

Exploring Gender Differences in Mental Health: A Preliminary Investigation on Late Adolescents

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ABSTRACT

Mental health issues in India are a public health concern today and adequate action is required to address the same. Adolescents are in a critical phase of life that can have a long-term impact on their overall functioning. Recent studies have focused on the prevalence and differences in male and female mental health disorders in India, however, considering the wide socio-cultural fabric of India, these findings have been known to differ among specific populations and with socio-demographic profiles. Therefore, the present study aims to explore the difference in male and female mental health functioning among late adolescents in schools in the National Capital Region, India. The study sample included 235 school-going adolescents (male= 109; female = 126) who were in the age range of 15-19 years, recruited from schools via convenience sampling method. The data was collected using self-report questionnaires and analyzed using SPSS 23.0. Comparison of significant differences between means using t-test indicated that females had poorer emotional, social, and psychological well-being and overall poorer mental health as compared to males. This study, thus, highlights the need for understanding socio-cultural backgrounds wherein girls are vulnerable and susceptible to developing mental health disorders. By doing so, we can develop more effective strategies to support the mental health and well-being of girls in schools in India, who can then prove to be effective contributors to the psychological capital of the nation and can go on to lead healthy, fulfilling lives.

Keywords: *Mental Health, Well-being, Girls, Females, Women's Mental Health, Adolescents, School, India*

Adolescence is a period of dynamic brain development and complex interaction with the social environment shaping the individual's capabilities into adult life (Blakemore & Mills, 2014). During this phase, an adolescent acquires physical, emotional, cognitive, social, and economic resources that are the foundation for health and well-being in later life. Studies have shown that adolescent behavior is highly influenced by their emotional states (Domes et al., 2013; Llorca et al., 2016) that undergo rapid changes and influence their overall well-being during this transitional stage. Thus, this period of adolescence puts youth at a greater risk of developing mental health problems (Math &

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Srinivasaraju, 2010). Furthermore, the mental health status in adolescence has a significant impact on adulthood and long-term functioning (Clayborne et al., 2019; Wang et al., 2014; McShane, 1988).

Adolescents are exposed to stressors which are potent risk factors for many forms of psychopathology, (McLaughlin et al., 2012; Rudolph & Hammen, 1999; Kendler et al. 1999; Keyes et al., 2011; Grant et al., 2003) and perceptions of stress and daily hassles increase during adolescence as compared with childhood (Larsen & Ham, 1993; Seidman et al., 1994; Simmons et al., 1987). Adolescents face a variety of challenging circumstances to deal with the changing social dynamics of puberty. These include greater levels of parental conflict as well as academic achievement-related domains. Furthermore, they experience changes in peer relationships and romantic associations that in turn create opportunities for social comparison and evaluation. Through such experiences, there are more chances for adolescents' own behaviors to contribute to interpersonal relationship stressors (Rudolph & Hammen, 1999; Rudolph et al., 2000). Each of these emotional antecedents has been associated with risk for psychopathology in previous research (Rudolph et al., 2000; Rapee & Heimberg., 1997; Masten et al., 2005). Several Indian studies have found older adolescents to have poorer mental health than younger adolescents (Mohanraj & Subbaiah, 2010; Lama et al., 2005; Singh et al., 2015). Late adolescence is a period of risk of development of psychopathology as maladaptive schemas only start functioning as a cognitive diathesis in late adolescence and it has been found to be related to increased depression in response to peer-related distress (Braet et al., 2012).

Mental health has been defined variously by scholars and World Health Organization (WHO). The WHO (2004) defines mental health as “a state of well-being in which every individual realizes his or her potential, can cope with the normal stresses of life, can work productively and fruitfully, and can make a contribution to her or his community.” This definition emphasizes that mental health encompasses more than just the lack of mental illness, therefore, programs for mental health development and intervention must be informed by knowledge of the prevalence and causal factors of mental health concerns. Keyes' two continua model (Keyes, 2002) identifies mental health and mental illness as separate but correlated axes—one representing the presence or absence of mental health; the other, the presence or absence of mental illness. Positive mental health is a combination of feeling good about life as well as functioning well in life. Adolescent mental health is defined as the capacity to achieve and maintain optimal psychological functioning and well-being. It is directly related to the level reached and competence achieved in psychological and social functioning (WHO, 2005). Keyes (2006, 2014) identified three components of mental health: emotional well-being, psychological well-being, and social well-being. Emotional well-being includes happiness, interest in life, and satisfaction; psychological well-being includes liking most parts of one's own personality, being good at managing the responsibilities of daily life, having good relationships with others, and being satisfied with one's own life; social well-being refers to positive functioning and involves having something to contribute to society (social contribution), feeling part of a community (social integration), believing that society is becoming a better place for all people (social actualization) and that the way society works makes sense to them (social coherence).

Studies have established that adolescent mental health and psychopathology have long-term psychosocial outcomes (Clayborne et al., 2019). Adolescence, being a period of poor self-regulation, makes them more likely to experience increased symptoms of anxiety, depression, and delinquent behavior (White et al., 2011; Papadakis et al., 2006; Brooks et

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al., 2010; Muris et al., 1999; Beauchaine, 2001; Beauchaine et al., 2007) increased substance use (Dishion & Dodge, 2005), and increased risk for externalizing problems (Wang et al., 2012), such as aggression and antisocial behavior (Dane & Marini, 2014; Gardner et al., 2007; Dishion & Patterson; 2015). These negative outcomes can have long-lasting effects on academic, health, and well-being trajectories and increase the risk of future mental health problems (Howard & Williams, 2018).

Thus, the prevalence of mental illness among adolescents and the youth of the world is a global concern. According to estimates, 20% of young people between the ages of 12 and 18 years worldwide suffer from mental health issues, with depression and anxiety illnesses accounting for the majority of the global burden of diseases (Costello et al., 2005). The typical age of the first start of any anxiety, substance, and mood disorders is between 15 and 26 years across several nations in Europe, North America, and Latin America, according to the International Consortium in Psychiatric Epidemiology (ICPE, 2000). In this stage of life, people also experience more stresses that have been linked to psychopathology. (Grant et al., 2006). Adolescent mental health problems have been recognized as a major issue in low-income countries including India (Beattie et al., 2019; Nair et al., 2017). According to the 2011 Census, there are an estimated 253 million adolescents in India, comprising 21% of the total population. However, there is a gap between adolescent mental health requirements and resources in India. (Roy et al., 2019; Sharan & Sagar, 2007; Saxena et al., 2007). Epidemiological studies have reported a wide variation in the prevalence of Indian adolescent mental health problems, ranging from 2 to 63% (Satyanarayana et al., 2017; Singh et al., 2017). A recent systematic review and meta-analysis by Rajkumar et al., (2022) on the mental health of rural adolescents in India drew attention to the significant incidence of mental health problems. Mental health outcomes are thus, indicators of the need for intervention and are aimed at screening those at risk for developing mental health disorders. With regard to sex differences in mental health and well-being, female adolescents in most countries have been found to have poorer well-being than males (Burke & Weir, 1978; Keyes, 2002). Most Indian studies have found the mental health of females to be poorer than males (Chauhan & Dhar, 2019; Bhasin et al., 2010; Reddy et al., 2011) and this pattern has been consistent across literature (Rosenfield & Mouzon, 2013). Studies have also emphasized that neither gender experiences worse mental health overall, but men and women experience substantially different types of problems (Avison & McAlpine, 1992; Gore et al., 1993; Kessler, 2003; Turner & Lloyd, 1995; Rosenfield et al., 2005) and thus, exhibit different patterns of symptoms. Studies have highlighted the need to understand the origins of these differences in mental health that will benefit the development of interventions. Given that India is a diverse country with regard to culture, social class, caste, race, creed, religion, and other socio-demographic parameters, it is important to understand specific patterns of mental health differences that exist between males and females to design interventions accordingly. Given previous studies, the following specific hypothesis was posed: females will have poorer mental health than males.

METHODOLOGY

Sample

This was a cross-sectional study with a quantitative approach using convenience sampling. 235 adolescents studying in high and senior high schools in India, aged between 15 to 19 years participated in the study. Those who identified themselves as male or female, had a minimum of ten years of formal school education in an English-medium school, and could speak and understand English fluently, had no history or present psychiatric illness were

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included in the study. Data was collected from March to September 2022. The sample consisted of 106 boys ($M= 17.03$ years; $SD=1.19$) and 126 girls ($M=17.43$ years; $SD= 1.46$).

Instruments

Adolescents filled participant assent form and parents filled the consent form which informed them about the aims and objectives of the research and ethical considerations. A socio-demographic data sheet was used to obtain information about the participant's name, age, gender, standard/ grade in school, family type, domicile, and religion.

Mental Health Continuum (MHC-SF; Keyes, 2009)-The short form of the Mental Health Continuum (MHC-SF) derived from the long form (MHC-LF) was used to examine the mental health functioning of adolescents. The scale consists of 14 questions assessing aspects of emotional well-being, psychological and social functioning. The scale is divided into three domains: emotional well-being comprising items 1, 2, and 3; social well-being comprising items 4, 5, 6, 7, and 8; and psychological (hedonic) well-being comprising items 9, 10, 11, 12, 13, and 14. The ratings given to all items in each domain are summed up to get the total score for each domain. The scores for the domains are added to get the total score for the whole scale. The response option requires the respondents to indicate the frequency with which they experienced each symptom of positive mental health (see Keyes, 2002, 2005a, 2007). The short form of the MHC has shown excellent internal consistency ($> .80$) and discriminant validity in adolescents (ages 12-18) in the U.S., in the Netherlands, and in South Africa (Keyes, 2005b, 2006; Keyes et al., 2008; Lamers et al., 2011; Westerhof & Keyes, 2010). The test-retest reliability of the MHC-SF over three successive 3-month periods averaged .68 and the 9-month test-retest was .65 (Lamers et al., 2011). Singh et al., (2016) examined the psychometric properties of the flourishing scale of MHC-SF in the Indian adolescent population. Cronbach's α was found to range between .80 and .95. The convergent validity of the flourishing scale of MHC-SF was assessed by correlating it with MHC-SF and its subscales, psychological well-being, social well-being, and emotional well-being. All correlation coefficients were significant ($p < .01$), and ranged from $-.25$ to $.87$. Convergent validity was thus, found to be satisfactory. In the present study, the internal consistency reliability was found to be adequate with Cronbach's alpha value of .93.

Procedure

The research protocol was reviewed and approved by the Departmental Research Committee and written permission was sought from the concerned authorities in charge of the schools and colleges. Participant assent and parental consent were taken before the administration of the tools. All participants were assured that had the right to withdraw at any time from the study. The researcher assured that no attempt was made to invade the personal identities of the subjects and it would not form the subject of research. Respondents were assured that the information provided would be kept strictly confidential and will be used exclusively for research purposes only. No financial or non-financial incentives were provided to the participants for their participation in the study. The general testing conditions were adequate and satisfactory. Completion of the entire set of forms took approximately ten to fifteen minutes. After completion, the participants were debriefed. Appropriate statistical measures were applied to analyze the data using SSPS version 23.0 for Windows (Kirkpatrick, 2015). The data was tabulated, and frequencies and percentages were calculated. Reliability analysis was done using Cronbach's alpha (α) coefficient which indicated adequate reliability of the measures. No missing values were found. Normality analysis indicated that the data was normally distributed. As the skewness and kurtosis values showed an acceptable range in the region of ± 1 limits, it was concluded that the scores did not show a

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significant deviation from the normal distribution. T-test was used to compare groups and the significance of results was checked at .05, .01, and .001 levels.

RESULTS

Table No. 1: Showing the socio-demographic profile of the sample (Males= 109; Females= 126)

Variables	Males N (%) or $\bar{X} \pm SD$	Females N (%) or $\bar{X} \pm SD$
Age (in years)	17.03 \pm 1.19	17.43 \pm 1.46
Education		
Secondary	53 (48.62%)	26 (20.64%)
Higher-secondary	56 (51.38%)	100 (79.37%)
Domicile		
Rural	11 (10.09%)	7 (5.56%)
Urban	98 (89.91%)	119 (94.44%)
Family Type		
Nuclear	65 (59.63%)	103 (81.75%)
Joint	44 (40.37%)	23 (18.25%)
Religion		
Hindu	83 (76.15%)	100 (79.37%)
Others	26 (23.85%)	26 (20.63%)

In the present study, demographic variables examined were age, gender, education, family type, domicile, and religion. The majority of the male and female adolescents were found to be in higher secondary school, belonging to urban backgrounds, and nuclear families, and were primarily Hindus.

Table No. 2: Comparison of Mental Health Scores across Socio-demographic Variables among Males (N=109) and Females (N=126)

Variables	Males $\bar{X} \pm SD$	Females N (%) or $\bar{X} \pm SD$	t-test (p-value)
Education			
Secondary	50.98 \pm 14.92	42.81 \pm 17.46	2.16 (p=.03)
Higher-secondary	40.95 \pm 17.74	36.16 \pm 15.08	1.78 (p=.08)
Domicile			
Rural	48.82 \pm 18.70	37.57 \pm 13.72	1.37 (p=.19)
Urban	45.49 \pm 17.00	37.53 \pm 15.92	3.56 (p<.001)
Family Type			
Nuclear	43.55 \pm 16.83	36.17 \pm 15.62	2.89 (p=.004)
Joint	49.18 \pm 17.16	43.61 \pm 15.26	1.21 (p=.20)
Religion			
Hindu	47.58 \pm 16.85	37.83 \pm 14.99	4.14 (p<.001)
Others	40.23 \pm 17.07	36.38 \pm 18.70	0.78 (p=.44)

Descriptive statistics, including means and standard deviations, were computed for each variable in the sample (Table 2). Males in secondary schools ($t=2.16$; $df=77$; $p<.05$), from urban backgrounds ($t=3.56$; $df=215$; $p<.001$), nuclear families ($t=2.89$; $df=166$; $p<.01$) and those who were Hindus ($t=4.14$; $df=181$; $p<.001$) had significantly higher scores on mental health than females.

Table No. 3: Comparison of Males (N=109) and Females (N=126) across Mental Health and its sub-domains (Emotional Well-being, Subjective Well-being, and Psychological Well-being)

Variables	Males $\bar{X} \pm SD$	Females N (%) or $\bar{X} \pm SD$	t-test (p-value)	Conclusion
Emotional Well-being	10.63 ± 4.50	9.10 ± 3.94	2.78 (p=.006)	Hypothesis accepted
Subjective Well-being	14.10 ± 6.03	10.81 ± 6.08	4.16 (p<.001)	
Psychological Well-being	21.09 ± 8.20	17.62 ± 7.34	3.43 (p=.001)	
Total Well-being	45.83 ± 17.11	37.53 ± 15.76	3.87 (p<.001)	

Comparison of means showed that males had significantly higher scores in emotional well-being (t=2.78; df=233; p<0.01), subjective well-being (t=4.16; df=233; p<.001), psychological well-being (t=3.43; df=233; p<0.01) and overall well-being (t=3.87; df=233; p<.001) than females.

DISCUSSION

Current adolescent mental health initiatives do not give adequate attention to the mental health issues and concerns of adolescents. Adolescents often feel their needs as incapacitated since their mental health problems are not adequately addressed in the nation. (Mishra et al., 2018). Puwar et al. (2018) in their study also highlighted the urgent need to address the emotional and behavioral manifestations among school-going adolescents as they found one-seventh of a sample of 477 adolescents to be vulnerable to mental health problems. Females form 48.39% part of the Indian population and adolescents form 21% of the nation's population. Females have been found to be more vulnerable to developing mental health issues. Considering adolescent mental health to be an important area of focus as they are the workforce for tomorrow (Gupta et al., 2017), this study aims to identify gender differences in mental health functioning among late adolescents.

The study hypothesis proposed that females would have poorer mental health than males and the hypothesis is confirmed by the results of the study. Female adolescents have significantly lower emotional, social and psychological well-being as well as overall well-being than male adolescents. This finding is supported by previous studies where females had more likely to suffer from mental health problems (Chauhan & Dhar, 2019; Puwar et al., 2018), and report higher levels of depression than boys (Bhasin et al., 2010). In general, girls tended to report higher adjustment difficulties than boys, but also more prosocial behavior, as witnessed in a sample of students aged 11 to 16 years, going to urban schools in Bangalore (Reddy et al., 2011). In another study by Nair et al. (2017) on rural and urban school children in Gujarat, aged between 13 to 17 years, girls were found to have more emotional problems than boys. A study in Assam by Harikrishnan et al. (2017) on school-going adolescents also found female respondents reported more emotional problems as compared to males. Pathak et al. (2011) and Bhola et al. (2016) reported a similar finding that behavioral and emotional problems were more common among girls than boys across all age groups. A cross-national investigation of 566,829 adolescents across 73 countries for four mental health outcomes: psychological distress, life satisfaction, eudaemonia, and hedonia, by Campbell et al. (2021) claims that there is a significant cross-cultural gender difference in adolescent mental health, with girls having poorer overall mental health. Current approaches to understanding and treatment of mental health issues, especially at the

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primary level support sensitivity toward gender and also understanding how gender inequality affects health outcomes (Afifi, 2007). Thus, the finding of this study is important from a risk perspective and draws attention to understanding the needs of adolescent girls for mental health considering the large number of mental health issues that affect young girls and women such as mood, anxiety, and eating disorders (Afifi, 2007). This can further help translate into better interventions and services for females.

Existing literature has tried to explain these gender differences in mental health. Studies on the “gender role hypothesis” assert that gender differences in the prevalence of mental disorders are due to differences in the typical stressors, coping resources, and opportunity structures for expressing psychological distress made available differentially to women and men in different countries at different points in history (Pape et al., 1994; Thoits, 1986). In contrast to trend studies in nations where gender roles have been more static, evidence of declining gender differences in depression and substance use has largely been found in nations where women's roles have improved in terms of employment opportunities, access to contraception, and other indicators of increasing gender role equality, which corroborates the “gender role hypothesis” (Bloomfield et al., 2001; Wauterickx & Bracke, 2005). Pathak et al. (2014) and Omidvar et al. (2018) report the mean age of menarche in girls to be around 13 to 14 years. They also reported that menstrual cycles tend to be longer in late adolescent girls. Since ancient times, the menstrual period has been linked to shifts in mood and behavior. Premenstrual and menstrual phases are when these symptoms are more common. These symptoms include irritability, restlessness, anxiety, stress, migraine, sleep disruptions, feelings of sadness, dysphoria, and lack of concentration. The luteal period of the menstrual cycle is closely associated with premenstrual dysphoric disorder, which manifests as highly distressing emotional and behavioral symptoms (Malhotra & Shah, 2015). Another study by Deb et al. (2015) found that female students aged 16 to 19 years in India experience more examination-related anxiety and psychiatric caseness than their male counterparts.

Socio-demographic explorations in this study found that females from secondary schools, urban backgrounds, nuclear families and those who are Hindus have significantly poorer mental health than males. Malhotra and Shah (2018) argue that gender continues to influence the power and control that men and women have over the determinants of their mental health and lives, including their social position, status, treatment in society, and exposure to specific mental health risks. Women's biological vulnerability is exacerbated by social disadvantages, including multiple roles and the unremitting responsibility of caring for others. Gender-specific risk factors, such as gender discrimination, poverty, malnutrition, overwork, domestic violence, and sexual abuse, contribute to women's poorer mental health. Women's mental health issues are positively correlated with the frequency and severity of such social circumstances. Furthermore, traumatic life events that leave people with feelings of loss, inferiority, embarrassment, or entrapment can indicate the onset of mental health conditions, specifically depression. This study, too, draws attention to girls from specific socio-demographic backgrounds who are more vulnerable in this region of India and for adequate exploration of their mental health needs.

Limitations

First, only Indian school students from the National Capital Region were assessed, in a relatively small number, which could affect sample representativeness. Second, factors impacting mental health like coping strategies, personality traits, academic stress, family environment, parenting factors, and peer relationships, were not explored as causal factors that may contribute to the poorer mental health of females. Third, the study only used self-

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report questionnaires as measures of mental health, and no formal diagnosis were used. The impact of poorer mental health was also not examined in the current study.

Implications

Adolescent mental health is a topic of significant importance particularly for mental health professionals, teachers, parents, researchers and practitioners, and key stakeholders in the field. Given the significant burden of mental health problems among young people, there is an urgent need to study adolescent mental health in India. Such research can help to identify the specific risk factors and protective factors that influence the mental health of adolescents in India, including cultural and social factors that are unique to the Indian context. It is also necessary to collectively explore the many causes of gender differences in mental health issues. It remains essential to keep working on these causes and interventions given the complexity of gender variations in mental health and the increased distress that comes from both internalizing and externalizing symptoms. Furthermore, understanding the prevalence of mental health problems among different population groups can help to develop targeted interventions to address the unique challenges faced by these groups, and promote the overall well-being of this vulnerable population. Saraf et al. (2018) pointed out that even though Indian adolescent girls are at risk of having and/or developing mental health problems, their help-seeking behavior is limited by poor mental health literacy. Thus, promoting early and proper help-seeking for mental health challenges in this vulnerable group is crucial and imperative.

CONCLUSION

The current study found that females had poorer emotional, social, psychological, and overall well-being than males. It also found that among the socio-demographic parameters explored, females from secondary schools, urban backgrounds, nuclear families and those who were Hindus had significantly poorer mental health than males. This study on a sample of late adolescents in schools of Delhi-NCR emphasized that even though females in India today hold a better position in society and better access to resources and care, their mental health continues to suffer. They continue to be at risk for developing psychopathologies with long-lasting impacts and outcomes, and thus, interventions to address their challenges, concerns, coping strategies, and mental health literacy are the need of the hour that can promote mental well-being and improve their overall quality of life.

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Conflict of Interest

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