

SOCIAL MEDIA ENGAGEMENT AND ONLINE FEAR OF MISSING OUT AS PREDICTORS OF PSYCHOLOGICAL WELLBEING AND DISTRESS AMONG ADOLESCENTS

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Abstract

The current research was designed to investigate both the individual and combined role of social media engagement (SME) with online fear of missing out (ON-FoMO) on psychological wellbeing and distress among adolescents (grade 9 to 12) from Peshawar city. Adolescent students (N = 220; Female = 145, 65.91% and male = 75, 34.1%), with age group ranging from 13 to 18, enrolled in government (n = 66, 30%) and private (n = 154, 70%) sector schools were studied. Higher number of the participants lived in nuclear (n = 145, 65.9%) but some lived in joint (n = 75, 34.1%) family system. A large number of participants used social media for more than 5 hours (n = 75, 34.1%), with Instagram (n = 82, 37.3%) being the most used platform. The participants used social media mostly for entertainment (n = 126, 57.3%), though some used it for educational purpose (n = 29, 13.2%). Social media engagement on its own was found to have non-significant (p = .85, R² = .00) relation with psychological wellbeing. Regression model of SME and ON-FoMO with psychological wellbeing was significant (p < .001). However, SME significantly predicted (p = .007, B = -0.34) lower psychological wellbeing, whereas, ON-FoMO predicted higher psychological wellbeing (p < .001, B = 0.46). On the other hand, regression model of SME and ON-FoMO with psychological distress was significant (p < .001). Furthermore, SME did not significantly (p = .573) predict psychological distress, while, ON-FoMO significantly predicted (p < .001) psychological distress. Hence, study concluded that the impact of social media engagement and online fear of missing out on adolescents is not on a single linear spectrum, but its influence is determined by the fact that whether they are analyzed in isolation or collectively.

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INTRODUCTION

In the contemporary world, the ways of communication and interaction people use have changed due to rapid advancements in technology. Platforms for social networking play an important role in people's everyday lives, particularly for adolescents and young adults (Kowstubha et al., 2026). Online platforms that allow communications through exchange of

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comments, pictures and feedback to the content are referred to as social media (Popat & Tarrant, 2023). They enable people to share content, ideas and various other forms of expression (Wang, 2024). Social networking has developed in the recent times, twenty first century has seen it become the central platform for communication among young adults. Platforms like Instagram, TikTok, Twitter (now X) and Facebook are used worldwide on a daily basis by more than 4.5 billion users (Sikka, 2025). Social media has become an essential component for adolescents in their lives (Wang, 2024). Recent research findings reveal that around 92% (Burgess, 2025) to 97% (Li, 2024) adolescents use internet daily and 71% of the teens use at least two different social media platforms (Burgess, 2025). Everyday adolescents use social media for around 4.8 hours per day, highlighting the vital role that social media plays in their lives (Wang, 2024).

Although there are socioeconomic and geographical gaps in global connectivity, youth is still representing a major portion of the online population, with individuals under age 18 years making up about one-third of the worldwide internet users. Furthermore, individuals under the age of 35 are among the most avid users across both developing and developed economies. 80% of the youth (between the ages of 9 to 16 years) in Europe access internet daily through their mobile phones (Ramlau et al., 2025). Youth social interactions have been transformed through the exceptional propagation of platforms including Instagram, Snapchat, Twitter and Facebook. These platforms have changed the ways youth thinks and interacts (Tiwari & Singh, 2023). New forms of social interaction have been offered by social media serving as major media for communication, fostering community and self-expression (Li, 2024). Users can stay connected and instantly share their experiences and get access to information (Kowstubha et al., 2026). Social connectedness through social media is enhanced because it allows for worldwide interaction and communication (Li, 2024). This widespread connectivity coincides with a stage of life that is characterized by physical, psychological and social change. The way youth communicates, establishes relationships and perceives themselves is shaped by the social media (Ramlau et al., 2025).

Technological development has made the reception of messages easier but at the same time it has simplified the process of addiction as well (Wang, 2024). In addition to offering opportunities for connectivity social media may also expose the users to unique mental pressures, like exposing them to content that may be harmful or stressful, making them feel the need to be ever present, and experience social comparison (Ramlau et al., 2025). Concerns have been raised about the impact of increased social media use and dependency on the emotional and psychological wellbeing (Kowstubha et al., 2026). Social media in this digital era has become essential part of the youth's life, serving as a double-edged sword with the potential to significantly impact their mental health (Li, 2024). Youth is especially vulnerable to the mental impact of digital technology as they are its heavy users (Kowstubha et al., 2026). Mental health of adolescents can be both positively and negatively affected through social media (Ramlau et al., 2025). Adolescents have greater opportunity for expanding their horizon through it, allowing them to view the content posted by successful people (Wang, 2024). The development of adolescents has been shaped by the rapid integration of technology in the day to day life. Multiple studies have found that frequent use of social media is associated with alterations in different aspects of adolescents' wellbeing (Ramlau et al., 2025). High school

students are particularly vulnerable to these effects because they are at a stage in their lives where they are making social bonds and their identities are forming (Li, 2024). The perfect images that adolescents see may lead them to compare their own appearances and behaviours with the attractive faces and slim bodies online. These comparisons can have either a negative or positive impact on them (Wang, 2024).

Social Media Engagement (SME)

The amount of time spent on, the frequency of use and the amount of input on social media is referred to as social media engagement (Gu, 2024). The three dimensions of engagement are Cognitive, affective and behavioural aspects. Cognitive engagement is conceptualized as an overall mental activity that is focused on something, including attention and absorption. Affective engagement involves enthusiasm and pleasure with respect to the object of engagement. Behavioural engagement refers to the real world executions of the concept, such as sharing, learning and advocacy behaviours (Dessart, 2017).

Individual fears that if they lack awareness about what's occurring online they may experience social exclusion in real life. The compulsive use where adolescents reflexively pickup their mobiles and scroll through different social media apps results from this fear. Social engagement in real life may be reduced due to the pressure to stay connected to social media (Popat & Tarrant, 2023). Using social media may play a role in the reduction of stress and promoting wellbeing as it allows adolescents to customize their social media feed and curate a positive environment (Li, 2024). Another benefit offered is that the pressure is less in online connections compared to interactions in person (Popat & Tarrant, 2023). Relationships with peers take precedence over other facets of their lives during the developmental stage of adolescence. Movement towards autonomy away from dependence on parents is natural and healthy for teens but use of social media has altered their personal interactions. Rather than in person conversation or getting together to stay in touch the adolescents "snap" each other. They text more than they speak and share trending videos. Their skills for navigation of interpersonal relationships and conversation do not improve. Carefully curated positive and happy moments are shared by them (Burgess, 2025). Social media platforms like Facebook are appealing because they can offer an idealized version of life, one which is full of happiness and success, leading the users to end up comparing themselves to mostly unrealistic standards (Li, 2024).

The daily screen time recommended by National Institute of Health for individuals between the ages of 12-15 years is less than 1.5 hours and for ages 16 and above it is less than 2 hours (Burgess, 2025). Heavy engagement with social media (on platforms like Instagram, Snapchat, YouTube, TikTok) in the modern socio-technological context is an essential component of everyday life. 97% of the adolescents use internet on a daily basis, where as 35% percent reported almost constantly being on a social media platform (Parent, 2023). Self-report surveys show that engagement with social media for more than 3 hours is associated with a decline in mental health, this is especially true for girls. 92% percent of the participants in a qualitative study considered themselves to be addicted to Facebook/Meta, 65% to internet and 61% to gaming. The amount of time spent on social media may in part be responsible for the decline in mental health of adolescents (Burgess, 2025).

Online Fear of Missing Out (ON-FoMO)

“FOMO” was a term introduced by Patrick J. McGinnis in 2004 in a *Howard Business Magazine*. Przybylski et al. (2013) developed it as a psychological construct (Kowstubha et al., 2026). Fear of missing out refers to the feeling of apprehension that one is excluded from what one’s peers know about, own or are doing (Wang, 2024). The fear that others are having better lives, experiences and more enjoyment is referred to as FOMO (Kowstubha et al., 2026). According to Bakioğlu et al. (2022), in digital settings fear of missing out - specifically online fear of missing out (ON-FoMO) - occurs when people become constantly preoccupied with the online activities others are engaging in and find it difficult to sign off due to worry that they may miss something. It is the apprehension that one is missing out on events or decisions that could make life better, FOMO leads people to experience a fear of regret (Kowstubha et al., 2026). People may become dissatisfied with their own lives and behaviours because posting about themselves and their lives has become effortless which has opened avenues for drawing comparisons with others (Wang, 2024).

For adolescents experiencing fear of missing out, the main aim is to ensure that they are capable of making quality relationships, but they may be incapable of getting along with others because of their damaged self-esteem and poor sense of belonging. Anxiety can exacerbate due to poor self-esteem and experiencing life to be less meaningful that may result from feeling excluded. Thus they will experience anxiety about interpersonal communication (Wang, 2024). Addiction in adolescents was found to be fuelled by reliance on social media to stay connected. Multiple studies have identified this disconnection anxiety (Popat & Tarrant, 2023). Due to FOMO people may worry about what others are doing which may lead to compulsive use of social media that involves a habit of constantly checking ones phone (Kowstubha et al., 2026). A study found online connection to be positive but it lead to the need to be informed about lives of other people which in turn led to compulsive use of sites due to the fear of not knowing (Popat & Tarrant, 2023). Conversely, a strong desire for acceptance by the society and excessive use of social media may fuel FOMO. Because of a higher vulnerable engagement of adolescents and young adults with social media and other digital media platforms they are at a higher risk of experiencing FOMO (Kowstubha et al., 2026). Thoughts of disconnection lead to fear, as lack of awareness regarding online activities increases the risk for offline social exclusion (Popat & Tarrant, 2023). Thus individuals may be unable to take time off from social media and the content available online as they fear that they will be left behind (Burgess, 2025). A study revealed that when randomly allocated adolescents were exposed to “exclusive” feeds (where their friends’ lists were declining rapidly and they lacked event invitations) they experienced higher levels of threat to their sense of belonging, but when they were exposed to “inclusive” feeds (where they had several friends, messages and reactions on their posts) they experienced feelings of connection (Popat & Tarrant, 2023). FOMO can also result from negative psychological effects of feeling excluded as people are social beings who need social exchanges (Kowstubha et al., 2026). Feeling pressure to stay connected make people participate in activities like “streaks”, which involves sharing daily content on social media to maintain contact over several days (Popat & Tarrant, 2023).

Adolescents may experience feeling inadequate, inferior, and anxious maintaining social relations because fear of missing out can make them compare themselves constantly with their peers which may lead them to feel less successful in befriending capable peers and dissatisfied with their own life conditions (Wang, 2024). In social comparisons people evaluate their abilities and achievements in relation to others. Social media exposes users to curated and idealized depictions of lives of other people thus serving as a fertile ground for comparisons. Individuals may compare themselves with others who are apparently superior in multiple characteristics (like beauty, success or happiness), a phenomenon referred to as upward social comparisons (Li, 2024).

Mental Health

Mental health is defined by the Mental Health Organization as a state in which a person realizes his abilities, deals with the everyday stresses in life, engages in positive social interaction and makes contribution to the community (World Health Organization, 2018). Prevalence of mental health problems is increasing among young adults, it is reported to account for 16% of the diseases in individuals between the ages of 10 to 19 years (Popat & Tarrant, 2023). Mental health can improve through social media as it allows youth to identify communities they like and find comfortable. Though there are benefits associated with social media as it encourages social interaction and a sense of relatedness but it can also be dangerous as it can lead to addiction and cyberbullying which can in turn lead to poor self-esteem and mental health (Li, 2024). Exposure to frequent harmful content and bullying on social media was reported by adolescents, which has the potential to adversely affect mental health and wellbeing (Popat & Tarrant, 2023). Adolescent mental health is related to use of social media. Poor mental health and adverse mental outcomes are correlated with digital engagement. Worldwide a decline in adolescent mental health has been caused by the several pressures associated with social media use (Burgess, 2025). The quality of sleep has been linked with mental health and other factors, suggesting an interrelation among the variables. Adolescents reported that excessive consumption of social media led to disturbance in sleep, which eventually possibly impaired their mental and emotional functioning (Popat & Tarrant, 2023).

Scholars have recently started studying how wellbeing and “symptoms” of illness may interact with each other to contribute to mental health. The dual-continua model proposes that the mental illness and mental wellbeing are present on separate yet related continua. It is possible for high levels of mental illness and mental wellbeing to happen simultaneously and despite persistent mental illness mental wellbeing can improve. Iasiello et al. identified the model as having better explanatory power compared to the traditional bipolar model. The model shows that there is a need to measure both psychological wellbeing and psychological distress if a researcher wants to accurately comprehend and address overall mental health (Stephens et al., 2023).

Psychological Wellbeing

The extent to which a person can live a meaningful life according to the values they deeply hold is called psychological wellbeing (Popat & Tarrant, 2023). It refers to the adaptive psychological functioning that incorporates sense of personal development, autonomy,

mastery and belonging along with a purpose of life (Sahoo et al., 2024). People with a higher digital resistance can buffer potential harm for themselves because they are more capable of recognizing and managing online risks (Popat & Tarrant, 2023).

Social media has been found to have constructive consequences such as improved levels of wellbeing, life satisfaction and social support. Adolescents can use social media platforms not only to improve their bonds with existing friends but it also allows them to form new friendships online. This leads to a reduction in social isolation and loneliness, and eventually improve adolescent mental health. On the other hand addictive behaviours like Facebook addiction, poor academic performance, feeling envy, cyberbullying and poor wellbeing can also result from social media use (Sahoo et al., 2024). Similarly fear of being judged about the number of online friends pushes some individuals to share online content who otherwise prefer keeping their lives private and accepting friend requests only from their close friends on their profile. Thus this becomes very burdensome when they are expected to share content online (Popat & Tarrant, 2023). The psychological pressure created by multiple notifications, messages and alerts people receive may make them feel the need to be constantly available resulting in anxiety, restlessness and compulsive checking behaviours (Ramlau et al., 2025).

Users passively consuming content when they are purposelessly scrolling may experience a sense of inferiority comparing themselves to the perfectly curated lives of others (Sikka, 2025). Wellbeing and self-evaluations can be adversely effected by upward social comparisons (Li, 2024). In addition to negatively effecting self-esteem these unhealthy upward social comparisons can cause social appearance anxiety, which may make the adolescents lose confidence while interacting with others causing them mental pressure. A bigger gap is created between digital world and reality as the adolescents engage more with the social media thus increasing their sense of isolation (Wang, 2024). Personal development, self-acceptance and coping strategies are also influenced by overall wellbeing. For many social media caused emotional detachment by reducing the quality time they spent with their friends and family (Popat & Tarrant, 2023).

Patterns of sleep can be disturbed and individuals may come across with insomnia due to social media use particularly before bedtime (Skhirtladze, 2024). Heightened cognitive arousal results from skimming through applications and sleep may get disturbed when it is accompanied by artificial light (Popat & Tarrant, 2023). Interference can occur in the natural sleep-wake cycle of the body due to cognitive stimulation and blue light emitted by screens (Skhirtladze, 2024). The participants felt trapped in the quickly updating online world as their escape from distressing news was prevented by social media (Popat & Tarrant, 2023).

Psychological Distress (Depression, Anxiety and Stress)

Over the past decade mental illness in adolescence has witnessed unprecedented increase. Making the parents, teachers, and health care providers along with other stakeholders to wonder what is happening with youth. They are pondering about the cause behind the significant rise in depression, anxiety, suicidal ideation and behaviours in adolescents between the ages of 13-19 years (Burgess, 2025). The period of adolescence is inherently sensitive, people at this stage individuals are vulnerable to emotional disturbance and poor self-worth (Ramlau et al., 2025).

Though the earlier research suggested that engagement with social media essentially may not harm the typical adolescent but later researches suggest potential link between heavy social media consumption and adverse mental health outcomes, including stress, anxiety and depression (Tiwari & Singh, 2023). The association between use of social media and psychological issues particularly elevated rates of anxiety, depression and poor self-esteem have been supported by several studies (Popat & Tarrant, 2023; Li, 2024). Since the early 2000s the prevalence of depression has been increasing, today it has become the fourth leading cause of illness among adolescents between the ages of 15-19 years globally (World Health Organization, 2019). Attention and memory may be affected by the cognitive overload caused by the continuous stream of information on social media. Mental fatigue can result from the heightened cognitive load which can elevate stress and decrease the ability to focus. Psychological and physiological states may be influenced by the mental health issues caused by stress related to social media (Skhirtladze, 2024).

Emotional regulation can be supported as well as destabilized by social media. It can serve as a platform to allow expression of emotions and receiving support for some people while it can activate negative emotions like anxiety, stress and depression in others. Mood and emotional states can be influenced by likes and comments on posts which serve as feedback (Skhirtladze, 2024).

Youth is particularly vulnerable to emotional disturbance, poor self-worth and more depressive symptoms. Multiple qualitative researches have revealed an association between use of social media and elevation in adolescents' anxiety and depression (Burgess, 2025; Ramlau et al., 2025). Teenagers expressed their concerns regarding the negative impact of social media on their real life relations, sleep and leading to anxiety (Popat & Tarrant, 2023). Poor sleep quality, bedtime procrastination and sleep hygiene due to heightened FOMO through hormonal dysregulation can lead to anxiety and depression. The relationship between health anxiety and problematic use of smartphone and gaming disorder is mediated by FOMO (Kowstubha et al., 2026). Adolescents who are emotionally more invested in interactions online and those who spend more time using social media, especially during night time, report poorer quality of sleep, lower level of self-esteem and higher levels of anxiety and depressive symptoms (Ramlau et al., 2025).

Excessive use of social media can be a significant psychological risk factor as many meta-analytic studies demonstrated that addiction to social media is associated with higher anxiety, depression, loneliness and lower self-esteem (Kowstubha et al., 2026). Researches have uncovered the link between more time spent on social media with increase in anxiety, depression and suicide reported by adolescents (Burgess, 2025). In addition to the increased symptoms of anxiety and depression, research has also showed the link between heavy use of social media and fear of missing out and fear of negative evaluation (Sikka, 2025).

Theoretical Foundation

The Theory of Psychosocial Development by Erikson proposes that there is a struggle of fitting in and standing out for adolescents, leading to experimentation with identity. This

struggle is played out on platforms provided by social media (Popat & Tarrant, 2023). Media Habits and Addictions Theories highlight that increased, heavy and problematic engagement with social media leading to adverse consequences can be explained through principles of operant conditioning (Parent, 2023). According to the Field Theory by Lewin adolescence is the phase of life during which behaviour is shaped by the interplay between social environment and psychological change. The virtual social circles offered by social media serve as digital social environments strongly shaping thoughts and behaviours (Popat & Tarrant, 2023). The Uses and Gratification Model proposes that social media engagement serves as a means of satisfaction of needs or gratifications (Parent, 2023).

Self Determination Theory (SDT) was proposed by Edward L. Deci and Richard M. Ryan in 1985 and it was published in their book titled “Intrinsic motivation and self-determination in human behaviour” (Kowstubha et al., 2026). Though understanding of social and behavioral factors behind social media engagement has improved through media habits and addiction theories as well as uses and gratification theory, the SDT helps in comprehending the developmental factors influencing these adolescent experiences along with the associated impacts on the wellbeing of youth. This theory helps in understanding how social media engagement can contribute to the need for satisfaction and the need for frustration (Parent, 2023). According to SDT unfulfilled psychological need for autonomy, competence, relatedness or belonging especially relatedness in the digital age can lead to FOMO. Fear of social exclusion and fear of missing out may particularly be experienced because people have a need for relatedness and social media emphasize the positive experiences others are having. FOMO can then reduce autonomy by making the individuals feel pressure to participate in activities to receive external validation rather than for their own personal choice. Individuals may experience anxiety about their accomplishments and social status due to the consistent social comparison that negatively affects their feelings of competence. This helps in comprehending the negative influence of FOMO on psychological wellbeing with respect to social media use (Kowstubha et al., 2026).

Technology is becoming an essential part of daily life, especially among the youth (Tiwari & Singh, 2023), this accelerated spread of social media has raised concerns about its influence on psychological wellbeing. This complex link between social media and psychological wellbeing needs to be explored as it can have both potential benefits and risks (Skhirtladze, 2024).

For teenagers particularly who use social media it is important to study the effects of social media on their mental health and psychological wellbeing (Popat & Tarrant, 2023). The effect of digital technology on wellbeing for teenagers is also complex and varied (Tiwari & Singh, 2023). Multiple quantitative studies have shown a link between social media use and poor mental health but there is limited available empirical data from the adolescents’ perspective (Popat & Tarrant, 2023).

Research indicates that for a typical teen the use of digital technology is not necessarily harmful, but there can be situations involving serious consequences (Tiwari & Singh, 2023). In light of these conflicting findings, it is important to use social media with a strategy that maximizes its benefits while minimizing the negative outcomes (Li, 2024), which will be

possible through further studies. The causality and direction of elevated rates of anxiety, depression and suicide among adolescents needs to be studied in-depth. FOMO is a relatively newer concept which also needs to be further investigated with respect to its role in predisposing the individual to adverse symptoms associated with heavy use of social media (Burgess, 2025).

Understanding the negative consequences of using social media is vital for multiple reasons. It can assist the individuals, communities, and policy makers to identify, address and alleviate the potential harms linked with the platforms. Identification of the issues at an early stage can allow for preventive measures and timely intervention and support. Knowing the social media's negative influence on mental health will help individuals in identifying signs of the issues in themselves and others. It will also help in promoting a mindful and balanced use of social media, as educational programs can be developed to teach digital literacy and responsible use (Skhirtladze, 2024).

METHODOLOGY

Research Design

A quantitative, cross-sectional, correlational and predictive survey design was adopted for the study.

Operational Definitions of Variables

Social Media Engagement (SME)

Social media engagement refers to the behavioural, cognitive, and emotional involvement maintained by the adolescents with digital networking platforms.

Online Fear of Missing Out (ON-FoMO)

Online fear of missing out is defined as the pervasive apprehension of adolescent about being excluded from online experiences, peer interactions, or digital updates.

Psychological Wellbeing

Psychological wellbeing refers to the level of positive psychological functioning, self-realization and optimal development of an adolescent across significant life domains.

Psychological Distress (Depression, Anxiety and Stress)

Psychological distress is defined as the overall seriousness of negative emotional states experienced by adolescents, encompassing symptoms of depression, stress and anxiety.

Population

The target population for the present study comprised of students currently enrolled in educational institutions within Peshawar, Pakistan. The population represents a demographic heavily engaged with social networking platforms while navigating academic and social developmental milestones.

Sample

The sample consisted of N=220 students living and studying in Peshawar. A non-probability sampling approach combining convenience sampling and snowball sampling techniques was used to recruit participants.

Instruments

Demographic Sheet and Behavioural Profiling

A self-constructed demographic sheet was used to gather essential background characteristics of participants. The primary aim of the sheet was to develop the contextual profile of sample and ensure eligibility based on the study's inclusion criteria. The specific data gathered include the participant's age, gender, and educational level. To assess the socio-economic and familial background of the adolescents, items were included to track school type (government or private), family structure (nuclear or joint), birth order, monthly family income (where known), and academic achievement (percentage of marks obtained in the most recent examinations).

Technological and social media profiling section evaluated the digital consumption patterns and device dependencies of the participants. It particularly assessed device ownership (personal ownership or utilizing a shared family phone), estimated daily social media use (in hours), the most frequently used social media platform, and the primary reason for social media utilization (entertainment, socializing, trend-tracking or education).

Social Media Engagement Scale (SMES)

Social Media Engagement Scale (SMES) was developed by Lee and Park (2022). It is a standardized, self-report psychometric tool designed to study the use of social media beyond simple duration by measuring engagement across behavioural, cognitive and emotional dimensions. The scale has a total of 12 items divided systematically among three dimensions. Behavioural Engagement (Items 1-4) evaluates the active, observable actions and habitual patterns of use by the individual like commenting, liking, sharing content and checking for updates. Cognitive Engagement (Items 5-8) measures mental focus, attention and thought allocation devoted to content on social media and online updates even when one is offline. Emotional Engagement (Items 9-12) assesses the personal feeling of connectedness, mood reactivity, and sense of belonging derived from interactions and digital communities online. A 5 point Likert scale is used to rate each of the 12 items, where 1 represents strongly disagree and 5 represents strongly agree. The total score is calculated by summation of the responses to all 12 items. The total scores range from a minimum of 12 to a maximum of 60, where the higher scores reflect a higher intensity of psychological and behavioural engagement with social media platforms. Subscale scores can be individually calculated to evaluate particular dimensions. Reliability analyses were run on the current data (N = 220) of students from Peshawar to verify that the scale was functioning reliably for the present study's sample. The Chronbach's alpha coefficient for the overall instrument was .82.

Online Fear of Missing Out Scale (ON-FoMO)

Catarina Possenti Sette and colleagues (2020) developed Online Fear of Missing Out scale. The instrument focuses on social media related manifestations of FOMO rather than general social anxieties. The scale studies cognitive and emotional responses across four important dimensions. Online anxiety measures internal unease and nervousness experienced by a person unable to monitor ongoing peer interactions or updates on the internet. Need to belong assesses the deep rooted psychological drive to feel validated, included and recognized within the peer networks online and digital communities. Need for popularity captures the struggle for digital visibility, social status and positive reinforcement. Digital addiction evaluates the habitual, repetitive and compulsive scrolling behaviours along with the inability to regulate personal screen time or take a break from active feeds. The scale consists of a total of 20 items, using a 4 point likert scale, with response options ranging from 1 (has nothing to do with me) to 4 (has a lot to do with me). The total score is calculated by adding the sum of all item responses. Higher score indicates greater online fear of missing out, more intense digital checking compulsions, and increased distress over perceived exclusion. To confirm the scales structural integrity for the current sample (N = 220) of students in Peshawar reliability analyses were run. A Chronbach's alpha coefficient of .89 was calculated for the total scale.

Ryff's Psychological Wellbeing Scale (18-Item Version)

The scale was originally developed by Carol Ryff in 1989, the 18-item scale was developed by Carol Ryff and Lee. M. Keyes in 1995. The multidimensional tool measures optimal functioning across six independent aspects, each facet is recorded through three items. Autonomy measures independence, self-determination, and ability to resist social pressures. Environmental mastery assesses the ability to manage one's environment and use the available opportunities effectively. Personal growth represents a sense of continuous development and openness to novel experiences. Positive relations with others captures the possession of high-quality, trusting and empathetic interpersonal connections. Purpose of life assesses the presence of clear goals, a sense of direction and meaning in life. Self-acceptance measures possessing a positive attitude towards oneself and accepting one's personal background. The scale utilizes a 7-point Likert format ranging from 1 (Strongly Agree) to 7 (Strongly Disagree). Multiple items within the 18-item version of the scale are reverse coded to control for bias. Before summing the scores the reverse coded items must be recoded in SPSS. The scores are summed for each of the six subscales (range 3-21 per subscale) and a total aggregate score can be calculated (range 18-126). Higher scores indicates optimal level of psychological wellbeing. To determine the structural consistency of the instrument for the current sample (N = 220) of students in Peshawar the reliability analyses run revealed a Chronbach's alpha coefficient of .70, confirming the reliability for the present data.

Depression, Anxiety and Stress Scale (DASS-21)

S.H. Lovibond and P.F. Lovibond developed DASS-21 in 1995 as a shorter version of their original 42-item scale. DASS-21 is a 21 item scale that differentiates between three distinct, co-occurring emotional states using three subscales, with 7 items representing each emotional domain. Depression subscale assesses dysphoria, hopelessness, devaluation of life, self-

deprecation and anhedonia. Anxiety subscale measures autonomic arousal, skeletal muscle effects, situational anxiety and personal experience of anxious affect. Stress subscale evaluates chronic non-specific arousal, difficulty relaxing, nervous tension, and impatience or over-reactivity.

Each statement is rated on how much it applies to a person over the past week through a 4-point Likert scale, which ranges from 0 (Did not apply to me at all) to 3 (Applied to me very much or most of the time). Final subscale severity is calculated by adding the item scores for each 7-item block, and multiplying the resulting raw total by 2. This allows to standardize the short form score for it to be accurately evaluated against the original DASS-42 normative severity cut-offs (Normal, Mild, Moderate, Severe, Extremely Severe). For the present sample (N = 220) of students in Peshawar the internal consistency of scale was evaluated to reveal a Chronbach's alpha of .92.

Procedure

The researchers initiated the process of research by establishing strict ethical safeguards to protect welfare of the participants. They constructed a comprehensive survey using Google Forms. The authors structured the form sequentially, beginning with an informed consent form detailing the purpose of study, the voluntary nature of participation, and strict assurance of anonymity and data confidentiality. The next section included questions regarding demographic details followed by the standardized psychometric scales: the Social Media Engagement Scale (SMES), the Online Fear of Missing Out (ON-FoMO) Scale, the Ryff's Psychological Wellbeing Scale, and the Depression, Anxiety, and Stress Scale (DASS-21).

Because the exact parameters of the total student population in Peshawar were unknown, the researchers did not establish a predetermined sampling frame prior to administration. Instead recruitment relied on a combination of convenience and snowball sampling strategies. The authors initially shared electronic survey link directly via digital communication channels with personal acquaintances, students, and educators working across various institutional networks in Peshawar. These primary contacts served as initial focal points, they were requested to forward and distribute the link further within their respective student channels, class groups, and peer networks to maximize reach.

The researchers kept the survey active online for over a period of two months to accumulate a statistically viable sample. Upon closing the survey the raw data set of 220 filled forms, the authors entered it in to SPSS for statistical analysis.

RESULTS

Table 1*Demographic characteristics of adolescents (grade 9 to 12 students) from Peshawar city*

Baseline characteristic	<i>f</i>	%
Gender		
Male	75	34.1
Female	145	65.9
Age		
13 to 15	29	13.18
16 to 17	102	46.36
18 to 19	89	40.46
Educational level		
9 th grade	27	12.3
10 th grade	58	26.4
11 th grade	70	31.8
12 th grade	65	29.5
Academic achievement		
Below 50 %	1	0.5
50 to 59 %	6	2.7
60 to 79 %	46	20.9
80 % and above	167	75.9
School/College		
Government	66	30
Private	154	70
Family structure		
Nuclear	145	65.9
Joint	75	34.1

Birth order		
Eldest	54	24.5
Middle	81	36.8
Youngest	76	34.5
Single	9	4.1
Family monthly income		
Below 50,000	9	4.1
50,000 to 1 lac	38	17.3
1 lac to 1.5 lac	19	8.6
1.5 to 2 lacs	19	8.6
Above 2 lacs	46	20.9
I don't know	89	40.5

Table 1 presents demographic characteristics of (grade 9th to 12th) adolescent participants from Peshawar city (N = 220). Majority of the participants were female students (n = 145, 65.9%), while remaining were male students (75, 34.1%). The participants were divided in three age groups, 13 to 15 years (n = 29, 13.18%), 16 to 17 years (n = 102, 46.36%) and 18 to 19 years (n = 89, 40.46%). Among these participants higher number were enrolled in grade 11 (n = 70, 31.8%) and lowest number of the participants were enrolled in grade 9 (n = 27, 12.3%). In terms of academic achievements larger number of participants had above 80% marks (n = 167, 75.9%), followed by students who achieved marks between 60 to 79% (n = 46, 20.9%) and only 1 of the participants had below 50% marks (n = 1, 0.5%) score. Participating students from private sector schools (n = 154, 70%) were higher in number than in the government sector (n = 66, 30%). Likewise, majority of the participants were living in nuclear family system (n = 145, 65.9%) as compared to students living in joint family system (n = 75, 34.1%). The participants were divided in to four groups in terms of birth order, eldest (n = 54, 24.5%), middle (n = 81, 36.8%), youngest (n = 76, 34.5%) and single child (n = 9, 4.1%). Higher number of participating students did not know family income (n = 89, 40.5%), among those who reported the family income, students having family income above 2 lacs were n= 46, 20.9% and students having family income below 50,000 were n = 9, 4.1%.

Table 2*Behavioural profile of adolescents (grade 9 to 12 students) from Peshawar city*

Baseline characteristic	<i>F</i>	%
Estimated daily social use		
Less than an hour	11	5
1 to 3 hours	71	32.3
3 to 5 hours	63	28.6
More than 5 hours	75	34.1
Most used platform		
TikTok	27	12.3
Instagram	82	37.3
Facebook	10	4.5
Snapchat	34	15.5
WhatsApp	30	13.6
YouTube	35	15.9
Twitter/ X	2	0.9
Device ownership		
Personal device	168	76.4
Shared	52	23.6
Purpose of social media use		
Entertainment	126	57.3
Socializing	58	26.4
Trend tracking	7	3.2
Education	29	13.2

Table 2 shows behavioural profile of (grade 9th to 12th) adolescents who participated in the study from Peshawar city. It is observed from the data that participants with daily social media use of more than 5 hours ($n = 75$, 34.1%) represented the majority, and participants with minimum use of less than an hour ($n = 11$, 5%) represented the minority. In addition, the adolescent participants using Instagram were higher in number ($n = 82$, 37.3%) followed by those using YouTube ($n = 35$, 15.9%), in comparison to other social media platforms and a negligible number of the participants used Twitter ($n = 2$, 0.9%). Notably, maximum of the participants ($n = 168$, 76.4%) owned the device used for social media, while a smaller number ($n = 52$, 23.6%) used a shared device. Participants used social media for entertainment ($n =$

126, 57.3%), socializing (n = 58, 26.4%), and education (n = 29, 13.2%) and least number of participants used it for trend tracking (n = 7, 3.2%).

Table 3

Regression for social media engagement as a predictor of psychological wellbeing among adolescent participants (grade 9th to 12th) from Peshawar city

Effect	<i>B</i>	<i>SE</i>	95% CI		β	<i>t</i>	<i>P</i>
			<i>LL</i>	<i>UL</i>			
Psychological wellbeing							
Social media engagement ¹	0.02	0.11	-0.20	0.24	0.01	0.18	.855

¹F = 0.33, p = .855, R² = .00

Table 3 presents regression analysis for social media engagement as a predictor of psychological wellbeing among adolescent participants (grade 9 to 12) from Peshawar city. Results revealed that the regression model for social media engagement was non-significant (p = .855) with psychological wellbeing, suggesting that SME was not a significant predictor (B = 0.02, SE = 0.11, β = 0.01, t = 0.18) of psychological wellbeing.

Table 4

Regression for social media engagement as a predictor of psychological distress among adolescent participants (grade 9 to 12) from Peshawar city

Effect	<i>B</i>	<i>SE</i>	95% CI		β	<i>t</i>	<i>P</i>
			<i>LL</i>	<i>UL</i>			
Psychological distress							
Social media engagement ¹	0.78	0.25	0.29	1.27	0.21	3.15	.002

¹F = 9.92, p = .002, R² = .05

Table 4 presents regression analysis for social media engagement as a predictor of psychological distress among adolescent participants (grade 9 to 12) from Peshawar city. Results show that the regression model for social media engagement was significant (p = .002) with psychological distress, suggesting that SME was a significant predictor (B = 0.78, SE = 0.25, β = 0.21, t = 3.15) of psychological distress.

Table 5

Regression analysis for social media engagement and ON-FoMO as a predictor of psychological wellbeing among adolescent participants (grade 9 to 12) from Peshawar city

Effect	<i>B</i>	<i>SE</i>	95% CI		β	<i>t</i>	<i>P</i>
			<i>LL</i>	<i>UL</i>			
Psychological wellbeing							
Social media engagement	-0.34	0.13	-0.59	-0.1	-0.21	-2.73	.007
Online Fear of missing out	0.46	0.09	0.29	0.63	0.41	5.31	.000

$F = 14.12, p < .001, R^2 = .12$

Table 5 presents regression analysis of the adolescent participants (grade 9 to 12) from Peshawar city. Results revealed that the regression model for SME and ON-FoMO with psychological wellbeing was significant ($p < .001$). Both social media engagement ($p = .007$) and ON-FoMO ($p < .001$) significantly predicted the psychological wellbeing of the participants. However, findings further disclosed that social media engagement negatively predicted ($B = -0.34, SE = 0.13, \beta = -0.21, t = -2.73$) psychological wellbeing of the participants. While, ON-FoMO positively predicted ($B = 0.46, SE = 0.09, \beta = 0.41, t = 5.31$) psychological wellbeing of the participants.

Table 6

Regression analysis for social media engagement and ON-FoMO as a predictor among psychological distress of adolescent participants (grade 9 to 12) from Peshawar city

Effect	<i>B</i>	<i>SE</i>	95% CI		<i>B</i>	<i>t</i>	<i>P</i>
			<i>LL</i>	<i>UL</i>			
Psychological distress							
Social media engagement ¹	-0.15	0.27	-0.69	0.38	-0.04	-0.57	.573
On line Fear of missing out ²	1.18	0.19	0.81	1.55	0.47	6.33	.000

$F = 25.90, p < .001, R^2 = .20$

Table 6 presents regression analysis for SME and ON-FoMO as predictors of psychological distress of the adolescent participants (grade 9 to 12) from Peshawar city. Results revealed that the regression model for SME and ON-FoMO with psychological distress was significant ($p < .001$). However, statistical analysis demonstrated that SME was not a significant ($p = .573, B = -0.15, SE = 0.27, \beta = -0.04, t = -0.57$) predictor of psychological distress of the participants. On the other hand, ON-FoMO was a significant predictor ($p < .001, B = 1.18, SE = 0.19, \beta = 0.47, t = 6.33$) of psychological distress of the participants.

DISCUSSION

The main objective of the study was to investigate how social media engagement and online fear of missing out (ON-FoMO) shape mental health of adolescents through dual pathways of psychological wellbeing and psychological distress (depression, anxiety and stress) by adopting a dual-continua framework. The research investigated both the individual impact of social media engagement and combined role of social media engagement and online fear of missing out (ON-FoMO) on psychological wellbeing and distress. The study demonstrated that the impact of social media engagement and online fear of missing out on adolescents is not on a single linear spectrum, but their influence is determined by the fact that whether they are analyzed in isolation or collectively. The study discovered that social media engagement on its own did not have a significant relation with psychological wellbeing. However when the combined role of social media engagement and online fear of missing out (ON-FoMO) was investigated, it was found that social media engagement predicted lower psychological wellbeing whereas online fear of missing out (ON-FoMO) predicted higher wellbeing. Social media engagement on its own was a significant predictor of psychological distress. Whereas when the combined role was observed on psychological distress it revealed that social media engagement was no longer predicting psychological distress however online fear of missing out (ON-FoMO) predicted psychological distress.

Contrary to expectations, social media engagement did not significantly predict lower psychological wellbeing. Psychological wellbeing is associated with better health, a higher quality of life, and deeper social bonds (Vrinda et al., 2024). Real psychological wellbeing is significantly more than the mere absence of psychological disorders (Stephens et al., 2023). Even though, there is widespread public concern, there is limited causal evidence for the direct worsening of adolescents' wellbeing through social media engagement. The time spent using social media can be divided into two forms, passive use involves scrolling, reading, etc. whereas active use involves posting, interacting with friends, etc. which may not necessarily lead to adverse consequences (Cieślak et al., 2026). This distinction between active and passive use of social media may explain the insignificant findings. The measure of social media used in the study may have captured both active and passive forms of use, thus cancelling out any negative effects. Additionally, the relation between use of social media and affective wellbeing significantly varies across adolescents, as there can be person-specific effects (Beyens et al., 2020). According to the recent researches the way in which adolescents use social media is more important than the time spent using it. The screen time alone has not been found as a significant causal factor effecting psychological wellbeing. Mental health outcomes may be shaped by the motivations, emotional context and engagement patterns (Ramlau et al., 2025).

Although, social media overuse threatens mental health of adolescents, multiple protective influences and interventions can mitigate the risks. For instance digital literacy, training adolescents to analyze content on social media, may reduce negative effects of social comparison, subsequently promoting a healthier perception of social media (Javaid et al., 2025). People with higher digital literacy and ability for self-regulation may be better at

understanding how to engage effectively, self-regulate environments or manage psychological risks associated with social media use (Joy, 2026). Adolescents in Jakarta were found to use social media as a safe environment to discuss mental health issues (Masduki, 2024). Family structure is another factor that plays a role in shaping adolescent mental health outcomes. Households with higher levels of support and communication from parents better equip adolescents to manage pressures associated with social media that can otherwise have a negative impact on their mental health (Javaid et al., 2025). Majority of the participants in the current study were from nuclear family, thus may have increased the likelihood of parental support, but lack of digital literacy and ability for self-regulation may explain the insignificant findings. It has also been evidenced through studies that the positive features social media offers to the users are not linked with improvement in mental wellbeing (Kowstubha et al., 2026). Though reduction in the use of social media has been found to be associated with improvement in psychological outcomes (Popat & Tarrant, 2023).

As expected social media engagement significantly predicted higher psychological distress. Even though social media offers opportunities for social connection, expressing emotions and information exchange (Joy, 2026), its use has been linked with loneliness, depression, anxiety, and social isolation (Ostic et al., 2021). Research has revealed that social media overuse can have adverse consequences, like serious mental health issues (Maraki, 2024). An association between intensive or problematic use of social media and negative mental health outcomes, including depressive symptoms, anxiety, mood disorders, and emotional issues, is established in literature. Lack of fully developed emotional regulation skills may make younger adolescents more vulnerable to negative experiences online (Cieślak et al., 2026). Cross-cultural studies with adolescents also demonstrate a positive association between intensity of social media use and symptoms of depression, anxiety, and life dissatisfaction (Masduki, 2024), particularly for young adults actively using digital platforms (Joy, 2026; Mougharbel et al., 2023). For instance, 48% of adolescents in a study used social media for three or more hours per day, and 43.7% had psychological distress that ranged between moderate to severe (Mougharbel et al., 2023).

Multiple mechanisms may explain the relationship between social media engagement and psychological distress. Excessive use of social media can interfere with the time spent by adolescents in constructive activities, such as in-person interaction or physical activity, which can increase the chances of mental health problems. According to the displacement theory prolonged time on social media displaces social and in-person interaction and family communication, contributing to symptoms of depression and anxiety (Mougharbel et al., 2023). Maintaining online identities through excessive engagement adversely affects real life relationships. Negative emotions like depression and anxiety among adolescents can result from heavy social media use through mediating effects of self-esteem and social comparison (Vrinda et al., 2024). In addition to depression and anxiety, isolation and fear of missing out can also be caused mainly through social comparison and digital affirmation mechanisms (Joy, 2026). Many among the youth focus on what they see online and make comparisons between life on internet and their own life (Cieślak et al., 2026). Negative body image and greater social comparison occurs on the visual social media platforms. . Instagram, TikTok, and Snapchat are socially engaging sites and have proven to be strong drivers of distress for

adolescents (Javaid et al., 2025). The duration of social media use (>4 hours/day) had a strong positive correlation with symptoms of depression, anxiety and sleep disturbances, particularly among teens who access social media late at night (Masduki, 2024) by disrupting crucial patterns of sleep (Javaid et al., 2025). The association between online activity and mental health outcomes is partially mediated by reduced duration of sleep and poor sleep quality. For adolescents and young adults one of the most frequently cited mechanisms linking social media use to mental health are sleep disorders. Sleep has been found to play a significant role in regulation of emotions, cognitive functioning and resilience. The deficiency of resilience particularly in adolescence is linked with a heightened risk of depression, anxiety and social issues (Cieślak et al., 2026).

The combined model of social media engagement (SME) and online fear of missing out (ON-FoMO) significantly predicted psychological wellbeing. Interestingly, while SME negatively predicted psychological wellbeing ON-FoMO was found to be a positive predictor of psychological wellbeing. One explanation for the paradoxical result is the suppressor effect. Two correlated predictors when are entered together, the unique variance that is contributed by each of them can produce effects that are different from their individual correlations (Smith et al., 1992). In the current study, ON-FoMO may be suppressing the “negative” elements of social media use, revealing a more accurate negative effect of social media engagement on wellbeing. The results demonstrate a classic suppressor effect: on its own, social media engagement showed an insignificant impact on psychological wellbeing but when entered with ON-FoMO, its unique variance became a significant predictor of lower wellbeing. Existing evidence doesn’t support the simple conclusion that the use of social media is inherently harmful (Cieślak et al., 2026). Multiple authors have emphasized that fear of missing out may serve as the primary catalyst for transforming heavy use of social media into smartphone addiction (Ostic et al., 2021). There are numerous negative effects of social media for psychological health (Sikka, 2025). Research evidence suggests a negative relation between addiction to social media, fear of missing out and psychological wellbeing. The connection between problematic use of social media and poor wellbeing is through the psychological mechanism of FOMO. This emphasizes the role of social media addiction in poor psychological wellbeing particularly for young adults (Kowstubha et al., 2026).

On the other hand, positive relationship between ON-FoMO and psychological wellbeing may demonstrate that adolescents with higher levels of online fear of missing out are more likely to become socially active and thus experience a greater sense of social connectedness, a core component of psychological wellbeing (Sahoo et al., 2024). Despite the recognized risks, literature emphasizes the context dependent and unequally distributed potential advantages of social media platforms for the support of mental health. Social media platforms can provide a substitute safe space of contact for young individuals who experience isolation, marginalization or problems in offline relations, reducing loneliness and increasing the sense of belonging (Cieślak et al., 2026). Social media alleviates isolation while simultaneously presenting new psychological challenges for adolescents and young adults (Maraki, 2024). This demonstrates both sides of social media environments: contributing to psychological distress in contexts that are hostile but promoting resilience in supportive environments (Cieślak et al., 2026).

The combined model of social media engagement (SME) and online fear of missing out (ON-FoMO) significantly predicted psychological distress. ON-FoMO emerged as a strong positive predictor of psychological distress, while SME became insignificant when ON-FoMO was included. The insignificance of SME after controlling ON-FoMO indicates that the relationship between social media use and psychological distress is mediated by ON-FoMO. Fear of missing out has been found to be a significant force in producing anxiety and depression (Javaid et al., 2025). A study reported that when individuals experienced a higher level of fear of missing out they experienced more stress, anxiety and depressive symptoms. Another study revealed that excessive social media engagement caused FOMO which led to poor quality of sleep, lower life satisfaction and emotional distress. This adverse effect of FOMO on mental health and academic outcomes occurs through interconnected physiological, cognitive and behavioural pathways. Fear of missing out is identified by research as the central psychological mechanism that links digital stress to adverse mental health and behavioural outcomes (Kowstubha et al., 2026). Individuals may experience increased stress and anxiety due to fear of missing out because it causes individuals to worry about being excluded from social activities or experiences. So higher levels of stress may occur due to FOMO leading to decreased general wellbeing (Skhirtladze, 2024). Fear of missing out on exchanges, trends, information, drives adolescents to frequently check notifications, feel anxious when not online and scroll aimlessly (Masduki, 2024). Adolescents who report elevated levels of FOMO when disconnected are more likely to demonstrate emotional distress and problematic patterns of engagement. The individuals may feel that they are missing important updates and online exchanges when they are not using their phones actively. For young adults, whose day to day functioning is closely linked to social media platforms this is a particularly popular phenomenon. Compulsive checking behaviours and increased anxiety has been consistently linked with FOMO (Cieślak et al., 2026). Technology use cannot be framed as universally positive or negative, as differential susceptibility model proposes that contextual and individual influences shape the psychological outcome of digital participation (Maraki, 2024).

CONCLUSION

Adolescence is a critical and decisive phase of life between childhood and adulthood. The emergence of social media has transformed interactions worldwide by becoming an integral part of day to day life, particularly for youth, who are avid users of digital technology. This study provides a nuanced interaction of how social media engagement (SME) and online fear of missing out (On-FoMO) interact to shape the adolescent mental health. By breaking away from the traditional, unidimensional perspective of mental health and adopting dual-continua model, the investigation successfully showed that psychological wellbeing and psychological distress operate as independent, parallel tracks for adolescents.

The findings demonstrate that social media engagement (SME) is not the primary force behind psychological distress among adolescents, rather the distress is driven by underlying emotional anxiety and fear of exclusion (ON-FoMO) that drives screen time. Furthermore, the study challenges pathological view of FOMO by showing that Online FOMO drives psychological distress while actively supporting psychological wellbeing.

Finally, these findings have significant practical implications for clinical, educational and parental interventions. Restrictive strategies, focusing on reducing screen time, alone are not sufficient to mitigate the adverse effects of social media engagement for adolescents. The effects of social media engagement are contextualized by the presence of online FoMO, so interventions must focus supporting emotional regulation, addressing cognitions and managing the anxieties that fuel compulsive digital connectivity. As adolescents continue to navigate through the modern digital landscape, building enduring psychological resilience requires moving beyond tracking screen time to deeply comprehending and mitigating the persistent anxiety of being disconnected from the social loop that drives every notification check.

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