatment.

Exposure therapy combined with DCS resulted in significantly larger reductions of acrophobia symptoms on all main outcome measures. Subjects receiving DCS had significantly more improvement compared with subjects receiving placebo within the virtual environment (1 week after treatment and 3 months later). Subjects receiving DCS also showed significantly greater decreases in post-treatment skin conductance fluctuations during the virtual exposure. Additionally, subjects receiving DCS had significantly greater improvement compared with subjects receiving placebo on general measures of real-world acrophobia symptoms (acrophobia avoidance, acrophobia anxiety, attitudes toward heights, clinical global improvement, and number of self-exposures to real world heights). The improvement was evident early in treatment and was maintained at 3 months.

Preliminary support for the use of short-term dosing of d-cycloserine as an adjunctive intervention to exposure therapy has also emerged from a study on social anxiety disorder. In a randomized controlled study by Hofmann et al (2006), participants suffering from social anxiety disorder received 5 therapy sessions delivered in either an individual or group therapy format. The first session provided an introduction to the treatment model and was followed by 4 sessions emphasizing exposure to increasingly challenging public speech situations with videotaped feedback of performances. One hour prior to each session, participants received single doses of d-cycloserine or placebo. Symptoms were assessed before treatment, after treatment, and 1 month after the last session by patient self-report and by clinicians blind to the randomization condition. Participants receiving d-cycloserine in addition to exposure therapy reported significantly less social anxiety compared with patients receiving exposure therapy plus placebo. Controlled effect sizes were in the medium to large range.

PD with or without agoraphobia is highly prevalent in primary care. During the past few years, several studies have assessed the effectiveness of new treatment approaches in primary care settings. Several interventions, including collaborative care and combined CBT and pharmacotherapy tailored

for primary care physicians, have been shown to be more effective than usual care at improving anxiety symptoms, health-related quality of life, and work-related outcomes.

In a randomized controlled study by Rollman et al (2003), patients with PD with or without agoraphobia and patients with generalized anxiety disorder were randomly assigned to a telephone-based care management intervention or to usual care. The intervention involved non-mental health professionals who provided patients with psychoeducation, assessed preferences for guideline-based care, monitored treatment responses, and informed physicians of their patients' care preferences and progress. The usual care patients were informed of their anxiety condition both orally and in a written letter and they were given a disorder-specific brochure on their anxiety diagnosis, but neither the patients nor their physicians were provided with any additional patient-specific treatment advice. At 12-month follow-up, intervention patients reported reduced anxiety and depressive symptoms, improved mental health-related quality of life, larger improvements relative to baseline in hours worked per week, and fewer work days absent in the past month than usual care patients.

In a randomized, controlled study by Roy-Byrne et al (2005), 232 patients were randomized to receive either treatment as usual or an intervention consisting of a combination of up to 6 sessions (across 12 weeks) of CBT modified for the primary care setting, with up to 6 follow-up telephone contacts during the next 9 months, and algorithm-based pharmacotherapy provided by the primary care physician with guidance from a psychiatrist. The combined cognitive behavioural and pharmacotherapeutic intervention resulted in sustained and gradually increasing improvement relative to treatment as usual. The improvement was associated with a moderate increase in ambulatory costs (Katon et al 2006). According to the authors, the additional cost per additional anxiety-free day (AFD) and per quality adjusted life year (QALY) was well within the range of other commonly accepted medical interventions such as statin use and treatment of hypertension.

Education, personal management, and e-health interventions

Although PD with or without agoraphobia is often highly amenable to currently available treatments, either pharmacotherapy or CBT, or a combination of both, a considerable proportion of sufferers do not benefit from those treatments, either because they cannot find a specialist to provide them, or because they do not know that such treatments exist. As such, there is a need to bring these treatments to the attention of sufferers and to show them how they can best benefit from them, without or with only limited help by a professional. This is where education, self-management, and Internet-based interventions come in.

Self-management interventions are a set of strategies used by people to manage the symptoms, treatment, and consequences of disorders. Examples of self-help interventions include bibliotherapy, psychoeducation, computer-derived programs, Internet counselling, and peer group interventions. They can be implemented when professional help is either unavailable, or when it is too costly, unwarranted, or not accepted by the patient. Self-help interventions still can involve professionals, but they usually include only limited direct contact with a professional. They rely heavily on the individual to practice self-management techniques. Patients who are intellectually and emotionally capable of understanding the nature of their disorder, as well as the types of treatment options available, and who are willing to invest considerable effort and time in the treatment of their disorder, may greatly profit from such interventions and techniques.

The efficacy of self-management interventions has been investigated in only a limited number of studies, and the methodology in many of those studies is far from perfect. There is, however, sufficient evidence already to support further investigations on self-management interventions for the treatment of PD with or without agoraphobia (Pull 2005).

Calbring et al (2007) have recently published the results of a study that provide evidence to support the use of treatment distributed via the Internet with the addition of short weekly telephone calls to treat PD. The authors evaluated a 10-week

Internet-based bibliotherapy self-help program with short weekly telephone calls for people suffering from PD with or without agoraphobia. Sixty participants were randomly assigned to either a wait-listed control group or a multimodal treatment package based on CBT plus minimal therapist contact via email. A 10-minute telephone call was made each week to support each participant. Total mean time spent on each participant during the 10 weeks was 3.9 hours. The participants were required to send in homework assignments before receiving the next treatment module. Analyses were conducted on an intention-to-treat basis, which included all randomly assigned participants. From pre-treatment to post-treatment, all treated participants improved significantly on all measured dimensions (bodily interpretations, maladaptive cognitions, avoidance, general anxiety and depression levels, and quality of life). Treatment gains on self-report measures were maintained at the 9-month follow-up. A blind telephone interview after the end of treatment revealed that 77% of the treated patients no longer fulfilled the criteria for PD, whereas all of the waitlisted subjects still suffered from it.

Different pharmacological treatments as well as CBT are effective in the acute as well as in the long-term treatment of PD with or without agoraphobia. First-line acute pharmacological treatments include different SSRIs such as paroxetine, fluoxetine, fluvoxamine, sertraline, citalopram, and escitalopram as well as the SNRI venlafaxine.

Other medications with proven efficacy in PD include tricyclic antidepressants, MAO inhibitors, and benzodiazepines. While several tricyclic antidepressants are effective treatments for PD with or without agoraphobia, their use is limited by their side effects. While irreversible MAO inhibitors are effective treatments for PD with or without agoraphobia, their use is limited by their side effects and by their interactions with other drugs and food components. Selective and RIMAs exemplified by moclobemide and brofaromine, do not require dietary restrictions, have fewer drug interactions than irreversible MAO inhibitors, and are better tolerated. High-potency benzodiazepines such as lorazepam, alprazolam, and clonazepam are effective in treating PD and panic attacks

with or without agoraphobia, alone or as add-on therapy to SSRIs. Although, as a class, benzodiazepines act rapidly and are well tolerated, their use presents clinical issues such as rebound anxiety, memory impairment, discontinuation syndrome, and a potential for abuse and dependence.

In long-term treatments with several medications, efficacy was maintained or further increased in the long run, indicating the importance of long-term pharmacological treatment. Discontinuation of medication may result in relapse in a substantial proportion of patients.

CBT is a highly effective treatment for PD with or without agoraphobia that compares favourably with any of the pharmacological treatments in the acute phase of the treatment and may in fact be more effective in the long run.

Combining pharmacotherapy and CBT may be associated with greater overall efficacy in the acute phase of the treatment than either treatment alone. In the long-term treatment of PD with or without agoraphobia, combination treatments may be more effective than pharmacotherapy alone, but not more effective than CBT alone.

New strategies for combining pharmacotherapy and CBT, such as the sequential administration of pharmacotherapy and CBT, the combination of virtual reality exposure therapy and CBT, or the use of cognitive enhancers in combination with CBT have yielded promising results and should be investigated more fully in the years to come.

Finally, collaborative care strategies tailored for use in primary care as well as self-management interventions are more effective than usual care and should be further developed and refined.

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BEYOND THE SCAR: EXPLORING THE COMPLEX EFFECTS OF CSA ON PERSONALITY DEVELOPMENT, INTERPERSONAL RELATIONSHIPS AND SEXUAL ORIENTATION

Riya Debnath¹ & Dr. Papia Mukherjee²

¹Student, B.Sc. (H) in Psychology, Swami Vivekananda University

²Assistant Professor, Department of Psychology, Swami Vivekananda University

Abstract

Child Sexual Abuse (CSA) is a detrimental exploitation of children. In other words, CSA is the engagement of a child in sexual activities that they are unable to comprehend properly or consent to due to developmental immaturity or legal incapacity (WHO). This violation of a child's rights and well-being can take various forms, including physical and non-physical acts. Specifically, CSA encompasses contact acts, which involve direct physical contact, and non-physical contact acts, which include exposure to pornography, exhibitionism, sexual communication through phone or online and voyeurism. (Darkness2Light, cited in Dove & Miller, 2007). The purpose of this review study is to delve deeper into the plethora of long-term affects CSA has on an individual's life, including but not limited to, personality development, interpersonal relationships, sexual orientation.

Key words: Childhood Sexual Abuse (CSA), personality development, interpersonal relationships, sexual orientation.

Introduction

Even in this day and age of sex education, abuse awareness cases of sexual abuse is on the rise. Especially children, irrespective of gender, are still subjected to these adversities.

Childhood sexual abuse (CSA) can be defined as any interaction or connection between minors and adults (or other minors) that is intended to satisfy the perpetrator's sexual desires, including acts of observation (NCTSN, 2023).

According to the World Health Organization (WHO), Child Sexual Abuse (CSA) takes place when a child is involved in a sexual activity that is beyond their capacity for informed consent or are developmentally prepared for. This may also involve violations of societal norms or laws. The WHO's definition recognizes the power imbalance and exploitation inherent in CSA, emphasizing the need for protection and support for vulnerable children. Even with strict laws, some distorted individuals somehow find a way to abuse a child. Child abuse and maltreatment encompass various forms of harm that compromise a child's wellbeing, development, dignity and survival, especially in contexts where liability, trust, or power are exploited, as defined by the World Health Organization (WHO). This harm can take multiple forms, including physical and emotional ill-treatment, sexual abuse, neglect, and exploitation. Child abuse is mainly divided into four primary types: physical abuse, sexual abuse, emotional abuse and neglect. Alarming, statistical analysis from the Statistics Institute of Turkey reveals that sexual and physical abuse are the most frequently occurring forms of child abuse, with rates continuously increasing (Asuma & Imdat, 2018). Even though a significant proportion of SA cases involves women victims and male abusers, studies have shown abuse can occur across all gender identities (CDC, 2019). The majority of male sexual abuse is not recorded due various social stigma associated with men. Men who conform to these social norms of dominance, wining, stoicism and many more thinks it is un-masculine or un-male-like to be the victim. And being abused by another man can heighten this feeling of shame, identity confusion, and worthlessness in men. And if the violator is a female (approximately 6-15%) issues can be seen with identity confusion, and shame. (Hillman, O'Mara, Taylor-Robinson, & Harris, 1990; Isely & Gehrenbeck-Shim, 1997; Stermac, Del Bove, & Addison, 2004). Male sexual abuse is often overlooked and marginalized in mainstream culture, perpetuating harmful myths and stereotypes that contribute

to its exclusion (Kassing, Beesley, & Frey, 2005; Rando, Rogers, & Brittan-Powell, 1998). These misconceptions, are nothing but, stereotyped and prejudicial false beliefs about sexual assault, the survivors, and perpetrators (Burt, 1980, p. 217), further compound the issue.

In this review we will direct our focus on sexual abuse and its diverse effects, which still, to this day, is a subject of taboo. Therefore, other forms of abuse will not be considered in this paper. We will mainly focus on how history of CSA affects the personality of an individual, how far it damages their trusting ability and interpersonal relations and does CSA really affects one's sexual orientation.

CSA and Personality Development

Childhood sexual abuse (CSA), often hidden in the society, is a profoundly damaging form of abuse that have lasting impacts on an individual's personality development. Research suggests that CSA affects personality development through various factors, including the perpetrator's relationship with the child, severity and duration of abuse, child's age and developmental stage, perpetrator's age and gender, and child's pre-abuse psychological development (Putnam, 2003; Runyan et al., 2002; Rowan, 2006). As a result of traumatic exposure, CSA survivors are more vulnerable to the experiences of depression, post-traumatic stress disorder (PTSD), anxiety, maladaptive coping mechanisms, and impaired personality development (Schachter et al., 2018; Bewick et al., 2017).

The relationship between the abuser and victim significantly influences personality development. For instance, stranger perpetrators can lead to trust issues with strangers and excessive self-dependence, while family member or relative perpetrators can lead to paranoia and difficulty trusting close acquaintances. CSA survivors often develop feelings of powerlessness and despair, insecure attachment styles, relational difficulties, people-pleasing or co-dependency, perfectionism, self-criticism, aggressive or passive-aggressive behaviors, and self-destructive tendencies (Cook et al., 2018; Johnson et al., 2019).

Studies have linked CSA to negative self-perceptions, low self-esteem, identity confusion, personality disorders such as borderline personality disorder, and substance abuse (Easton et al., 2016; Craig et al., 2018; O'Mahen et al., 2019). Furthermore, CSA survivors may exhibit hypervigilance, a need for control, low body self-esteem, impulsivity, aggression, emotional regulation difficulties, isolation in interpersonal relationships, and insecure attachment styles. Overall, CSA can profoundly impact an individual's personality development, leading to maladaptive traits and relational challenges.

CSA and Interpersonal Relationship

Childhood sexual abuse (CSA) is a catastrophic occurrence with a enduring effects on emotional, behavioural, and psychological health (Bagley & King, 1990). One significant consequence of CSA is the difficulty in disclosing the abuse, often due to threats or lack of awareness (Crisma et al., 2004; Richardson & Bacon, 2003). Cultural norms, such as gender roles and religious beliefs, also influence the experience of maltreatment (Fontes, 2005). As a result, CSA survivors frequently develop maladaptive social interactions and impaired relationships.

The trauma of CSA irreparably damages a child's ability to trust, leading to feelings of betrayal and worthlessness (Finkelhor, 1986; Kendall-Tacket, Finkelhor & Williams, 1993). When the abuser is a stranger, the child may experience anger towards parents or caregivers for not providing protection. However, abuse from attachment figures or relatives causes more complicated and lingering problems (Ross, 1997). These feelings often persist throughout life, fostering distrust and paranoia towards others' intentions (Finkelhor, Hotaling, et al., 1990; Richardson & Bacon, 2003).

Research indicates that CSA survivors struggle with prosocial and social behaviours, leading to low-quality interpersonal relationships and conflictual friendships (Howe & Parke, 2001; Roberts et al., 2004). They also face challenges in developing balanced intimacy and trusting themselves (Hazan & Shaver, 1994; Shaver et al., 1996). Studies on sexually abused women reveal poorer social interactions, less satisfaction in intimate

relationships, and more controlling behaviours (DiLillo et al., 2001; Nielsen, Wind, et al, 2018; Colman & Widom, 2004; Mickelson et al., 1997).

CSA also severely impacts intimacy, defined as feelings of belongingness and trust towards significant others (Altman & Taylor, 1973). Survivors often experience fear of intimacy, resulting in sexual dysfunction and dissatisfaction (Colman & Widom, 2004). Moreover, male survivors of CSA face difficulties in forming and maintaining healthy relationships, including increased risk of intimate partner violence, emotional dysregulation, and attachment issues (Kia-Keating et al., 2010; Nelson et al., 2017; Schwartz et al., 2014).

In conclusion, CSA experiences significantly affect trusting ability, interpersonal relationships, and intimacy with significant others.

CSA and Sexual orientation

Childhood sexual abuse (CSA) has abundant and lingering impacts on an individual's life, including sexual orientation. Researches have shown that CSA survivors are more susceptible to experience fluidity in their sexual orientation, with enhanced rates of non-heterosexual identification and same-sex attraction (Tome et al., 2015; Roberts et al., 2017; Xu et al., 2018). Studies have revealed that 23.4% to 28.5% of CSA survivors identify as lesbian, gay, bisexual, or queer (LGBQ), compared to 10.4% to 14.5% of non-abused individuals (Liu et al., 2019; Gold et al., 2014). The correlation between CSA and sexual orientation is quite a layered and multifaceted one, with multiple elements contributing to this association. Research implies that CSA disrupts usual sexual orientation development, leading to increased fluidity and exploration (Corliss et al., 2013). Additionally, CSA survivors may experience psychological stress, social isolation, and stigma, which can influence their sexual identity formation (Vaughan et al., 2018). Longitudinal studies have found that CSA predicts non-heterosexual orientation in adolescents and adults, even after controlling for other adverse childhood experiences (Charlton et al., 2020). Moreover, CSA has been linked to increased same-sex attraction and behavior,

particularly among men (Roberts et al., 2017). The influence of CSA on sexual orientation varies depending on factors such as age of abuse onset, duration, and severity (Katz et al., 2016). Research also suggests that CSA may interact with genetic predispositions and environmental factors to shape sexual orientation (Balsam et al., 2012). Despite these findings, it's essential to note that CSA does not predetermine sexual orientation. Many CSA survivors identify as heterosexual, and many LGBTQ individuals do not experience CSA. However, the association between CSA and sexual orientation highlights the need for sensitive and informed research studies. Some studies have found that specific features of childhood sexual abuse (CSA) can heighten the risk of sexual dysfunction. Research indicates that abuse characterized by repetition, multiple perpetrators, prolonged duration, coercion, and paternal involvement is linked to increased rates of sexual difficulties. However, findings on the role of penetration or attempted penetration in sexual dysfunction risk are inconclusive. While some studies suggest that penetrative CSA elevates this risk, others found equal or even greater associations between non-penetrative CSA and sexual dysfunction. Hypersexuality is observed in CSA survivors as well at a very high rate compared to normal population (4-8% men and 1-4% women; kafka, 2010). With 25-50% of women and 20-40% of men (kafka, 2010) with hypersexuality report history of childhood sexual abuse.

In summary, CSA involving threat, force, chronicity, and abuse by multiple perpetrators or fathers increases the likelihood of long-term sexual concerns. Further research is necessary to clarify the impact of penetration on sexual dysfunction risk. Researchers propose that CSA can lead to negative body associations, perpetuating harmful self-perceptions and impairing sexual function in adulthood. In conclusion, the effects of childhood sexual abuse on sexual orientation are multifaceted and significant. Further research is needed to objectively draw any correlation between two.

Discussion

Childhood sexual abuse (CSA) has profound and lasting impacts on individuals' personality development,

interpersonal relationships, and sexual orientation. Research consistently shows that CSA survivors experience increased anxiety, depression, and post-traumatic stress disorder (PTSD) symptoms, leading to difficulties in emotional regulation and impulse control. This trauma can also shape personality development, fostering low self-esteem, self-blame, and shame. Interpersonally, CSA survivors often struggle with trust, intimacy, and emotional vulnerability, increasing the risk of re-victimization and conflictual relationships. Additionally, CSA can influence sexual orientation, leading to confusion, questioning, or exploration of sexual identity.

Childhood sexual abuse (CSA) is a pervasive issue globally with 18% girls and 8% boys (WHO, 2016) globally reporting CSA, but it is a bigger issue in India, affecting approximately 50-60% of children, with 53.22% of girls and 46.71% of boys experiencing some form of sexual abuse (Ministry of Women and Child Development, 2007; National Commission for Protection of Child Rights, 2018). More focused and rigorous researches are needed to understand the underlying factors causing this huge difference of abuse report between the world and India.

Men are particularly susceptible to CSA due to societal norms around masculinity, limited emotional expression, power dynamics, and cultural stigma. However, they often remain silent due to shame, fear of not being believed, masculinity concerns, social stigma, lack of trust in authorities, and fear of retaliation.

In short, more studies are needed to clear these social stigmas around sexual abuse, and provide adequate interventions and support for the survivors.

Conclusion

It is fairly apparent from the above discussion how immensely childhood sexual abuse can do irreparable damage to a person. The trauma experienced during the incident can shape an individual's worldview, self-concept, and relationships, influencing their overall well-being. Survivors often struggle with anxiety, post-traumatic stress disorder (PTSD), depression, low self-esteem, leading to maladaptive

personality development, difficulty forming and maintaining healthy relationships, intimacy avoidance, and trust issues. CSA can also influence sexual orientation, contributing to confusion or exploration, and increase the rates of same-sex or bisexual experiences. It can also cause various sexual disorders such as sexual dysfunction, sexual dissatisfaction, avoidance and fear of sexual intimacy, hypersexuality etc. It is also noteworthy that even though the society, media and the overall culture have always painted men as the aggressor and women as victims; abuse can be conducted by or against members from any gender. Due to cultural stereotypes, men do not report their abuse as frequently as women do. More researches and awareness are needed to rephrase this societal prejudice. And provide adequate support for members from all gender.

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