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**Assessing the Relationship Between Hope and
Psychological Well-Being Among Cancer Patients.**

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Abstract

This study examines the relationship between hope and psychological well-being among cancer patients, focusing on variations by gender and age. Findings indicate that while females show a slightly higher percentage of high hope levels than males, the differences are not statistically significant. Similarly, both genders exhibit comparable distributions in psychological well-being. Age-wise, younger patients (under 40) have the highest percentage of high hope individuals, while those above 50 show a greater proportion in the higher level of hope category. In terms of psychological well-being, all age groups predominantly report high well-being, with minor variations. However, statistical analyses confirm no significant associations between gender or age and hope or well-being levels, suggesting that these factors do not independently influence hope or psychological well-being among cancer patients.

1.Introduction:

Cancer is one of the most challenging diseases, affecting not only the physical health of patients but also their mental and emotional well-being. A cancer diagnosis can lead to significant psychological distress, including anxiety, depression, and feelings of helplessness. Psychological well-being, which includes emotional resilience, a sense of purpose, and overall life satisfaction, plays a crucial role in determining a patient's ability to cope with the illness.

Hope is a powerful psychological resource that has been linked to improved emotional stability, better coping mechanisms, and enhanced quality of life among cancer patients. It provides motivation, fosters optimism, and helps patients maintain a positive outlook despite the uncertainties of their condition. By understanding the relationship between hope and psychological well-being, healthcare professionals can develop targeted interventions to support cancer patients more effectively.

This study aims to explore how hope influences the psychological well-being of cancer patients and whether fostering hope can lead to better mental health outcomes. By assessing this relationship, we can contribute to the development of psychosocial strategies that enhance patients' resilience and overall quality of life.

2.Review Literature:



Rainbows in the mind. Hope theory is a positive psychology concept developed by American psychologist Charles Snyder. According to Snyder's Hope Theory (Snyder et al., 1991), hopefulness is a life-sustaining human strength comprised of three distinct but related components:

1. Goals: Having a goal is the cornerstone of hope. Goals can be big or small. One can have a goal to take steps to improve health or to begin practicing yoga.
2. Agency (willpower): Agency is the ability to stay motivated to meet a goal. It involves believing that good things will come from our actions.
3. Pathways: These are the specific routes we develop to meet our goals. If the first pathway doesn't work, then we problem-solve to find a new pathway. High-hope people understand that roadblocks are inevitable and that it might take several tries to reach their goals.

Is hope an emotion? While hope certainly involves our emotions, hope itself is not an emotion. Hope is a way of thinking or a state of being. This means that hope can be taught. Hope is also distinct from a wish. Hope involves taking action toward a goal, while a wish is out of your control. For instance, if you're at a restaurant and say, "I hope my food comes out hot," that's actually a wish because you have no control over it.

Types of goals: There are two types of goal outcomes in hope theory; positive (the presence of something) and negative (the absence of something).

Type 1: Positive goal outcome includes; (a) Reaching a goal for the first time. You want to buy a new car. (b) Sustaining a present goal. You want to continue making payments on your car so you can keep it. (c) Increasing something that's already begun. You want to become a better driver.

Type 2: Negative goal outcome includes; (a) Deterring something so that it never happens. You eat fruits and vegetables every day to avoid getting sick. (b) Deterring something so that it is delayed. You ask for a payment extension, so you don't have to pay your bill yet.

Hope does not necessarily fade in the face of adversity; in fact, hope often endures despite poverty, war and famine. While no one is exempt from experiencing challenging life events, hope fosters an orientation to life that allows a grounded and optimistic outlook even in the most challenging of circumstances. According to Snyder's hope theory, higher levels of hope



are consistently linked to better outcomes regarding mental health, physical health, academics, athletics, physical health, and psychotherapy.

Is hope the same as optimism? It is true that optimism has much in common with hope, both are concerned with a positive future orientation and both assume that good things will generally occur in one's life. The difference is that optimism is a positive attitude about a future event that is probable and likely to occur: the optimist expects that life will work out well and as expected (Scheier & Carver, 1993). Conversely, being hopeful is regarded as more realistic. The hopeful individual recognizes that life may not work out as planned, yet maintains positive expectancy directed toward possible outcomes that hold personal significance (Miceli & Castel Franchi, 2002).

It is to be noted that hope itself is not an emotion. Hope is a way of thinking or a state of being. This means that hope can be taught. Hope is also distinct from a wish. Hope involves taking action toward a goal, while a wish is out of our control.

Hope Interventions: Hope interventions focus on improving happiness, wellbeing, and positive cognition through carefully selected strategies. So, who can benefit from hope interventions? According to Jevne and Westra (1998), hope interventions are particularly valuable for clients with four primary concerns:

1. The skidding effect – clients who are experiencing a loss of control.
2. The bruising effect – clients who are experiencing a sense of hopelessness from failure or loss.
3. The boomerang effect – clients who seem to have tried everything to make changes yet find themselves back where they started.
4. The alien effect – clients who feel like no one understands them and find it difficult to connect with others.

Hope interventions have been successfully utilized in a multitude of clinical settings. For instance, Feldman and Dreher (2012) found that a single 90-minute hope intervention increased students' hope, hopeful goal-directed thinking, life purpose, and vocational calling. Participants also reported greater progress on a self-nominated goal at a 1-month follow-up relative to control participants.



Shekarabi-Ahari et al. (2012) examined the effectiveness of a group hope intervention for mothers with children suffering from cancer. They found that hope interventions significantly decreased depression and increased hope while follow-up results showed depression decreased further after the intervention had been completed.

Similarly, Herth (2000) found that hope interventions improved both levels of hope and quality of life in people with a first recurrence of cancer, these results remained significant at 3, 6, and 9-month intervals.

A study titled “The Relationship of Psychological Wellbeing and Psychological Hardiness with the Mediating Role of Social Support in Women with Breast Cancer”, was conducted by Roya Azadi, Hassan Ahadi and Hamid Reza Hatam was aimed to determine the relationship between psychological wellbeing and psychological hardiness with the mediating role of social support in women with breast cancer. A total of 246 patients with breast cancer participated in the study, with ages ranging from 35 to 75 years. Also, 72% of patients were married, and 28% were single were chosen with a simple random sampling method and were from In Imam Khomeini Hospital in Sari, Iran. The results indicated that the correlation between variables of psychological wellbeing and psychological hardiness with social support was significant ($P < 0.001$). Fit indices indicated an appropriate fit for the proposed model ($P < 0.05$). There was also a significant relationship between psychological hardiness and psychological wellbeing through social support. They have recommended that the degree of mental hardiness and social support with psychological wellbeing and intervention be evaluated to increase the mental health of the patients to improve and adapt to the disease.

A study titled “Social support and Psychological wellbeing of Cancer Patients” was conducted by Sujata Waghmare. The aim of the study was to investigate the association between social support and the psychological wellbeing of Cancer Patients of Aurangabad in Maharashtra. The participants of the study were 60 men and women living with Cancer and from the age range 25-45 years. The result indicated that social support was negatively associated with depression, stress and anxiety. Compared with males living with Cancer, women reported higher levels of stress, depression and anxiety. Female gender and low social support were significant predictors of depression and stress. Older participants experienced higher levels of stress.



3. Methodology:

3.1 Objectives of the research

The study attempts to examine the following objectives:

- To find out the levels of hope in cancer patients.
- To find out the levels of psychological well-being in cancer patients.
- To study whether there is any significant association between hope with psychological well-being in cancer patients.

3.2 Hypotheses

Based on the review of literature presented in chapter two, the hypotheses have been articulated and the present study attempts to investigate the following hypotheses:

1. There will be a significant association between hope and psychological well-being in cancer patients.

4.Data Analysis and Interpretation:

Hope Level:

- Hope is the expectation of positive outcomes and a belief in the possibility of a better future despite current challenges.
- Patients with higher levels of hope tend to maintain a more optimistic perspective, which can improve their ability to cope with the disease and its treatment.
- Hope can serve as a motivating factor, encouraging patients to adhere to treatment plans and engage in activities that promote their health and well-being.
- Hope is closely linked to resilience, helping patients to bounce back from setbacks and maintain their psychological stability.

4.1. Descriptive Analysis of The Sample with Respect to Demographic Variables.

The statistical breakdown of the gender distribution in a sample population. The distribution of genders in the sample, with 52 females and 52 males, each constituting 50% of the total sample size of 104. The age distribution of a sample population. The respondents who belong to upon 40 Years age are 16.3%. 41-50 Years age respondents are 36.5% (38 out of 104 is



approximately 36.5%). The respondents who are Above 50 Years is 47.1%. The largest age group is "Above 50 Years," making up nearly half of the sample, followed by "41-50 Years," and the smallest group is "Upto 40 Years. Among all the respondents 6.7% are Unmarried. Married respondents are 75% and 18.3% are Widow/Divorced. The majority of the sample is married, making up 75% of the total. Unmarried individuals constitute the smallest group at 6.7%, while those who are widowed or divorced represent 18.3% of the sample.

The respondents who are suffering from cancer in different stages. The 1st Stage cancer 23.1%, the 2nd Stage cancer respondents are 26.9%, the 3rd Stage is 27.9% and 4th Stage 22.1%. The largest group is in the 3rd stage of cancer, accounting for 27.9% of the sample, followed closely by the 2nd stage at 26.9%. The 1st stage accounts for 23.1%, and the 4th stage is the smallest group at 22.1%.

Among all the respondents 45.2% of the respondents came under High Hope Persons, 34.6% of the respondents are came under Higher level of Hope, 15.4% of the respondents are came under Hope full and 4.8% of the respondents came under Low Hope. The largest group is composed of individuals with high hope, accounting for 45.2% of the total. Those with a higher level of hope make up 34.6% of the sample. Individuals who are hopeful constitute 15.4%, while those with low hope represent the smallest group at 4.8%.

The majority of the sample has high well-being, accounting for 64.4% of the total. Moderate well-being accounts for 35.6%. There are no individuals categorized as having low well-being in this sample.

4.2. Quantitative Analysis Among the Demographic Variables and Dimension wise

Table4.2.1: Shows the association between Hope Scale by gender

Gender		Hope Scale Grade				Total
		High Hope Persons	Higher level of Hope	Hopeful	Low Hope	
Female	Count	25	16	7	4	52
	%	48.1%	30.8%	13.5%	7.7%	100.0%
Male	Count	22	20	9	1	52
	%	42.3%	38.5%	17.3%	1.9%	100.0%



Total	Count	47	36	16	5	104
	%	45.2%	34.6%	15.4%	4.8%	100.0%

The table provides data on the distribution of Hope Scale grades by gender and the results of a chi-square test to determine if there is a significant association between gender and hope levels.

Among Female respondents the majority of female are with High Hope Persons is 48.1% followed by Higher Level of Hope with 30.8%, 13.5% of the females are under Hopeful category and least % (7.7%) are came under the category of Low hope.

Among the male the majority of the respondents are came under High Hope Persons with 42.3% followed by Higher Level of Hope is 38.5%, the respondents came under Hopeful is 17.3% and very least % of respondents came under Low Hope that is 1.9%.

Overall respondents High Hope Persons with 45.2% followed by Higher Level of Hope is 34.6%, Hopeful is 15.4% and Low Hope is 4.8%.

The chi-square value is 2.686 with 3 degrees of freedom and an asymptotic significance (p-value) of 0.443. The p-value (0.443) is well above the common alpha level of 0.05, indicating that the result is not statistically significant.

Table 4.2.2: Shows the association between Psychological Wellbeing by gender

Gender		Psychological Wellbeing Grade		Total
		High Well being	Moderate Wellbeing	
Male	Count	34	18	52
	%	65.4%	34.6%	100.0%
Female	Count	33	19	52
	%			



	%	63.5%	36.5%	100.0%
Total	Count	67	37	104
	%	64.4%	35.6%	100.0%

The table provides data on the distribution of Well-Being grades by gender and the results of a chi-square test to determine if there is a significant association between gender and well-being levels. Among the male respondents 65.4% of males are came under High Well-Being category and Moderate Well-Being with 34.6%. in female respondents 63.5% of respondents are came under High Well-Being category and 36.5% respondents came under Moderate Well-Being category. Overall 64.4% respondents came under High Well-Being and 35.6% respondents came under Moderate Well-Being. The chi-square value is 0.042 with 1 degree of freedom and an asymptotic significance (p-value) of 0.838. The p-value (0.838) is much greater than the common alpha level of 0.05, indicating that the result is not statistically significant.

Table 4.2.3: Shows the association between Hope Scale by Age.

Age		Hope Scale Grade				Total
		High Hope Persons	Higher level of Hope	Hopeful	Low Hope	
Upto 40 Years	Count	9	6	1	1	17
	%	52.9%	35.3%	5.9%	5.9%	100.0%
41-50 Years	Count	19	12	5	2	38
	%	50.0%	31.6%	13.2%	5.3%	100.0%
Above 50 Years	Count	19	18	10	2	49
	%	38.8%	36.7%	20.4%	4.1%	100.0%
Total	Count	47	36	16	5	104
	%	45.2%	34.6%	15.4%	4.8%	100.0%



The tables provide data on the distribution of Hope Scale grades by age group and the results of a chi-square test to determine if there is a significant association between age and levels of hope. The respondents who belongs to Up to 40 Years age group are with High Hope Persons category is 52.9%, Higher Level of Hope level category is 35.3%, Hopeful level of category is 5.9% and Low Hope level of category is 5.9%. The 41-50 Years age group of respondents came under High Hope Persons category is 50.0%, Higher Level of Hope category is 31.6%, Hopeful category is 13.2% and Low Hope category is 5.3% . The Above 50 Years age group respondents came under High Hope Persons category is 38.8%, Higher Level of Hope category is 36.7%, Hopeful is 20.4% and Low Hope is 4.1%. Overall respondents under different category follows like High Hope Persons is 45.2%, Higher Level of Hope is 34.6%, Hopeful is 15.4% and Low Hope is 4.8%. The chi-square value is 3.069 with 6 degrees of freedom and an asymptotic significance (p-value) of 0.800. The p-value (0.800) is above the common alpha level of 0.05, indicating that the result is not statistically significant.

Table 4.2.4: Shows the association between Psychological Wellbeing by Age

Age		Psychological Wellbeing Grade		Total
		High Wellbeing	Moderate Wellbeing	
Upto 40 Years	Count	13	4	17
	%	76.5%	23.5%	100.0%
41-50 Years	Count	23	15	38
	%	60.5%	39.5%	100.0%
Above 50 Years	Count	31	18	49
	%	63.3%	36.7%	100.0%
Total	Count	67	37	104
	%	64.4%	35.6%	100.0%



The tables present data on the distribution of Psychological Wellbeing by age group and the results of a chi-square test to determine if there is a significant association between age and Psychological Wellbeing levels. The respondents who belong to Up to 40 Years age group came under High Wellbeing category is 76.5% and under Moderate Wellbeing category is 23.5%, the respondents who belongs 41-50 Years age came under High Wellbeing category is 60.5% and Moderate Wellbeing category is 39.5%. The respondents who belongs Above 50 Years category is under High Wellbeing is 63.3% and Moderate Wellbeing category is 36.7%. Overall respondents under High Wellbeing category 64.4% and Moderate Wellbeing category is 35.6%. The chi-square value is 1.357 with 2 degrees of freedom and an asymptotic significance (p-value) of 0.507. The p-value (0.507) is well above the common alpha level of 0.05, indicating that the result is not statistically significant.

Table 4.2.5: Shows the association between Hope Scale by Marital Status

Marital Status		Hope Scale Grade				Total
		High Hope level	Higher level of Hope	Hopeful	Low Hope	
Unmarried	Count	4	2	0	1	7
	%	57.1%	28.6%	0.0%	14.3%	100.0%
Married	Count	39	27	11	1	78
	%	50.0%	34.6%	14.1%	1.3%	100.0%
Widow/Divorced	Count	4	7	5	3	19
	%	21.1%	36.8%	26.3%	15.8%	100.0%
Total	Count	47	36	16	5	104
	%	45.2%	34.6%	15.4%	4.8%	100.0%

The tables present data on the distribution of Hope Scale grades by marital status and the results of a chi-square test to determine if there is a significant association between marital status and hope levels. The respondents who are Unmarried having High Hope Persons is 57.1%, having Higher Level of Hope is 28.6%, having Hopeful is nil % and Low Hope is



14.3%. The respondents who are Married having High Hope Persons is 50.0%, having Higher Level of Hope is 34.6%, having Hopeful is 14.1% and Low Hope is 1.3%. The respondents who are Widow/Divorced having High Hope Persons levels is 21.1%, having Higher Level of Hope is 36.8%, having Hopeful levels is 26.3% and Low Hope is 15.8%. Overall respondents having High Hope Persons is 45.2%, having Higher Level of Hope category is 34.6%, having Hopeful category is 15.4% and having Low Hope is 4.8%. The chi-square value is 13.898 with 6 degrees of freedom and an asymptotic significance (p-value) of 0.031. The p-value (0.031) is below the common alpha level of 0.05, indicating that the result is statistically significant.

Table 4.2.6: Shows the association between Psychological Wellbeing by Marital Status

Marital Status		Psychological Wellbeing Grade		Total
		High Well being	Moderate Wellbeing	
Unmarried	Count	4	3	7
	%	57.1%	42.9%	100.0%
Married	Count	56	22	78
	%	71.8%	28.2%	100.0%
Widow/Divorced	Count	7	12	19
	%	36.8%	63.2%	100.0%
Total	Count	67	37	104
	%	64.4%	35.6%	100.0%

The table presents data on the distribution of Psychological Wellbeing grades by marital status and the results of a chi-square test to determine if there is a significant association between marital status and Psychological Wellbeing levels. The respondents who are Unmarried having under High Wellbeing category is 57.1% and having Moderate Wellbeing



category is 42.9%. among the Married respondents having High Wellbeing is 71.8% and Moderate Wellbeing is 28.2%. Among Widow/Divorced respondents are having High Wellbeing is 36.8% and having Moderate Wellbeing is 63.2%. Among Overall respondents having High Wellbeing category is 64.4% and Moderate Wellbeing category is 35.6%. The chi-square value is 8.317 with 2 degrees of freedom and an asymptotic significance (p-value) of 0.016. The p-value (0.016) is below the common alpha level of 0.05, indicating that the result is statistically significant.

Table 4.2.7: Shows the association between Hope Scale by Stage of Cancer

Stage Of Cancer		Hope Scale Grade				Total
		High Hope Persons	Higher level of Hope	Hope full	Low Hope	
1st Stage	Count	15	7	2	0	24
	%	62.5%	29.2%	8.3%	0.0%	100.0%
2nd Stage	Count	16	9	3	0	28
	%	57.1%	32.1%	10.7%	0.0%	100.0%
3rd Stage	Count	11	12	6	0	29
	%	37.9%	41.4%	20.7%	0.0%	100.0%
4th Stage	Count	5	8	5	5	23
	%	21.7%	34.8%	21.7%	21.7%	100.0%



Total	Count	47	36	16	5	104
	%	45.2%	34.6%	15.4%	4.8%	100.0%

The table provided examines the relationship between the stage of cancer and levels of hope, along with the results of a chi-square test to assess whether there is a statistically significant association between these variables. Among the all the respondents the 1st Stage cancer respondents are 62.5% of under High Hope Persons, 29.2% of under Higher level of Hope, 8.3% of the respondents are under Hopeful and no one came under Low Hope category. Among 2nd Stage respondents 57.1% came under High Hope Persons, 32.1% came under Higher level of Hope category, 10.7% of the respondents came under Hopeful and nil % came under Low Hope. Among the 3rd Stage, 37.9% of the respondents are came under High Hope Persons, 41.4% of the respondents came under Higher level of Hope, 20.7% came under Hopeful and nil %age of respondents came under Low Hope. The respondents who are in 4th Stage, 21.7% under High Hope Persons, 34.8% under Higher level of Hope, 21.7% of the respondents are under Hopeful, 21.7% of the respondents are under Low Hope. Overall all the 45.2% respondents are under High Hope Persons, 34.6% of the respondents are came under Higher level of Hope, 15.4% respondents are came under Hopeful and 4.8% respondents are came under Low Hope.

The Pearson Chi-Square Value is 26.168 with 9 degrees of freedom. The Significant (2-sided) value is 0.002, which is significant at 5% level. That means there is association between the stage of cancer and levels of hope

Table 4.2.8: Shows the association between Psychological Wellbeing by Stage of Cancer

Stage Of Cancer		Psychological Wellbeing Grade		Total
		High Wellbeing	Moderate Wellbeing	
1st Stage	Count	18	6	24
	%	75.0%	25.0%	100.0%



2nd Stage	Count	23	5	28
	%	82.1%	17.9%	100.0%
3rd Stage	Count	18	11	29
	%	62.1%	37.9%	100.0%
4th Stage	Count	8	15	23
	%	34.8%	65.2%	100.0%
Total	Count	67	37	104
	%	64.4%	35.6%	100.0%

The table provided examines the relationship between the stage of cancer and levels of well-being, along with the results of a chi-square test to assess whether there is a statistically significant association between these variables. The respondents who are belongs 1st Stage respondents 75.0% under High Wellbeing and 25.0% respondents are came under Moderate Wellbeing. The respondents who are belongs to 2nd Stage, 82.1% came under High Wellbeing and 17.9% respondents are came under Moderate Wellbeing. Among 3rd Stage respondents 62.1% respondents came under High Wellbeing and 37.9% respondents under Moderate Wellbeing. The respondents who are belongs to 4th Stage, 34.8% respondents came under High Wellbeing and 65.2% respondents are came under Moderate Wellbeing. Overall respondents 64.4% came fall under High Wellbeing and 35.6% fall under Moderate Wellbeing.

The Pearson Chi-Square Value is 13.894 with 3 degrees of freedom. The calculated p-value is (2-sided) is 0.003, which is significant at 5% level. This suggests that cancer progression may adversely impact well-being, which is statistically significant based on the chi-square test results.

4.3. Correlation Analysis Among Hope Scale and Psychological Wellbeing

Table 4.3.1: Shows the correlation between psychological variables



		Hope Scale	Psychological Wellbeing
Hope Scale	Pearson Correlation	1	.706**
	Sig. (2-tailed)		.000
Psychological Wellbeing	Pearson Correlation	.706**	1
	Sig. (2-tailed)	.000	

The correlation between Hope Scale and Psychological Wellbeing is ($r = 0.706$, $p = 0.000$). This shows a very strong positive correlation, indicating that higher levels of hope are strongly associated with better psychological well-being.

5. Findings and conclusions:

5.1. Findings:

- According to Hope level Among females, a slightly higher percentage (48.1%) are categorized as high hope persons compared to males (42.3%).
- A similar percentage of males and females are in the "Higher Level of Hope" category (30.8% for females and 38.5% for males). More males (17.3%) are categorized as hopeful compared to females (13.5%). Only 1.9% of males are classified as having low hope, while 7.7% of females fall into this category.
- Both genders have similar proportions in high well-being and moderate well-being categories, with only minor differences in percentages.
- Among Hope levels the Distribution by Age, up to 40 Years group Highest percentage in "High Hope Persons" (52.9%), Smaller percentages in other categories, with 5.9% each in "Hopeful" and "Low Hope". Among 41-50 Years age group, Similar to the youngest group, the highest percentage is in "High Hope Persons" (50.0%), More balanced distribution among other categories compared to the younger group. And the Above 50 Years group Highest percentage in "Higher Level of Hope" (36.7%). A significant



proportion still in "High Hope Persons" (38.8%), with lower percentages in "Hopeful" and "Low Hope".

- Among the Psychological wellbeing according to Distribution by Age, up to 40 Years group A high percentage (76.5%) report high wellbeing, with a smaller proportion (23.5%) reporting moderate wellbeing. The 41-50 Years group, a significant percentage (60.5%) report high wellbeing, and a substantial percentage (39.5%) report moderate wellbeing. And the Above 50 Years group, A similar pattern is observed with 63.3% reporting high Psychological Wellbeing and 36.7% reporting moderate wellbeing.

5.2: Conclusions

- ❖ The distribution of hope levels (high hope persons, higher level of hope, hopeful, and low hope) does not significantly differ between genders based on this sample. The chi-square test confirms that there is no statistically significant association between gender and the level of hope, as the p-value is much greater than 0.05. There are differences in the proportions of hope levels between genders, these differences are not statistically significant. Thus, gender does not appear to influence the levels of hope in this sample.
- ❖ The distribution of well-being grades (high and moderate) does not significantly differ between genders based on this sample. The chi-square test confirms that there is no statistically significant association between gender and the level of well-being, as the p-value is well above 0.05. There are slight differences in the proportions of high and moderate well-being between genders, these differences are not statistically significant. Thus, gender does not appear to influence well-being levels in this sample.
- ❖ The distribution of Hope Scale grades (high hope persons, higher level of hope, hopeful, and low hope) does not significantly differ across age groups based on this sample. The chi-square test confirms that there is no statistically significant association between age and levels of hope, as the p-value is above 0.05. The



proportions of hope levels among different age groups, these differences are not statistically significant. Thus, age does not appear to influence hope levels in this sample.

- ❖ The distribution of Psychological Wellbeing grades (high and moderate wellbeing) does not significantly differ across age groups based on this sample. The chi-square test confirms that there is no statistically significant association between age and levels of wellbeing, as the p-value is above 0.05. The proportions of Psychological Wellbeing levels among different age groups, these differences are not statistically significant. Thus, age does not appear to influence Psychological Wellbeing levels in this sample.

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