

# DEMOGRAPHIC DIFFERENCES IN DYADIC COPING-BASED GRATITUDE, NEGATIVE DYADIC COPING AND PERCEIVED STRESS AMONG POTENTIAL CAREGIVERS OF CANCER PATIENTS

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## KEYWORDS:

Dyadic Coping-Based Gratitude,  
Negative Dyadic Coping,  
Perceived Stress, Potential  
Caregivers, Cancer

## CITE THIS ARTICLE:

Alam, A., & Shujja, S. (2026).  
Demographic differences in  
dyadic coping-based gratitude,  
negative dyadic coping, and  
perceived stress among  
potential caregivers of cancer  
patients. *Pakistan Journal of  
Positive Psychology*, 3(1), 118-  
123.

## ABSTRACT

The current study investigated how potential caregivers' levels of dyadic coping-based gratitude, negative coping, and perceived stress varied by gender and relationship status with the cancer patient. Thirty males and forty females made up the sample of seventy possible caregivers. Gender differences were examined using independent-samples t-tests, and differences between caregiver-patient relationship types were examined using Tukey HSD post hoc comparisons and one-way analysis of variance (ANOVA). Negative dyadic coping, perceived stress, and partner-directed dyadic coping-based gratitude did not significantly differ by gender. However, in self-directed dyadic coping, women responded with gratitude at a significantly higher rate than men, with a medium effect size. In the post hoc comparison, partner-directed negative dyadic coping was not significantly higher among wives than mothers, but it was significantly correlated with the type of relationship. The remaining study variables and the kind of relationship did not differ significantly. While self-directed gratitude and partner-directed negative dyadic coping may be more sensitive to gender and relational role, respectively, the results generally show little variation across the demographic groups in the majority of the study variables.

## I. INTRODUCTION

Caring for a person with cancer can put a lot of emotional, practical, and financial strain on family members. The involvement of potential caregivers in symptom management, treatment-related tasks, appointments, decision-making, emotional support, household chores, and financial matters may increase. The caregiver burden and life satisfaction have been associated with subjective stress, reliance on the patient, workload, income loss, and an increase in family responsibilities. (Ke and others, 2023). Caretakers of advanced cancer patients may also experience emotional unpreparedness, loneliness, hopelessness, loss, and fears of death, all of which can exacerbate distress. (Jin and others, 2024). In the context of cancer care, dyadic coping is important because a stressful event for one person in a close relationship may have an impact on the other. Positive and negative relationship and psychological outcomes are associated with positive and negative dyadic coping, respectively, through supportive and delegated coping and protective buffering (Chen et al., 2021). According to the Systemic Transactional Model, coping with illness is a relational process and stress and coping are reciprocal in intimate relationships. Caring is a dynamic job as well. When the need for care or support increases, as well as when

physical and emotional needs increase and treatment uncertainty rises, family members can initially provide a small amount of assistance and then more as needed. Therefore, before someone feels like a caregiver, psychological and relational changes may take place. Therefore, a more complete picture of the caregiver's functioning can be obtained by knowing things that aid in adaptation during this period of transition.

Dyadic Coping-based Gratitude is an alternative positive view of the relationship in this stressful situation. It entails identifying and appreciating coping mechanisms in the partnership and shifting the focus from the idea that support is either present or absent to the recognition and appreciation of supportive behaviors (Wang et al., 2024). Positive relationship experiences can coexist with emotional, social, physical, and financial difficulties, and gratitude does not imply the absence of distress (Chen et al., 2021; Hu et al., 2025). Maintaining a sense of reciprocity and connection in cancer caregiving can be facilitated by an understanding of emotions, practical support, communication, compassion, and sacrifice. In the process of developing relationships, perceived burdensomeness is especially crucial. Cancer patients may worry that the illness places excessive demands on their caregivers' emotional, physical, or financial resources, and that the caregivers may experience burden as a result of their prolonged involvement and numerous personal needs. Tensions in the dyad may result from these thoughts. However, partners can develop caregiving as a shared task rather than a transaction that is taken for granted with effective communication, appreciation, and cooperative coping. According to recent qualitative and quantitative research, caregiving is not the only thing cancer couples experience; they also experience positive relationship outcomes like closeness, meaning, and mutual support (Jin et al., 2024).

Conversely, negative dyadic coping is the antithesis of supportive behaviors, such as condescending, disapproving, controlling, and other negative reactions that may worsen a person's situation rather than assist them in coping (Badr & Manne, 2008). Because it represents how people cognitively assess their capacity to handle and react to stressors, the concept of perceived stress is also crucial in the context of stress (Jin et al., 2024). Research on cancer patient-caregiver pairs has shown how important it is for stress, relationship quality, and distress to interact (Jin et al., 2024). According to several studies (Broese van Groenou et al., 2019). Conversely, research has shown that male caregivers report more distress than female caregivers (Baider, Ever-Hadani, Goldzweig, Wygoda, & Peretz, 2003; Goldzweig et al., 2009). The study by Li et al. (2013) found that secondary stresses associated with the patient's condition were experienced by both male and female caregivers, though the ways in which these stresses appeared varied depending on the gender.

## II. METHOD

Among prospective caregivers of cancer patients, dyadic coping-based gratitude was investigated as a protective factor against negative dyadic coping and perceived stress using a cross-sectional correlational design. Demographic differences (gender, relationship with the patient) in the study variables were examined using between-groups comparisons.

### Participants

N = 70 prospective caregivers of cancer patients (30 men and 40 women), ages 25 to 65, participated in this study. Using non-probability purposive and snowball sampling techniques, the participants were chosen from among the families of cancer patients receiving treatment. Participants identified as the patient's husband (n = 11), wife (n = 6), mother (n = 33), or father (n = 20).

### Measures

**[I]** DC-GQ stands for Dyadic Coping Gratitude Questionnaire. The DC-GQ, which measures distinct self- and partner-directed gratitude subscales, was used to measure dyadic coping-based gratitude. **[II]** Scale of Negative Dyadic Coping (NDC). The NDC scale, which measures comparable self- and partner-directed subscales, was used to measure negative dyadic coping. **[III]** Scale of Perceived Stress (PSS). The PSS was used to measure perceived stress.

### Procedure

Preparation of the data was carried out by approaching participants in different departments of the University of Peshawar before data collection process. The researcher defined the purpose of the study and advised the participant Potential caregivers of cancer patients were asked to complete online and in-person self-report questionnaires after providing informed consent. Participants answered the DC-GQ, NDC scale, and PSS after filling out a demographic information sheet. IBM SPSS Statistics (Version 26) was used to analyze the data. Gender differences were investigated using independent-samples t-tests, and the five study variables (negative dyadic coping partner and self, perceived stress, and dyadic coping gratitude partner and self) were examined by relationship with the patient using one-way between-subjects ANOVA with Tukey HSD post hoc comparisons. The assumption of homogeneity of variance for the t-tests was examined using Levene's test.

## III. RESULTS

### Gender Differences

Negative dyadic coping-partner, negative dyadic coping-self, perceived stress, and dyadic coping gratitude-partner did not significantly differ by gender, according to the independent-samples t tests. The dyadic coping gratitude-self, however, showed a significant difference ( $t(68) = -2.08$ ,  $p = .042$ ,  $d = 0.50$ ). Self-directed dyadic coping gratitude was higher among female caregivers than among male caregivers ( $M = 4.50$ ,  $SD = 0.36$  vs.  $M = 4.29$ ,  $SD = 0.48$ ).

**Table I: Descriptive Statistics and Independent-Samples t-test Results by Gender**

| Variables                         | Males |      | Females |      | $t(68)$ | $p$  | Cohen's $d$ | 95% CI         |
|-----------------------------------|-------|------|---------|------|---------|------|-------------|----------------|
|                                   | $M$   | $SD$ | $M$     | $SD$ |         |      |             |                |
| Negative Dyadic Coping – Partner  | 1.27  | 0.35 | 1.37    | 0.38 | -1.16   | .249 | —           | [-0.28, 0.07]  |
| Negative Dyadic Coping – Self     | 1.36  | 0.33 | 1.40    | 0.36 | -0.49   | .623 | —           | [-0.21, 0.13]  |
| Perceived Stress                  | 1.18  | 0.41 | 1.13    | 0.33 | 0.63    | .534 | —           | [-0.12, 0.23]  |
| Dyadic Coping Gratitude – Partner | 4.33  | 0.53 | 4.46    | 0.36 | -1.20   | .235 | —           | [-0.36, 0.09]  |
| Dyadic Coping Gratitude – Self    | 4.29  | 0.48 | 4.50    | 0.36 | -2.08   | .042 | 0.50        | [-0.41, -0.01] |

*Note.* CI stands for the mean difference's confidence interval. For the statistically significant comparison,  $d =$  Cohen's  $d$  is reported. Levene's test for Dyadic Coping Gratitude-Partner was significant ( $p = .027$ ); Welch-corrected  $df = 48.17$ .

### Differences by Relationship with the Patient

Only negative dyadic coping-partner ( $F(3,66)=2.91$ ,  $p=.041$ ,  $\eta^2=.12$ ) showed a significant difference according to the one-way ANOVA; negative dyadic coping-self, perceived stress, dyadic-coping gratitude-partner, and dyadic-coping gratitude-self did not.

**Table II: Means, Standard Deviations, and One-Way ANOVA Results by Relationship with the Patients**

| Variables                         | Father |      | Mother |      | Husband |      | Wife |      | $F(3,66)$ | $p$  | $\eta^2$ |
|-----------------------------------|--------|------|--------|------|---------|------|------|------|-----------|------|----------|
|                                   | $M$    | $S$  | $M$    | $S$  | $M$     | $S$  | $M$  | $S$  |           |      |          |
| Negative Dyadic Coping – Partner  | 1.34   | 0.37 | 1.25   | 0.33 | 1.32    | 0.30 | 1.71 | 0.46 | 2.91      | .041 | 0.12     |
| Negative Dyadic Coping – Self     | 1.33   | 0.34 | 1.36   | 0.31 | 1.48    | 0.48 | 1.50 | 0.35 | 0.71      | .552 | 0.03     |
| Perceived Stress                  | 1.11   | 0.40 | 1.14   | 0.34 | 1.17    | 0.41 | 1.27 | 0.29 | 0.30      | .827 | 0.01     |
| Dyadic Coping Gratitude – Partner | 4.41   | 0.51 | 4.39   | 0.43 | 4.52    | 0.37 | 4.28 | 0.42 | 0.40      | .755 | 0.02     |
| Dyadic Coping Gratitude – Self    | 4.43   | 0.52 | 4.36   | 0.39 | 4.56    | 0.34 | 4.28 | 0.40 | 0.81      | .495 | 0.04     |

*Note.* SDs are displayed in parenthesis. Compared to mothers ( $M = 1.25$ ,  $SD = 0.33$ ), wives reported significantly higher negative dyadic coping toward the partner ( $M = 1.71$ ,  $SD = 0.46$ ), mean difference =  $-0.46$ ,  $p = .022$ , 95% CI [-0.87, -0.05]. There were no other significant pair comparisons.

\* $p < .05$

Table 2 displays the study variables' means, standard deviations, and F-values for each relationship group. Only negative dyadic coping (partner) showed a significant mean difference between groups, according to the results

( $F(3, 66) = 2.91, p = .041$ ). A small effect size was indicated by the value of  $\eta^2$ , which was .12 ( $<.20$ ). The only people who exhibited significantly less positive dyadic coping than mothers were wives, who demonstrated significantly more negative dyadic coping. With small effect sizes ( $\eta^2 = .01$  to  $.04$ ), none of the other variables differed statistically significantly between the relationship groups (all  $p > .05$ ).

**Table III: Tukey HSD Post Hoc Comparisons for Negative Dyadic Coping – Partner**

| Comparison       | Mean Difference | SE   | <i>p</i> | 95% CI         |
|------------------|-----------------|------|----------|----------------|
| Father – Mother  | 0.09            | 0.10 | .814     | [−0.17, 0.35]  |
| Father – Husband | 0.02            | 0.13 | .999     | [−0.33, 0.37]  |
| Father – Wife    | −0.37           | 0.16 | .115     | [−0.80, 0.06]  |
| Mother – Husband | −0.07           | 0.12 | .944     | [−0.39, 0.25]  |
| Mother – Wife    | −0.46           | 0.16 | .022     | [−0.87, −0.05] |
| Husband – Wife   | −0.39           | 0.18 | .135     | [−0.87, 0.09]  |

*Note.* The only variable with a significant omnibus *F*,  $p < .05$  for the Mother–Wife comparison was negative dyadic coping–partner, for which Tukey HSD comparisons were performed.

## IV. DISCUSSION

The goal of the current study was to ascertain whether gender and relationship with the cancer patient affected potential caregivers' dyadic coping-based gratitude, negative dyadic coping, and perceived stress. Demographic factors were generally unrelated to the variables of interest in the current study, according to the results, which showed little variation in the measures across the demographic categories with few exceptions. Self-directed dyadic coping-based gratitude was the only measure that showed a significant gender difference; it was higher for female caregivers than for male caregivers, with a medium-sized effect ( $d = 0.50$ ). The outcome might be a reflection of the propensity for caregiving experiences and behaviors to vary based on the caregiver's gender roles. In fact, conflicting results about gender differences in caregiving have been found in the literature (Li & Loke, 2013; Li et al., 2013). However, compared to men, women report higher levels of stress, anxiety, and depression (Barnoy et al., 2006; Dumont et al., 2006; Kim et al., 2006; Langer et al., 2003; Pinquart & Duberstein, 2005). But none of the other measures of caregiving were found to be significantly different between males and females, with the exception of self-directed dyadic coping-based gratitude. As a result, the variations found are restricted to a single facet of dyadic coping.

The lack of gender differences in the level of assistance given to the patient can be explained by the lack of differences in employment status. Compared to their female counterparts, male caregivers are more likely to be employed (Bureau of Labor Statistics, 2019). Negative dyadic coping aimed at the partner was the only coping strategy that was found to differ between relationship types. The Tukey comparison showed that wives employed more partner-directed negative dyadic coping than mothers, and they scored highest on this scale. Women are said to bear a greater "mental load" during household management because they are responsible for organizing, planning, and finishing a larger percentage of the tasks involved (Lachance-Grzela & Bouchard, 2010). For every other measure that was looked at, there were no differences between the relationship categories. Specifically, neither the self-directed nor partner-directed forms of dyadic coping-based gratitude, perceived stress, or negative dyadic coping directed at oneself showed any differences. When combined, these results suggest that while partner-directed negative dyadic coping seems to be sensitive to the type of caregiver-patient relationship, other aspects of caregiving, such as perceived stress and positive dyadic coping, are relatively stable across genders and other relationship categories.

According to Fletcher et al. (2012), it is still unclear whether the observed differences are caused by primary stressors (such as illness-related factors) or secondary stressors (such as role changes or financial difficulties). The variables of interest in this study cover a broad range of reactions to caregiving, from positive experiences to negative coping strategies and negative emotional states. By concentrating on these factors, the current study contributed to the body of knowledge by taking potential caregivers' demographics into account. Specifically,

positive aspects of caregiving can be better understood through dyadic coping-based gratitude, while negative dyadic coping and perceived stress draw attention to potential difficulties and unfavorable consequences.

### Limitations

A number of limitations should be considered when interpreting the study's findings. First, because this study is cross-sectional, it is unable to determine a causal relationship or examine the experience's longitudinal trajectory. Second, because the analyzes relied on self-report measures, response bias or subjective interpretation could be present. Third, the power of our relationship-type comparisons was limited because the relationship groups were unbalanced, especially for the wife group ( $n = 6$ ). Lastly, there were insufficient measurement-level details in the source manuscript to evaluate the measures in this updated article.

## V. CONCLUSION

Among prospective caregivers of cancer patients, the study found minimal demographic variation in dyadic coping-based gratitude, negative dyadic coping, and perceived stress. Wives reported more partner-directed negative dyadic coping than mothers, and women reported more self-directed dyadic coping-based gratitude than men. There were no significant differences between the other comparisons. The findings imply that while they are not linked to general variations across all study variables, constructs like gender and a caregiver-patient relationship may be particular predictors of different aspects of relational coping. To determine whether these trends continue, larger and more representative samples are required.

### Disclosure Statement

No potential conflict of interest was reported by the authors.

### Funding

The author received no funding from any organizations.

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