

## Gender and Age Facets of Adolescents Defense Mechanisms

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The study aim to explore the age and gender differences in the use of defense mechanisms among adolescents. The cross-sectional study involved 891 undergraduate students consisting of 459 boys and 432 girls aged 17 to 19 years from 8 colleges in Coimbatore city, Tamil Nadu, India. A self-constructed defense mechanism scale was used to assess the defense mechanism among adolescents. The scale was validated and tested for reliability with Cronbach alpha .751 indicating a satisfactory level. Frequency, percentage, Mann-Whitney, and Kruskal-Wallis tests, and post hoc tests were used. The use of defense mechanisms like intellectualization, rationalization, and denial was found to be higher among males, whereas repression, compensation, projection, and introjection were found to be higher among females. Age differences were found in compensation, introjection, and denial. The post hoc test showed that 17- and 18-year-olds use compensation and introjection more than 19-year-olds. Whereas 18- and 19-year-olds showed the use of denial as their defense mechanism more than 17-year-olds.

**Keywords:** Adolescents, age, defense mechanism, gender.

The World Health Organization (2000) defines the stage of adolescence as between the ages of 10 and 19 years. The transition from a dependent child to an independent adult is a fascinating and intricate phase of human development (Singh et al., 2019). Adolescents often display childish behavior due to their mental immaturity, developmental imbalances, and difficulty controlling their inner conflicts. They use coping strategies established by the ego to isolate themselves, and their unconscious mind is in constant conflict with the conscious part of their mind to solve their conflicts (Gökdağ & Anadolu 2015).

In Sigmund Freud's model of personality, the ego manages reality and negotiates the conflicting demands of the id and superego. The conflict between the component of personality that seeks to satisfy all desires, needs, and impulses without considering social norms, morality, or practicality versus the personality that behaves morally and

ideologically, representing internalized moral standards and values from familial, societal, and religious influences. Defense mechanisms reflect personality traits, emotional maturity, and adaptive skills (Kasandariya, 2020). When an individual attains maturity, a defense mechanism could be adaptive and functional, and it could be regulated through certain treatments. Identifying and learning to have an adaptive defense gives an idea to the individual of an essential skill (Blanco et al., 2023)

However, problems arise if the defense mechanisms were excessively used to avoid dealing with the issues (Di Giuseppe & Perry, 2021). If these defensive mechanisms become dominant, they indicate a serious mental health issue and lead to undesirable behaviors (Ghose & Harini, 2020). Lower levels of anxiety could be positive, but higher levels decrease productivity and satisfaction, complicating relationships and environments (Gökdağ & Anadolu 2015). Adolescents in

the Indian context give a brief view of cultural influence, which limits how they grow up and adapt to certain societal roles. Meanwhile, the bond between the child and their mother or caretaker, the scared customs of certain families, innumerable social relationships, moderation factors of nonconformity, abuse, patriarchy, gender inequality, and poverty in the growing children could be the factors for gender roles that influence the boys and girls' way of facing challenges in life (Som & Patil, 2019).

Over the years, the findings from longitudinal studies revealed the evolution of defense mechanisms over the life cycle (Di Giuseppe & Perry, 2021). Gender differences in expressing emotion were deeply rooted in Indian culture, family, and societal expectations. This was explored in a study on the choice of defense mechanisms by Indian and white adolescents conducted by Martin (1977). The influence of defense mechanisms was based on factors such as stereotypes and gender roles, leading to differences in response based on individuals' gender identity. Society expects males to be patient; expressions of vulnerability, fear, and sadness are not entertained while females are expected to be emotionally sensitive and vulnerable (Salcuni et al., 2023). However, it is necessary to explore defense mechanisms among adolescents to identify the risk of suicidal thoughts, addiction, and psychopathology. An individual who utilizes a defense mechanism does not realize that it hinders their work or relationship with family or friends (Blanco et al., 2023). The significance of exploring the age and gender differences in the use of defense mechanisms helps to understand the variations that can enhance mental health and promote more effective interventions.

### **Objective**

The present study was planned with the objective of exploring the gender and age

differences in the use of defense mechanisms among adolescents.

### **Method**

#### **Sample**

The cross-sectional study involved 891 undergraduate student participants, consisting of 459 boys and 432 girls aged 17 to 19 years from 8 colleges in Coimbatore city, Tamil Nadu, India. The study obtained Institute Human Ethical clearance from the institution's Human Ethical Committee [AUW/IHEC/HD-19-20/XPD/47]. A self-constructed tool was used to assess defense mechanism usage among adolescents. The tool components were selected after reviewing related literature. 100 statements were framed, and the scale was subjected to face validity for further refinement. After the face validity, 29 statements were removed, and 71 statements were retained. A pilot study was conducted, and the reliability of the scale was tested using the Cronbach Alpha test, which was acceptable at .751. The Kaiser-Meyer-Olkin Measure of Sampling (KMO) scored .716, which showed an adequate sample size. Bartlett's test of sphericity was 1871.516, and the cumulative percentage was 51.150. The principal component analysis (PCA) was performed, and the scale was finalized with 11 components with 30 items, namely regression, displacement, sublimation, repression, compensation, reaction formation, projection, intellectualization, rationalization, introjection, and denial. The student perception was measured on a 5-point scale, with a score of 5 being the highest. The data was collected through a survey method, and the collected data were consolidated and tabulated. Statistical tests such as frequency percentage, Mann-Whitney, Kruskal-Wallis, and post hoc tests were applied.

### **Results**

As the cognitive and emotional capacities start to develop, the adolescents begin to

engage in a close fight with their identity and autonomy issues. Because of these issues, they begin to use more complex defense mechanisms. Age and gender influence the use of defense mechanisms. Gender roles determine the type of defense mechanisms used. Cultural and societal expectations of males and females significantly influence certain defense mechanisms an individual uses. Individual differences in personality, experience, and coping styles mean that they use a wide range of defense mechanisms. The psychological defense are divided into mature, intermediate/neurotic, and immature (Bowins, 2004).

Table 1: Age and gender distribution of the adolescents (N=891)

| Characteristic | Category | Frequency (f) | Percentage (%) |
|----------------|----------|---------------|----------------|
| Age            | 17 years | 134           | 15.0           |
|                | 18 years | 483           | 54.2           |
|                | 19 years | 274           | 30.8           |
| Gender         | Male     | 459           | 51.5           |
|                | Female   | 432           | 48.5           |

Table 1 show the age and gender distribution. Age distribution showed that 15.0%, 54.2%, and 30.8% were in the ages of 17, 18, and 19 years, there were 51.5% males and 48.5% females respectively.

Table 2: Level of Use of Defense Mechanisms among Adolescents:

| Defense Mechanisms | Level | Frequency (f) | Percentage (%) |
|--------------------|-------|---------------|----------------|
| Regression         | Low   | 496           | 55.7           |
|                    | High  | 395           | 44.3           |
| Displacement       | Low   | 549           | 61.6           |
|                    | High  | 342           | 38.4           |
| Sublimation        | Low   | 483           | 54.2           |
|                    | High  | 408           | 45.8           |

|                     |      |     |      |
|---------------------|------|-----|------|
| Repression          | Low  | 566 | 63.5 |
|                     | High | 325 | 36.5 |
| Compensation        | Low  | 565 | 63.4 |
|                     | High | 326 | 36.6 |
| Reaction formation  | Low  | 473 | 53.1 |
|                     | High | 418 | 46.9 |
| Projection          | Low  | 499 | 56.0 |
|                     | High | 392 | 44.0 |
| Intellectualization | Low  | 522 | 58.6 |
|                     | High | 369 | 41.4 |
| Rationalization     | Low  | 528 | 59.3 |
|                     | High | 363 | 40.7 |
| Introjection        | Low  | 548 | 61.5 |
|                     | High | 343 | 38.5 |
| Denial              | Low  | 659 | 74.0 |
|                     | High | 232 | 26.0 |

Table 2 reveals the use of defense mechanisms by adolescents. The defense mechanisms were categorized as mature, immature, and neurotic. Sublimation and compensation belonged to the mature; regression, introjection, projection, and denial were classified under immature, while displacement, reaction formation, repression, rationalization, and intellectualization were derived under neurotic defense mechanisms (Bowins, 2004).

The table distinctly showed the higher use of defense mechanisms, 46.9% of adolescents used reaction formation, followed by 45.8% using sublimation defense mechanisms. Defenses such as regression were used by 44.3% of adolescents, where an individual returns to an earlier stage of development when faced with stress or anxiety. Adolescents (44.0%) used immature defense mechanisms like projection, which requires greater involvement when an individual unconsciously defends their

unacceptable thoughts, feelings, or impulses by attributing them to someone else or an external cause (Iftikhar et al., 2022).

The intellectualization defense mechanism was used by 41.4% of the adolescents, where an individual focuses on logical reasoning and abstract thinking to avoid confronting uncomfortable emotions or stressful situations. As much as 40.7% of adolescents used rationalization, where an individual justifies their behavior, thoughts, and feelings to avoid the truth, protecting themselves from guilt, shame, or negative emotions.

Concerning the lower use of defense mechanisms, the adolescents rely less on the following defense mechanism, denial

(74%), where hostile thoughts, feelings, wishes, or events were ignored or excluded from conscious awareness. Repression (63.5%) unconsciously blocks painful experiences and unacceptable thoughts from the consciousness, and compensation (63.4%) substitutes or develops a strength or capability to cover a weakness in one area to excel in another. Displacement (61.6%) to transfer feelings or behavior from their original object to another person. Immature defense mechanisms such as introjection were used by 61.5% of adolescents, where an individual unconsciously absorbed the quality of external reality into the self, mainly the attitudes, values, and qualities of another person or a part of another person's personality.

Table 3: Gender difference among adolescents in use of defense mechanisms

| Dimension           | Gender | n   | Mean rank | Sum of rank | Mann Whitney U | Wilcoxon W | Z      | Asym.Sig. (2-Tailed) | Effect size (r) |
|---------------------|--------|-----|-----------|-------------|----------------|------------|--------|----------------------|-----------------|
| Regression          | Male   | 459 | 445.27    | 204381.00   | 98811.000      | 204381.000 | -.087  | .931                 | 0.00            |
|                     | Female | 432 | 446.77    | 193005.00   |                |            |        |                      |                 |
| Displacement        | Male   | 459 | 442.81    | 203250.50   | 97680.500      | 203250.500 | -.385  | .701                 | 0.01            |
|                     | Female | 432 | 449.39    | 194135.50   |                |            |        |                      |                 |
| Sublimation         | Male   | 459 | 451.14    | 207072.00   | 96786.000      | 190314.000 | -.618  | .537                 | 0.02            |
|                     | Female | 432 | 440.54    | 190314.00   |                |            |        |                      |                 |
| Repression          | Male   | 459 | 406.73    | 186690.00   | 81120.000      | 186690.000 | -4.719 | .000**               | 0.15            |
|                     | Female | 432 | 487.72    | 210696.00   |                |            |        |                      |                 |
| Compensation        | Male   | 459 | 419.20    | 192413.50   | 86843.500      | 192413.500 | -3.255 | .001**               | 0.10            |
|                     | Female | 432 | 474.47    | 204972.50   |                |            |        |                      |                 |
| Reaction Formation  | Male   | 459 | 446.09    | 204757.50   | 99100.500      | 192628.500 | -.011  | .991                 | 0.00            |
|                     | Female | 432 | 445.90    | 192628.50   |                |            |        |                      |                 |
| Projection          | Male   | 459 | 420.15    | 192850.00   | 87280.000      | 192850.000 | -3.121 | .002**               | 0.11            |
|                     | Female | 432 | 473.46    | 204536.00   |                |            |        |                      |                 |
| Intellectualization | Male   | 459 | 467.46    | 214564.00   | 89294.000      | 182822.000 | -2.607 | .009**               | 0.09            |
|                     | Female | 432 | 423.20    | 182822.00   |                |            |        |                      |                 |
| Rationalization     | Male   | 459 | 464.71    | 213302.50   | 90555.500      | 184083.500 | -2.275 | .023*                | 0.08            |
|                     | Female | 432 | 426.12    | 184083.50   |                |            |        |                      |                 |

|              |        |     |        |           |           |            |        |        |      |
|--------------|--------|-----|--------|-----------|-----------|------------|--------|--------|------|
| Introjection | Male   | 459 | 425.32 | 195223.00 | 89653.000 | 195223.000 | -2.494 | .013*  | 0.08 |
|              | Female | 432 | 467.97 | 202163.00 |           |            |        |        |      |
| Denial       | Male   | 459 | 468.86 | 215209.00 | 88649.000 | 182177.000 | -2.824 | .005** | 0.10 |
|              | Female | 432 | 421.71 | 182177.00 |           |            |        |        |      |

Note: Mann-Whitney U=U, Wilcoxon W=W<sub>s</sub>, \*p<.05. \*\*p<.01

A Mann-Whitney U test was performed to evaluate whether defense mechanisms differ by gender. The results indicated statistically significant differences in repression, compensation, projection, intellectualization, rationalization, introjection, and denial. However, both genders were found to use almost similar defense mechanisms which led to a small effect size across all dimensions.

Cramer (2000) supported the findings of Table 3, where the results  $r=0.16$  indicated a small effect size and a statistically significant difference in the repression defense mechanism. Females scored slightly greater than males. Hence, the difference was found to be minimal. Among males ( $n=459$ ), there was a mean rank of 406.73, and for females ( $n=432$ ), a mean rank of 487.72 revealed that female adolescents were more likely to repress emotions and employ defense-like repression and was seen with  $U=81120.000$ ,  $W_s=186690.000$ ,  $z=-4.719$ , where it was found to be statistically significant  $p < .000$ .

The results of compensation defense mechanisms elucidate that there was a significant difference between males ( $n=459$ ) with a mean rank of 419.20 and females ( $n=432$ ) with a mean rank of 474.47, which explains that females used higher compensation defense mechanisms with  $U=86843.500$ ,  $W_s=192413.500$ ,  $z=-3.255$ , and  $p=.001$  calculated. The  $r=0.11$  indicates a small size effect which showed that the difference between both genders was less. Literature suggests that through academic achievements or nurturing behavior, females demonstrated their compensation defense mechanisms more than males. In contrast,

males compensate through physical activities or assertiveness, and students who receive poor academic performance tend to put more effort into extracurricular activities (Nolen-Hoeksema & Girgus, 1994). These gendered patterns of compensation reflect societal expectations and influence the adolescent's self-concept and behavior (Sandstrom & Cramer, 2003).

The Mann-Whitney U test demonstrates significant findings of the projection defense mechanism, with  $U=87280$ ,  $W_s=192413.500$ ,  $z=-3.255$ ,  $p=.002$  and  $r=0.11$  depict a small effect size, indicate a smaller difference between males and females. Females ( $n=432$ ), with a mean rank of 473.46, had significantly higher scores on projection defense mechanisms than males ( $n=459$ ) with a mean rank of 420.15. A study by Yadav (2017) also highlighted the use of a projection defense mechanism among female adolescents in which their psychological strategies allow them to express aggression towards external objects by attributing their emotions and thoughts onto objects to externalize their inner conflicts. Whereas men used less projection defense mechanisms, which were linked with a suspicious, hyperalert personality style, including anxiety and depression (Sandstrom & Cramer, 2003).

The intellectualization defense mechanism results specified that there was a significant difference between males ( $n=459$ ) with a mean rank of 467.46 and females ( $n=432$ ) with a mean rank of 23.20,  $U=89294$ ,  $W_s=182822.000$ ,  $z=-2.607$  and a  $p$ -value of .009 with an  $r=0.09$  indicate a minimal effect size,

which suggests that there was not much variation between males and females. The result depicted that males used more intellectualization defense mechanisms. Males tend to avoid unpleasant emotions practically, focus on logic, and emotionally distance themselves from problems; they behave cold-bloodedly or neutrally, which allows them to handle situations rationally, but it can cause suppression of feelings that need to be acknowledged to move on (Clum & Clum, 1973).

A statistically significant difference was found in rationalization between males and females, with  $U = 90555$ ,  $W_s = 184083.500$ , and  $z = -2.275$  calculated with a  $p$ -value of .023, the effect size of  $r=0.08$  signifies a minimal distinction between males and females. The mean rank of 464.71 of males ( $n=459$ ) indicated that males used higher rationalization defense mechanisms, and tend to justify their behavior, thoughts, and feelings to avoid the truth; it helps an individual to protect themselves from feelings of guilt, shame, or negative emotion, whereas females ( $n=432$ ) with a mean rank of 426.12, showed that they used rationalization defense mechanism at a lower level than male adolescents.

The result indicated a statistically significant difference in introjection between males ( $n=459$ ) a mean rank of 425.32 and females ( $n=432$ ) a mean rank of 467.97 with

( $p = .013$ ), which showed that females used more introjection defense mechanisms to internalize stress and societal pressures, leading to internalizing disorders. Male adolescents used less introjection defense mechanisms to externalize behavior such as aggression and rule-breaking, which relate to the introjection of gender-specific norms and expectations. The effect of societal pressure shaped how their gender influenced the way they expressed this pressure (Diehl et al., 2013). The Mann-Whitney  $U$  was calculated as 89653.0000, with  $W_s = 195223.000$  and a  $z$  value of  $-2.494$   $r=0.08$  indicates a small effect size, where there was a minimal difference between males and females.

The observed values of Mann-Whitney  $U$  were calculated as  $U = 88649.000$ ,  $W_s = 182177.000$ , and a  $z$ -score of  $-2.824$ . The results  $r = 0.10$  indicated a small effect size which showed that both genders used denial as a defense mechanism, but the difference between males and females was not large, with a statistically significant finding ( $p = .005$ ). Among the males ( $n=459$ ), a mean rank of 468.86 showed that denial, an immature defense mechanism, was used more by the male adolescents to ignore unwanted facts (Zahn-Waxler et al., 2000) females ( $n=432$ ) with a mean rank of 421.71 showed less denial; this mechanism was occasionally used by females according to the situation compared to male adolescents.

Table 4: Influences of age on the use of defense mechanisms among adolescents.

| Defense mechanism | Age | n   | Mean Rank | Kruskal Wallis H | df | Sig. (2-tailed) | Effect size( $\eta^2$ ) |
|-------------------|-----|-----|-----------|------------------|----|-----------------|-------------------------|
| Regression        | 17  | 134 | 452.17    | .201             | 2  | .904            | 0.00                    |
|                   | 18  | 483 | 447.23    |                  |    |                 |                         |
|                   | 19  | 274 | 440.82    |                  |    |                 |                         |
| Displacement      | 17  | 134 | 457.26    | .717             |    | .699            | 0.00                    |
|                   | 18  | 483 | 448.47    |                  |    |                 |                         |
|                   | 19  | 274 | 436.13    |                  |    |                 |                         |
| Sublimation       | 17  | 134 | 440.74    | 1.306            |    | .520            | 0.00                    |

|                     |    |     |        |       |        |      |
|---------------------|----|-----|--------|-------|--------|------|
| Repression          | 18 | 483 | 439.13 | .544  | .762   | 0.00 |
|                     | 19 | 274 | 460.68 |       |        |      |
|                     | 17 | 134 | 432.69 |       |        |      |
| Compensation        | 18 | 483 | 450.76 | 6.032 | .049*  | 0.00 |
|                     | 19 | 274 | 444.12 |       |        |      |
|                     | 17 | 134 | 435.39 |       |        |      |
| Reaction formation  | 18 | 483 | 464.51 | 2.059 | .357   | 0.00 |
|                     | 19 | 274 | 418.55 |       |        |      |
|                     | 17 | 134 | 424.35 |       |        |      |
| Projection          | 18 | 483 | 456.54 | .688  | .709   | 0.00 |
|                     | 19 | 274 | 438.01 |       |        |      |
|                     | 17 | 134 | 430.82 |       |        |      |
| Intellectualization | 18 | 483 | 446.19 | 2.664 | .264   | 0.00 |
|                     | 19 | 274 | 453.09 |       |        |      |
|                     | 17 | 134 | 472.41 |       |        |      |
| Rationalization     | 18 | 483 | 448.08 | 1.451 | .484   | 0.00 |
|                     | 19 | 274 | 429.42 |       |        |      |
|                     | 17 | 134 | 458.04 |       |        |      |
| Introjection        | 18 | 483 | 451.12 | 8.779 | .012** | 0.00 |
|                     | 19 | 274 | 431.09 |       |        |      |
|                     | 17 | 134 | 481.47 |       |        |      |
| Denial              | 18 | 483 | 456.44 | 8.730 | .013** | 0.00 |
|                     | 19 | 274 | 410.25 |       |        |      |
|                     | 17 | 134 | 393.34 |       |        |      |
|                     | 18 | 483 | 446.47 |       |        |      |
|                     | 19 | 274 | 470.93 |       |        |      |

Note: Kruskal Wallis  $H = H$ ,  $df = 2$ , effect size =  $\eta^2$ , \* $p < .05$ , \*\* $p < .01$

The Kruskal Wallis test revealed that the differences in the use of defense mechanism among 17, 18, and 19 years old adolescents were statistically significant in compensation ( $H = 6.032$ ,  $\chi^2(2)$ ,  $N = 891$ ),  $p = .049$ , introjection  $H = 8.779$ , ( $\eta^2(2)$ ,  $N = 891$ ),  $p = 0.12$ , and denial

$H = 8.730$ , ( $\chi^2(2) = 891$ )  $p = .013$ . However,  $\eta^2$  of 0.00 showed a small size effect, meaning that the differences were minor. Nevertheless, the distinction between the age groups are shown in pairwise comparison in Table 4 (a), (b) and (c).

### The post hoc tests

Table 4 (a): Pairwise comparison of age in the compensation defense mechanism

| Sample 1 vs Sample 2 | Test statistic | Std. Error | Std. Test Statistic | Sig. | Adj. Sig. <sup>a</sup> |
|----------------------|----------------|------------|---------------------|------|------------------------|
| 19 vs 17             | 16.837         | 26.702     | .631                | .528 | 1.000                  |
| 19 vs 18             | 45.958         | 19.157     | 2.399               | .016 | .049                   |
| 17 vs 18             | -29.121        | 24.732     | -1.177              | .239 | .717                   |

Each row tests the null hypothesis that the sample 1 and sample 2 distributions are the same.

Asymptomatic significances (2-sided tests) are displayed. The significance level is .05.

Significance values have been adjusted by the Bonferroni correction for multiple tests.

Post hoc comparison of age with the compensation defense mechanisms table 4 (a) indicated that 19 and 18 years were

statistically significant at 5% levels, in which 19-year-olds used a lower compensation defense mechanism than 18-year-olds.  $\eta^2=0.00$  which indicates a small effect size and there was a slight difference between the age group 17, 18 and 19 years. However, 19 and 17 years and 17 and 18 years were statistically non-significant. Adolescents who use compensation in academic settings tend to experience better adjustment, higher self-esteem, and lower levels of academic anxiety compared to those who overcompensate (Martin & Marsh, 2006).

Table 4 (b): Pairwise comparison of age in the introjection defense mechanism

| Sample 1 vs Sample 2 | Test statistic | Std. Error | Std. Test Statistic | Sig. | Adj.Sig. <sup>a</sup> |
|----------------------|----------------|------------|---------------------|------|-----------------------|
| 19 vs 18             | 46.186         | 19.295     | 2.394               | .017 | .050                  |
| 19 vs 17             | 71.222         | 26.894     | 2.648               | .008 | .024                  |
| 18 vs 17             | 25.036         | 24.909     | 1.005               | .315 | .945                  |

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Significance values have been adjusted by the Bonferroni correction for multiple tests.

The post-hoc comparisons of age table 3 (b) revealed a statistically significant difference ( $p=0.024$ ) in the introjection

defense mechanism between adolescents aged 19 and 17 years. The 19-year-old exhibited a lower use of the introjection defense mechanism compared to the 18-year-old,  $\zeta^2=0.00$  showed a small effect size which indicates a small difference between all the age groups. However, 19 and 18 years and 18 and 17 years were statistically non-significant. It suggests that the reason for the higher use of the introjection defense mechanism could be due to a lack of fulfilling the psychological needs of an individual (Erskine, 2018).

Table 4 (c): Pairwise comparison of age in denial defense mechanism

| Sample 1 vs Sample 2 | Test statistic | Std. Error | Std. Test Statistic | Sig. | Adj.Sig. <sup>a</sup> |
|----------------------|----------------|------------|---------------------|------|-----------------------|
| 17 vs 18             | -53.124        | 24.326     | -2.184              | .029 | .087                  |
| 17 vs 19             | -77.586        | 26.264     | -2.954              | .003 | .009                  |
| 18 vs 19             | -24.462        | 18.843     | -1.298              | .194 | .583                  |

Each row tests the null hypothesis that the Sample 1 and Sample 2 distribution are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Significance values have been adjusted by the Bonferroni correction for multiple tests.

The analysis of post-hoc compared the age with the denial defense mechanism Table

4(c), indicating that the ages of 17 and 19 were found to be statistically significant ( $p=0.009$ ). The 19-year-old used a higher denial defense mechanism compared to 17-year-olds. However, there were statistically non-significant differences between 17 and 18 years and 18 and 19 years,  $\zeta^2=0.00$  small effect size suggested that differences between the age group were notably low in denial defense mechanisms. Denial was a common defense mechanism employed by individuals when they encountered difficulty accepting certain truths. It involves a direct rejection of acknowledging events or situations that have occurred or currently occurring. It helps people to protect their ego when they find it difficult to cope with stress (Cherry, 2017). When children, adolescents, and adults continue to use denial as a defense mechanism, it indicates ego immaturity, which could lead to behavior problems such as temper outbursts, whining, disobedience, and aggression (Cramer, 2006).

#### **Discussion:**

Age and gender differences during adolescence were related to the use of specific defense mechanisms, which contribute to personality development and various psychological capacities. The present study revealed that gender differences were found in the Mann-Whitney test. Specifically, female adolescents used repression, compensation, projection and introjection defense mechanisms. This finding is consistent with Nwachukwu & Abdullahi (2015) study which highlighted that adolescent females often used repression and projection defense mechanism. The use of repression defense mechanisms was present among adolescents who had no memory of past traumatic events, despite being conscious and aware (Iftikhar et al., 2022). Prior research by Nolen-Hoeksema & Girgus (1994) revealed that females compensate through academic

achievements or nurturing behavior. The study by Sandstrom & Cramer (2003) demonstrated that girls often use defense mechanisms such as projection, suggesting that they attribute their feelings or thoughts to others as a means of coping with the emotional distress resulting from social exclusion. Introjection, an immature defense mechanism that result in suffering anxiety as an outcome of trauma and phobia.

Similarly, the adolescent males who used intellectualization, rationalization, and denial were classified as immature and neurotic defense mechanisms. Male adolescents used more neurotic defense mechanisms than females (Watson & Sinha, 1998). In Lobel & Winch (1986) study, a person's sex role orientation influences the defense mechanisms they use. Men employ externalizing defense, such as turning against objects and rationalizing defense (Lobel & Winch, 1986). Sex differences in defense were observed in cultural development, social norms, or adaptations to situations where women face discrimination or violence (Blanco et al., 2023).

There was also an age difference in the Kruskal-Wallis test, where 17-year-old adolescents used introjection, 19-year-olds used denial, which was classified as immature, and 18-year-old adolescents used compensation, which was classified as a mature defense mechanism.

The result of the present study was supported by Blanco et al, (2023) study, which found 'that neurotic, immature, and pathological defense mechanisms were prevalent in the general population and associated with psychosocial impairment'. The Immature Factor, which included defense mechanisms such as denial, projection, regression, passive aggression, and displacement, was clear and consistent across age and sex (Feldman et al., 1996). Theoretically and empirically, defenses such

as repression, reaction formation, displacement, dissociation, and somatization were acquired later than the more primitive defenses such as projection, acting out, denial, passive aggression, fantasy, and splitting (Cramer, 1991).

The current study found that adolescents, male and female, have differential defensive organizations. With the increased use of social media, a new path for using defense mechanisms appeared; adolescents used social media to project their insecurities and anxiety. Adolescents who felt unsatisfactory in real life would likely disapprove of or bully others. This digital platform causes serious consequences such as cyberbullying and repeated negative self-perceptions.

#### **Limitation**

The limitation of the study on defense mechanisms among adolescents, particularly when exploring age and gender differences, may vary based on external influences such as family dynamics, peer pressure, bullying, socioeconomic challenges, and life stressors that significantly influence adolescent coping strategies that may not be fully considered in the study.

#### **Conclusion**

Prior research has already confirmed that the gender difference in the use of defense mechanisms has been widely studied, particularly in psychoanalysis and personality. Studying defense mechanisms in adolescents is crucial for emotional and psychosocial development. In which defense mechanisms could offer temporary relief from stress and anxiety, overusing them delays emotional maturity and create relationship challenges. Individual differences in personality and experience influence how they utilize mature, immature and neurotic defense mechanisms. The present study reaffirms that not only gender but other socio-demographic markers play an essential role

in providing stability. Despite coming from diverse socio-demographic backgrounds the way they handled their anxiety and stress differed according to their personality traits which were already rooted in them. Hence, the study's outcome highlights the need for a tailored intervention that could help them groom their current personality traits beyond the limits of socio-demographic conditions to achieve greater emotional resilience and stability. Sensitization and intervention programmes can assist adolescents in adopting the healthier use.

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