Gratitude as a Mediator of the Relationship Between Emotional Intelligence and Social Support on Psychological Wellbeing Among People Living with Human Immunodeficiency Virus (HIV)

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Abstract
People living with Human Immunodeficiency Virus (PLHIV) frequently encounter adverse circumstances, including depression and feelings of inadequacy. The stigma associated with their condition often leads to feelings of shame, isolation, and a diminished zest for life. These adverse conditions are known to significantly impact the psychological well-being of PLHIV. This study seeks to scrutinize the relationship between emotional intelligence and social support is mediated by gratitude. The research was carried out in East Kalimantan Province. A quantitative methodology was employed in this investigation. The study encompassed PLHIV who receive support from the Mahakam Plus Community Initiators in Samarinda, Indonesia. The data collection process involved four distinct questionnaires, focusing on emotional intelligence, social support, gratitude, and psychological well-being. In analyzing the gathered data, a path analysis technique was employed. The research findings revealed that gratitude plays a pivotal role as a mediating factor capable of bridging the relationship between social support on psychological well-being and mediating the influence of emotional intelligence on psychological well-being. The model of psychological well-being among PLHIV in this study aligns closely with empirical data. This alignment is evidenced by a standardized root mean square residual (SRMR) value of 0.100, a Q value greater than zero, and a model goodness-of-fit (GoF) score of 0.483. Moreover, the study uncovered that emotional intelligence, social support, and gratitude exert a positive and statistically significant influence on psychological well-being. The study underscored the critical role of gratitude as a mediating variable. The implications of these findings in terms of potential strategies and interventions for enhancing the psychological well-being of PLHIV are thoroughly discussed.

INTRODUCTION
AIDS (Acquired Immunodeficiency Syndrom) caused by HIV (Human imunideficiency Virus) is recognized as one of the most dangerous and highly contagious diseases (World Health Organisation [WHO], 2019). Despite extensive research efforts, a definitive cure for...
eliminating HIV from an infected person's body remains unavailable. Those afflicted with HIV are not only at risk of the disease itself but also face heightened vulnerability to other infections due to the virus's assault on the immune system. In 2019 alone, Indonesia reported more than 50,282 cases of HIV infection, as per data from the Indonesian Ministry of Health (Direktorat Jenderal Pencegahan dan Pengendalian Penyakit [Ditjen P2P], 2019).

People living with HIV (PLHIV) often experience feelings of shame, isolation, uncertainty about their future, and a persistent fear of not recovering due to the lack of a cure. They also commonly grapple with a loss of motivation and concerns about their limited lifespan (Brashers et al., 2004; Santiago-Rodríguez et al., 2021; Skelton et al., 2021). This psychological distress is largely attributed to the stigma associated with PLHIV. In general, stigma is closely linked to psychological issues, including depression, despair, anxiety, low self-esteem, and a lack of social support (Carter et al., 2016; Herek et al., 2013; Lo Hog Tian et al., 2021; Ncitakalo et al., 2021). This phenomenon isn't confined to Indonesia; even in countries with advanced healthcare systems like the United States, social stigma remains a significant barrier to the well-being of PLHIV, particularly among older cohorts (Grov et al., 2010). In Indonesia, researchers face unique challenges in addressing psychological well-being PLHIV, compounded by cultural stigma and limited access to comprehensive healthcare (Ardani & Handayani, 2017; Eva Kartika et al., 2019; Tristanto et al., 2022).

PLHIV face various social and psychological challenges. These include experiences of ostracism, depression, anxiety, vengeful thoughts, a lack of fear of infecting others, frustration, social isolation, and relationship problems (Campbell et al., 2019; H. Ma et al., 2023; Nguyen et al., 2023). Additionally, they encounter psychological issues such as family conflicts, lack of family support, economic barriers to marriage, disclosure, and fear of infecting others (Moges et al., 2021; Shrestha et al., 2014). Within the family context, they also deal with issues like unemployment, homelessness, and a lack of social support networks (Cederbaum et al., 2017; Dejman et al., 2015; Reyes et al., 2023). PLHIV frequently find themselves in distressing situations, grappling with stress and feelings of worthlessness, which can lead to depression and even contemplation of self-harm (Bertolli et al., 2013; Wingood et al., 2007).

In general, individuals with higher levels of psychological well-being tend to experience fewer symptoms of mental disorders (Santini et al., 2022). Psychological well-being relates closely to mental disorders and this relationship is bidirectional (Cai et al., 2017). It has been discovered that lack of psychological well-being increases the chance of developing mental disorders such as depression and anxiety (Fava, 2012). Mental disorders can be avoided by promoting psychological well-being (Forisman et al., 2015; Fusar-Poli et al., 2021). Those with enhanced psychological well-being typically cultivate improved interpersonal relationships, adopt healthier lifestyles, exhibit conformist personalities, and readily adapt to the societal norms within their environment (De-Juana et al., 2020; Pressman & Cohen, 2005).

Psychological well-being is a state wherein individuals experience happiness, satisfaction in life, and absence of mental health disorders (Ryff & Singer, 2006). The overall psychological well-being of individuals is influenced by several factors, including social support, social networks, personality traits, socioeconomic status, age, gender, and cultural influences (Ryff & Keyes, 1995). Generally, psychological well-being is the optimal realization of an individual's psychological potential, as well as a situation in which individuals are able to accept their strengths and weaknesses as they are, have positive relationships with others, have life goals, can control their environment, become independent individuals, and continually develop (Ryff, 1989).

Social support plays a pivotal role in enhancing psychological well-being (Daniels & Guppy, 2007; Nyoni et al., 2019; S. T. Wong et al., 2007). Through the mediation role of perceived family support, psychological well-being predicted harmful behaviors. In another way, people who felt less hopeless and more satisfied with their lives often tended to feel that...
their families supported them, which in turn led to a decrease in drinking, smoking (Walsh et al., 2010), and suicide ideation (Lai & Ma, 2016).

Emotional intelligence also emerges as a critical factor in promoting psychological well-being, as numerous studies have underscored the correlation between high emotional intelligence and increased life satisfaction, self-acceptance, and self-esteem (Koydemir & Schütz, 2012; Pepping et al., 2013; Schneider et al., 2023). The emotional intelligence in the treatment process of people with HIV is crucial as it influences patients’ adherence to ongoing treatment processes (Pradier et al., 2003; Willard, 2006).

Furthermore, individuals coping with chronic diseases like HIV are significantly affected by positive attitudes such as gratitude and forgiveness (Eaton et al., 2014). Notably, in the context of addiction treatment programs designed for individuals struggling with substance abuse, gratitude has demonstrated its capacity to augment and enhance the quality of life and psychological well-being of patients (Ghalesefidi et al., 2019; Krentzman, 2017; Krentzman et al., 2023). Gratitude assumes a distinct role in increasing positive emotions (Macaskill, 2012; Waters et al., 2022).

This research applies Fredrickson’s Broaden and Build Theory to explore the interplay between emotional intelligence, social support, and gratitude in enhancing the psychological well-being of Organizational Development and Humanitarian Initiatives (ODHI). The Broaden and Build Theory, advanced by Fredrickson (2001), is a framework that emphasizes the role of positive emotions. These emotions can, in turn, inspire specific actions that shape an individual’s cognitive and behavioral patterns. Consequently, it is posited that this theory fosters the idea that gratitude can broaden the range of routine thoughts or actions and nurture personal, physical, intellectual, social, and psychological resources (Fredrickson, 2004). The Broaden and Build Theory, a concept that emphasizes positive emotions, suggests that gratitude can enhance the array of thought-action tendencies and foster the development of personal, physical, intellectual, social, and psychological resources, including life satisfaction and psychological well-being (Fredrickson, 2001).

Referring to the broaden and build theory, gratitude can act as a mediator variable between religious commitment and individual wellbeing (Kane et al., 2021). Lin’s research indicates that gratitude can trigger other positive emotions and mediate emotional wellbeing. These findings provide empirical support for the notion that gratitude is fundamentally a beneficial positive emotion that expands and builds other positive emotions, thereby enhancing emotional wellbeing (Lin & Yeh, 2014). Experimentally induced gratitude also leads to higher life satisfaction and mediates between materialism and life satisfaction (Lambert et al., 2009). Furthermore, gratitude also mediates between mindfulness and the five aspects of Ryff’s psychological wellbeing except for autonomy (Voci et al., 2019). Therefore, gratitude can positively and sustainably transform individuals, organizations, and communities (Emmons et al., 2004).

In line with the theory, gratitude is suggested to act as a mediator between religious commitment and personal well-being (Kane et al., 2021). In addition, gratitude has been associated with measures of greater self-reported self-esteem (Alkozei et al., 2019). Elevated levels of gratitude are significantly associated with enhanced social support, adaptive coping mechanisms, psychological states (e.g., life satisfaction), and buffer against high-risk behaviors (Datu et al., 2022; M. Ma et al., 2013; Nelson, 2009). It is also discovered that gratitude can stimulate other positive emotions and mediate emotional well-being. These findings corroborate the notion that gratitude essentially embodies a beneficial positive emotion that subsequently broadens and builds other positive emotions (Armenta et al., 2017; Boggio et al., 2020; Lin & Yeh, 2014).

Recent study from Malinauskas and Malinauskiene suggests a positive correlation between emotional intelligence and perceived social support and wellbeing, with perceived
wellbeing serving as predictor for perceived stress (Malinauskas & Malinauskiene, 2020). In line with this, Carmeli et al. (2009) argue that emotional intelligence can predict the outcome of all four aspects of psychological wellbeing (self-acceptance, life satisfaction, somatic complaints, and self-esteem). Furthermore, research indicates that social support is consistently linked to psychological wellbeing across different age group (Deichert et al., 2021a; Gyasi et al., 2019; Parimal et al., 2022). In addition to a range of conventionally available social supports, perceived online social support has been proven to be associated with time spent on social network sites, especially regarding self-disclosure online which is related to subjective wellbeing (Ali, 2020).

Understanding the role of gratitude on the psychological wellbeing is pivotal to the positive psychology movement. Gratitude is a positive psychological characteristic and it is closely related to psychological wellbeing (Bali et al., 2022; Măirean et al., 2019; Rash et al., 2011; Tomczyk et al., 2022). This trait has also been found to be able to enhance the beneficial impacts of social support on psychological wellbeing (Deichert et al., 2021). For a more practical purpose, gratitude intervention has been proposed to help people to promote positive changes and to enhance the quality of their life (Dickens, 2017).

While there is some empirical evidence suggesting a relationship between emotional intelligence, social support, and gratitude with psychological well-being, data retrieved from VOSviewer (done by Authors) indicates a notable gap in comprehensive studies examining that these three variables in the context of PLHIV are limited. Despite growing interest in understanding the intricate dynamics between emotional intelligence, social support, and gratitude, there remains a considerable dearth of comprehensive research addressing their collective impact on psychological wellbeing. Li et al also mentioned that only a few studies have explored the role of positive psychology on mental health in HIV (Li et al., 2016). Moreover, meta-analytic findings over the past four decades have indicated a negative correlation between stigma and the psychological well-being of PLHIV, yet there is a dearth of research exploring the protective and vulnerability factors of PLHIV that could inform intervention strategies (Rzeszutek, 2018).

Rationale of the study

East Kalimantan, one of the Indonesian province with the highest prevalence of PLHIV, has established a supportive community known as Mahakam Plus in its capital city, Samarinda. This community extends its support to PLHIV across various cities within the province of East Kalimantan. Individuals living with HIV are entitled to the same level of psychological well-being as the general population. A wealth of research has been conducted on the psychological well-being of PLHIV, with findings varying from psychological distress to positive psychological states characterized by gratitude and self-acceptance (Dejman et al., 2015; Sun et al., 2014).

Therefore, this study seeks to fill this gap by investigating the interrelationships between social support, emotional intelligence, gratitude, and psychological well-being, with the aim of identifying the protective and vulnerability factors of PLHIV. Additionally, the study will explore whether gratitude can serve as a mediator between social support and emotional intelligence and psychological well-being.

Hypotheses

Based on the theoretical framework discussed, the following hypotheses are proposed:

H1: The model of psychological well-being is consistent with empirical data for PLHIV.

H2: There is a positive association between emotional intelligence and the psychological well-being of PLHIV.

H3: Social support is positively correlated with the psychological well-being of PLHIV.
H4: Gratitude is positively associated with the psychological well-being of PLHIV.
H5: Emotional intelligence is positively correlated with the gratitude of PLHIV.
H6: Social support is positively associated with the gratitude of PLHIV.
H7: Gratitude serves as a mediating factor between social support and psychological well-being in PLHIV.
H8: Gratitude mediates the relationship between emotional intelligence and psychological well-being among PLHIV.

![Figure 1. Research framework](image)

**METHODS**

**Population and the methods of sampling**

The target population for this study consists of PLHIV who are receiving support from the Mahakam Plus Advocacy Community (KP) in Samarinda City, Balikpapan City, and Kutai Kartanegara Regency. The study is confined to PLHIV within the productive age bracket of 20-49 years, amounting to a total of 2,282 individuals.

The study employs snowball sampling, guided by the sample determination by Slovin, with a margin of error of 5%. The inclusion criteria for the study sample include PLHIV residing in Samarinda City, Balikpapan City, or Kutai Kartanegara Regency, aged between 20-49 years, receiving support from KP Mahakam Plus, undergoing antiretroviral therapy (ARV), and capable of responding to the questionnaire. Based on these criteria, the study involves a total of 340 participants.

**Instrumentation**

In this investigation, the validation of content was carried out utilizing an “expert judgment” methodology, also referred to as raters within the context of this paper. Seven individuals were engaged as raters for this research. The validity of the items was scrutinized using the Aiken method, otherwise known as the Content Validity Index (CVI). According to Aiken’s table, an item is deemed valid if it achieves a score of ≥ 0.76 (Aiken, 1985).

**Psychological Well-being Scale**

The Psychological Well-being (PWB) Scale employed in this investigation is derived from the scale formulated by Ryff and Keyes (1995). This research's PWB Scale is in alignment with Ryff's Psychological Well-being Scale and has undergone translation and adaptation by Ismiyati (2022), Hesti (2016), and Randa (2018). Construct validity was evaluated in this study, revealing that the maximum loading factor for PWB scale items is 0.856, while the minimum loading factor is 0.502. The scale exhibits an SRMR value of 0.094, signifying an acceptable fit (Schermelleh-Engel et al., 2003). Furthermore, the AVE values for each indicator exceed 0.6, and the composite reliability values for each indicator surpass 0.7. The dimensions assessed by this scale include self-acceptance, life purpose, positive relations with others, autonomy, environmental mastery, and personal growth.
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**Emotional Intelligence Scale**

The Emotional Intelligence Scale utilized in this study is the Wong and Law (2002) Emotional Intelligence Scale (WLEIS). This scale has been adapted by (Ufi, 2014) to correspond with the items in the study conducted by Naseer et al. (2011). The scale measures emotional intelligence across four dimensions: appraisal of self and others' emotions, utilization of emotions, and regulation of emotions. The construct validity of this scale was evaluated, revealing a maximum loading factor of 0.885 and a minimum loading factor of 0.645 for the emotional intelligence scale items. The scale exhibits an SRMR value of 0.089, signifying an acceptable fit (Schermelleh-Engel et al., 2003). Additionally, the AVE values for each indicator exceed 0.6, and the composite reliability values for each indicator surpass 0.8.

**Social Support Scale**

In this investigation, the Multidimensional Scale of Perceived Social Support (MSPSS) was employed to examine social support among PLHIV (Zimet et al., 1988). The scale has been translated into Indonesian and validated by (Sulistiani et al., 2022). It is designed based on the aspects of social support from family, friends, and significant others as defined by Zimet et al. (1988). The construct validity of this scale was evaluated, revealing a maximum loading factor of 0.941 and a minimum loading factor of 0.861 for the social support scale items. The scale exhibits an SRMR value of 0.059, signifying a good fit (Schermelleh-Engel et al., 2003). Additionally, the AVE values for each indicator exceed 0.7, and the composite reliability values for each indicator surpass 0.9.

**Gratitude Scale**

In this investigation, the gratitude scale was formulated by Listiyandini et al. (2015). The dimensions assessed within this scale encompass appreciation, positive emotions, and expression of gratitude. This gratitude scale is grounded in the theories of Watkins et al. (2003) and Fitzgerald (1998). The construct validity of this scale was evaluated, revealing a maximum loading factor of 0.855 and a minimum loading factor of 0.522 for the gratitude scale items. The scale exhibits an SRMR value of 0.079, signifying an acceptable fit (Schermelleh-Engel et al., 2003). Additionally, the AVE values for each indicator exceed 0.5, and the composite reliability values for each indicator surpass 0.8.

**Procedures and Time Frame**

The present study process is divided into three sections. The first stage involves the researcher preparing measures for psychological well-being, gratitude, emotional intelligence, and social support. This stage began from October to December 2022. The second stage (January–April 2023) involves the researcher contacting the Mahakam Plus Initiators Group to establish communication and seek assistance in distributing questionnaires to PLHIV. Subsequently, the researcher distributed the questionnaires via WhatsApp groups. Each participant in the study received four research scales and a personal data questionnaire. Prior to this, researchers obtained permission to collect data by presenting a voluntary consent form for participation in the study. The third stage involves data analysis conducted from May to June 2023. The researcher analyzed the collected data using Smart PLS version 3.2.9

**Analyses**

The hypotheses of this study are validated using the Structural Equation Modeling (SEM) method, incorporating path analysis. This technique is particularly useful for investigating causal relationships among multiple variables (Ghozali, 2013). The Partial Least Squares SEM (PLS-SEM) is a preferred method for mediator analysis, primarily due to its bootstrapping procedures. These procedures do not make assumptions about the forms of variable distribution.
and are applicable even with small sample sizes (Eva et al., 2022). Hypotheses are considered accepted if the T-statistic value surpasses the critical value of 1.96 (α 5%). Furthermore, to determine the significance of relationships, the P-value must be less than 0.05.

Scope and/or limitations of the methodology

This research was only conducted within the scope of three cities in East Kalimantan, namely Samarinda City, Balikpapan City, and Kutai Kartanegara Regency. Those three areas are major areas in East Kalimantan. Data collected from smaller area might yield different results.

RESULTS AND DISCUSSION

Results

Respondent Demographics

Based on the demographic data of the 340 respondents living with HIV (PLHIV) in Samarinda City, the majority of the respondents are male, representing 64.12% of the sample. The age group most represented falls within the range of 25–49 years. In terms of educational attainment, a significant majority, accounting for 54.41% of the respondents, have completed senior high school. With respect to marital status, the largest group of respondents is unmarried or single, making up 47.06% of the sample. A considerable majority of the respondents, constituting 75.59%, are employed. Lastly, a notable portion of the respondents, corresponding to 18.82% of the sample, have been living with HIV for a duration of 2-3 years and more than 5 years.

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>218</td>
<td>64.12</td>
</tr>
<tr>
<td>Female</td>
<td>122</td>
<td>35.88</td>
</tr>
<tr>
<td>Age (in year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24</td>
<td>36</td>
<td>10.59</td>
</tr>
<tr>
<td>25-49</td>
<td>304</td>
<td>89.41</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary School</td>
<td>26</td>
<td>7.65</td>
</tr>
<tr>
<td>Junior High Schoo</td>
<td>51</td>
<td>15.00</td>
</tr>
<tr>
<td>Senior High School</td>
<td>185</td>
<td>54.41</td>
</tr>
<tr>
<td>Diploma</td>
<td>2</td>
<td>0.59</td>
</tr>
<tr>
<td>Bachelor</td>
<td>71</td>
<td>20.88</td>
</tr>
<tr>
<td>Master</td>
<td>2</td>
<td>0.59</td>
</tr>
<tr>
<td>Doctoral</td>
<td>3</td>
<td>0.88</td>
</tr>
<tr>
<td>Occupation Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>257</td>
<td>75.59</td>
</tr>
<tr>
<td>Doesn’t Work</td>
<td>83</td>
<td>24.41</td>
</tr>
<tr>
<td>Marriage Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Married</td>
<td>160</td>
<td>47.06</td>
</tr>
<tr>
<td>Married</td>
<td>145</td>
<td>42.65</td>
</tr>
<tr>
<td>Widow/Widower/other</td>
<td>35</td>
<td>10.29</td>
</tr>
<tr>
<td>Time Living With HIV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>50</td>
<td>14.71</td>
</tr>
<tr>
<td>1-2 years</td>
<td>64</td>
<td>18.82</td>
</tr>
<tr>
<td>2-3 years</td>
<td>63</td>
<td>18.53</td>
</tr>
<tr>
<td>3-4 years</td>
<td>59</td>
<td>17.35</td>
</tr>
<tr>
<td>4-5 years</td>
<td>40</td>
<td>11.76</td>
</tr>
<tr>
<td>More than 5 years</td>
<td>64</td>
<td>18.82</td>
</tr>
</tbody>
</table>
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Common Method Bias

The detection of multicollinearity in a regression model can be achieved by computing the Variance Inflation Factor (VIF) value. VIF is a measure that quantifies the degree of increase in the variance of the estimated regression coefficients relative to orthogonal predictor variables, if they are linearly related (Supriyadi et al., 2017). A Variance Inflation Factor (VIF) value exceeding 3.3 is interpreted as a sign of collinearity, indicating that the model may be affected by Common Method Bias (CMB) (Kock, 2015). The results of the collinearity assessment are summarized in Table 2, which demonstrates the absence of data collinearity.

Table 2. VIF Collinearity

<table>
<thead>
<tr>
<th></th>
<th>Gratitude</th>
<th>Psychological Well-Being</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support</td>
<td>1.059</td>
<td>1.234</td>
</tr>
<tr>
<td>Gratitude</td>
<td></td>
<td>1.272</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>1.059</td>
<td>1.111</td>
</tr>
</tbody>
</table>

Univariate Examination

In the initial phase of the study, a descriptive analysis was conducted to examine the levels of emotional intelligence, social support, gratitude, and psychological well-being. The results of this classification are detailed in the table 3.

Table 3. Classification of Latent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Well-Being</td>
<td>13%</td>
<td>69%</td>
<td>18%</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>21%</td>
<td>68%</td>
<td>11%</td>
</tr>
<tr>
<td>Social Support</td>
<td>48.3%</td>
<td>49.1%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Gratitude</td>
<td>13%</td>
<td>72%</td>
<td>15%</td>
</tr>
</tbody>
</table>

The data for each scale in this study was divided into three categories: high, moderate, and low. This classification was based on the mean and standard deviation values. The data analysis revealed that the majority of respondents exhibited moderate levels of psychological well-being, emotional intelligence, social support, and gratitude.

Table 4. Loadings, Reliability Estimates, And Convergent Validity

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Item Reliability</th>
<th>Convergent Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loadings</td>
<td>CR</td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self and others’ emotional appraisal</td>
<td>0.791</td>
<td>0.897</td>
</tr>
<tr>
<td>Use of Emotion</td>
<td>0.892</td>
<td>0.854</td>
</tr>
<tr>
<td>Regulation of Emotion</td>
<td>0.860</td>
<td>0.893</td>
</tr>
<tr>
<td>Social Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>0.845</td>
<td>0.926</td>
</tr>
<tr>
<td>Significant Others</td>
<td>0.812</td>
<td>0.965</td>
</tr>
<tr>
<td>Friend</td>
<td>0.813</td>
<td>0.917</td>
</tr>
<tr>
<td>Gratitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expression of Gratitude</td>
<td>0.932</td>
<td>0.820</td>
</tr>
<tr>
<td>Positive Feelings</td>
<td>0.921</td>
<td>0.915</td>
</tr>
<tr>
<td>Sense of Acceptance</td>
<td>0.711</td>
<td>0.831</td>
</tr>
<tr>
<td>Psychological Well-being</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Relationships</td>
<td>0.709</td>
<td>0.791</td>
</tr>
<tr>
<td>Autonomy</td>
<td>0.750</td>
<td>0.819</td>
</tr>
<tr>
<td>Self-Acceptance</td>
<td>0.510</td>
<td>0.824</td>
</tr>
<tr>
<td>Environmental Mastery</td>
<td>0.746</td>
<td>0.843</td>
</tr>
<tr>
<td>Personal Growth</td>
<td>0.658</td>
<td>0.780</td>
</tr>
<tr>
<td>Purpose in Life</td>
<td>0.658</td>
<td>0.839</td>
</tr>
</tbody>
</table>
Evaluation of The Structural Model

This study employed a reflective measurement model, where the variables of emotional intelligence, social support, gratitude, and psychological well-being were evaluated reflectively. The evaluation of the measurement structure, as suggested by (Hair et al., 2019), included factors such as loading coefficients, composite reliability, Cronbach's alpha, and average variance extracted. Additionally, discriminant validity was assessed using the Fornell and Larcker criteria and the Heterotrait-Monotrait Ratio (HTMT).

As delineated in Table Four, it is clear that the indicators demonstrate loading factor values that exceed the established threshold of 0.5, thereby confirming their validity. Furthermore, the Composite Reliability (CR) values exceed the benchmark of 0.7, and the Average Variance Extracted (AVE) values consistently surpass 0.5. This solidifies the overall validation and reliability of all the items measured.

Table 5. Fornell-Larcker Criterion

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Social Support</td>
<td>0.824</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Gratitude</td>
<td>0.419</td>
<td>0.860</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Emotional Intelligence</td>
<td>0.236</td>
<td>0.290</td>
<td>0.849</td>
<td></td>
</tr>
<tr>
<td>4 Psychological Well-Being</td>
<td>0.465</td>
<td>0.637</td>
<td>0.509</td>
<td>0.676</td>
</tr>
</tbody>
</table>

Table 6. Heterotrait-Monotrait Ratio (HTMT)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Social Support</td>
<td>0.501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Gratitude</td>
<td>0.296</td>
<td>0.325</td>
<td></td>
</tr>
<tr>
<td>3 Emotional Intelligence</td>
<td>0.599</td>
<td>0.766</td>
<td>0.654</td>
</tr>
<tr>
<td>4 Psychological Well-Being</td>
<td>0.501</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Upon examination of Table 5 and 6, it is clear that the inter-construct correlation values, which include social support, gratitude, emotional intelligence, and psychological well-being, are smaller than the square root of the Average Variance Extracted (AVE). This suggests that the discriminant validity of the current research model has been effectively established. The evaluation of discriminant validity, viewed through the Heterotrait-Monotrait Ratio (HTMT) values, is known for its increased sensitivity and accuracy in identifying discriminant validity. The threshold for HTMT values, as set by Hair et al. (2019) is below 0.90. Importantly, the test results display HTMT values that meet this standard, confirming the successful achievement of discriminant validity.

Evaluation of the Inner Model

R-square values serve as a crucial instrument in demonstrating the significant impact embedded in the relationships between exogenous latent variables and endogenous latent variables. An R-square value of 0.75 signifies a strong model, whereas values of 0.50 and 0.25 represent moderate and weak models, respectively.

The results of the analysis unveil a significant portion, specifically 55%, of the variance observed in the psychological well-being variable can be ascribed to the interplay of emotional intelligence, social support, and gratitude. This percentage positions the model within the range of moderate explanatory power. Furthermore, the variance identified in the gratitude variable, which is influenced by emotional intelligence and social support, encompasses 21% of the overall variance, characterizing it within the sphere of limited explanatory capability.

Furthermore, this study delved into an examination of the f-square statistic. This metric gauges the alteration in the coefficient of determination (R-square) resulting from the inclusion or exclusion of an independent variable within the model, and subsequently, its impact on the dependent variable (Y). In alignment with established standards (Ghozali & Latan, 2015), an f-
Gratitude as a Mediator of the Relationship Between Emotional Intelligence and Social Support on Psychological Wellbeing Among People Living with Human Immunodeficiency Virus (HIV)

The coefficient value of social support against psychological well-being is 0.195 which suggests a positive association. The corresponding P value of 0.001, well below the conventional threshold of 0.05, suggests that the relationship is both positive and statistically significant. The findings imply that an increase in an individual's social support is associated with an improvement in their psychological well-being. On top of that, the coefficient value for the effect of gratitude on psychological well-being is 0.460, which indicates a positive influence and the corresponding P value of 0.000 confirms its statistical significance. Therefore, the relationship between gratitude and psychological well-being is both positive and statistically significant. Moreover, the coefficient indicating the influence of emotional intelligence on gratitude is 0.203, suggesting a positive impact. the corresponding P value is 0.002, which is below the conventional threshold of 0.05 threshold, making the relationship both positive and statistically significant. Therefore, there is a positive correlation between emotional intelligence and gratitude.

Similarly, the coefficient value for social support against gratitude is 0.330 which indicates a positive effect. The corresponding P value of 0.000 confirms its statistical

The analysis of the data reveals several relationships of varying magnitudes. The relationship between social support and gratitude has an effect size of 0.16, indicating a modest effect. The association between social support and psychological well-being has an effect size of 0.068, suggesting a slight effect. The connection between gratitude and psychological well-being is more substantial, with an effect size of 0.37, demonstrating a vast effect. The link between emotional intelligence and gratitude is relatively weak, with an effect size of 0.049, indicating a notably slight effect. Lastly, the interrelation between emotional intelligence and psychological well-being has a moderately discernible effect size of 0.218.

The findings presented in Table 7 elucidate several relationships. The coefficient for the relationship between emotional intelligence and psychological well-being is 0.371, indicating a positive impact. This is further supported by the P value of 0.000, which is below the conventional threshold of 0.05, making the relationship both positive and statistically significant. This suggests that an increase in an individual's emotional intelligence is associated with an improvement in their psychological well-being.

Table 7.

<table>
<thead>
<tr>
<th></th>
<th>Gratitude</th>
<th>Psychological Wellbeing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social support</td>
<td>0.165</td>
<td>0.068</td>
</tr>
<tr>
<td>Gratitude</td>
<td>0.370</td>
<td></td>
</tr>
<tr>
<td>Emotional Intelligence</td>
<td>0.049</td>
<td>0.218</td>
</tr>
</tbody>
</table>

Table 8. Hypothesis Result

<table>
<thead>
<tr>
<th>Direct Correlation</th>
<th>Original Sample (O)</th>
<th>t-Values</th>
<th>P-Values</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social support -&gt; Gratitude</td>
<td>0.371</td>
<td>5.569</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Gratitude -&gt; Psychological Well-Being</td>
<td>0.195</td>
<td>3.224</td>
<td>0.001</td>
<td>Significant</td>
</tr>
<tr>
<td>Gratitude -&gt; Psychological Well-Being</td>
<td>0.460</td>
<td>11.264</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Emotional intelligence -&gt; Gratitude</td>
<td>0.203</td>
<td>3.116</td>
<td>0.002</td>
<td>Significant</td>
</tr>
<tr>
<td>Emotional intelligence -&gt; Psychological Well-Being</td>
<td>0.330</td>
<td>5.864</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Social support -&gt; Gratitude -&gt; Psychological Well-Being</td>
<td>0.171</td>
<td>4.952</td>
<td>0.000</td>
<td>Significant</td>
</tr>
<tr>
<td>Emotional intelligence -&gt; Gratitude -&gt; Psychological Well-Being</td>
<td>0.093</td>
<td>2.962</td>
<td>0.003</td>
<td>Significant</td>
</tr>
</tbody>
</table>
significance, affirming a positive and statistically significant relationship between social support and gratitude. Social support coefficient against psychological wellbeing with gratitude as mediator stands at 0.171 which signifies a positive correlation. The corresponding P value of 0.000 further confirms its statistical significance, indicating that the relationship between social support and psychological well-being, mediated by gratitude, is both positive and statistically significant. Lastly, the examination of the mediating role of gratitude in the relationship between emotional intelligence and psychological well-being reveals a coefficient of 0.093, suggesting a positive influence. The P value of 0.003 further confirms its statistical significance and indicates that the relationship between emotional intelligence and psychological well-being, mediated by gratitude, is both positive and statistically significant.

Figure 1. Final PLS model with Path Coefficients

Figure 2. Alogarithm results

Discussion

The conceptual framework presented in this study aligns with empirical data regarding the psychological well-being model of PLHIV. This is evidenced by key statistical measures: a Standardized Root Mean Square Residual (SRMR) of 0.100, a Q statistic greater than 0, and a model Goodness-of-Fit (GoF) index of 0.483. The research outcomes reveal a positive and significant correlation between emotional intelligence and the psychological well-being of PLHIV individuals. This supports previous studies, which consistently highlighted a beneficial association between emotional intelligence and psychological well-being (De la Barrera et al., 2023; Fu et al., 2021; Putri, 2016; Sánchez-Álvarez et al., 2016; Shaheen & Shaheen, 2016).

This research findings are consistent with the study by Thammawijaya et al., (2019), which found that adolescents living with HIV who possessed greater emotional intelligence reported reduced stress and decreased alcohol consumption. Similarly, research conducted in Africa in communities vulnerable to HIV shows that the youngsters in the participating group indeed exhibit resilient coping behaviors, and that these behaviors are strongly associated with emotional intelligence manifestations (Ebersöhn & Maree, 2006). Research among women living with HIV also confirms that emotional intelligence is the most accurate indicator to predict level of perceived stress. In these patients, lower levels of perceived stress may result from the application of coping methods, positive self-concept, and increased emotional intelligence (Dehghan et al., 2019). PLHIV who are able to better regulate their emotions have the ability to increase their positive thinking (Widianti & Lusiani, 2023). Therefore, this study establishes the fundamental principle that increased emotional intelligence invariably leads to improved PLHIV’s well-being.

Empirical evidence in this research supports several previous studies that explain the relationship between social support and psychological or subjective well-being (Adyani et al.,
These studies suggest that social support is a determining factor influencing individuals' psychological well-being. The social support that individuals receive can reduce depression, anxiety or stress (Sami & Naveeda, 2021). Nevertheless, individuals with HIV often feel anxious about disclosing their condition to others (Taylor et al., 2007). This situation refers to ingrained cultural norms and individual life experiences. The findings of this research reinforce Taylor's explanation that culture influences an individual's acceptance of social support. This is closely related to the stigma frequently attached to PLHIV. Therefore, PLHIV often remain more closed off and struggle to form relationships with others. In the context of this study, PLHIV tend to worry about rejection when those around them become aware of their condition.

In this research trajectory, gratitude stands out as a significant factor, demonstrating a strong and statistically significant correlation with psychological well-being. This aligns with existing literature, reinforcing the widely accepted notion that increased gratitude is associated with improved psychological well-being (Brody et al., 2022; Carmen & Boţu, 2019; Nezlek et al., 2017; Utama, 2023). Lin and Yeh highlight the positive correlations between gratitude, elevated emotional states, and increased social support. Spiritual coping (including gratitude) can help people with HIV-related stress (e.g., facing death, stigma, poverty, limited healthcare) (Lin & Yeh, 2014). For that, taking sociocultural circumstances into account, spirituality might be a helpful part of trauma recovery. Furthermore, PLHIV with greater spiritual coping have a 2-4 times greater chance of survival (Kremer & Ironson, 2014). Previous research supports this research where gratitude makes a big contribution in building the psychological well-being of PLHIV and is able to act as a mediator.

Gratitude, as a positive emotion, leads to an expansion in cognitive and behavioral repertoire, thereby enhancing emotional well-being (Fredrickson & Joiner, 2002). This broadening of cognitive and behavioral scope, facilitated by the positive emotions derived from gratitude, enhances coping mechanisms and resilience. Furthermore, this expansion intensifies positive emotional experiences, strengthening individual well-being (Fredrickson, 2004b). For individuals living with HIV, cultivating gratitude emerges as an effective strategy, helping to broaden perspectives and strengthen self-acceptance, ultimately improving psychological well-being.

Most research suggests a connection between emotional intelligence and gratitude (Geng, 2018; Shi & Du, 2020). Emotional intelligence, defined as the capacity to effectively manage one's emotions and comprehend the emotions of others, is often associated with interpersonal relationships (Mangubat, 2017). Furthermore, this finding in line from Yuan's study, which suggested that gratitude could partially mediate the effect of emotional intelligence on psychological well-being and that emotional intelligence could positively predict gratitude (Geng, 2018). The pattern of relationships between the big five personality traits, gratitude, and emotional intelligence shows that gratitude and emotional intelligence correlated positively and significantly with extraversion and correlated negatively and significantly with neuroticism (Szcześniak et al., 2020). It is mean that gratitude can serve as a valuable tool for individuals facing adversity, including those living with HIV/AIDS. By fostering a sense of gratitude, PLHIV can combat social stigma, cultivate optimism, and mitigate the negative psychological effects of their condition. Gratitude enables individuals to acknowledge the aspects of their lives for which they can still be thankful, diverting their attention away from the adversity they face and promoting emotional equilibrium.

There is a direct, positive, and significant relationship between social support and gratitude. This research corroborates previous studies that suggest that an individual's level of gratitude increases with higher social support (Deichert et al., 2021b; Kong et al., 2015; Lin, 2016; Lovell & Wetherell, 2023). According to this study, individuals who receive support from their closest relationships, such as family and friends, are more likely to express gratitude. The
support received by individuals with HIV/AIDS also aids them in accepting their condition. However, providing support to people with HIV needs to consider the conceptual differences between functional, informational and emotional social support. Research conducted in China shows that emotional support has a more significant influence on the quality of life of PLHIV (Xiao et al., 2017).

This study is consistent with the majority of research that shows a positive relationship between gratitude and social support (Kong et al., 2015). Individuals who express gratitude are perceived to have a greater perception of social support (Deichert et al., 2021). This research suggests that social support can significantly correlate with psychological well-being when mediated by gratitude. This study supports previous research in this field by demonstrating that the beneficial impact of social support on psychological well-being is amplified when social support is mediated by gratitude (Deichert et al., 2021). In the context of people living with HIV in this study, social support which leads to acceptance of the HIV condition within the family, friendships and relationships with significant others is an important element to increase a sense of gratitude which then has an impact on psychological well-being.

Gratitude amplifies the positive facets of social relationships, thereby augmenting the resources available to individuals and subsequently improving their psychological well-being (Algoe & Stanton, 2012; Deichert et al., 2021b; Fredrickson, 2004). Moreover, individuals with a stronger connection to God can attribute a more positive meaning to disasters and losses (Taufik & Ibrahim, 2020). This study lends support to Fredrickson's proposition that gratitude can expand an individual's thought processes and behaviors, thereby enhancing their psychological well-being. As such, this research bolsters the premises of Fredrickson's Broaden and Build Theory, which elucidates positive emotions. Research indicates that gratitude can elicit positive emotions such as happiness and optimism (Emmons & Mishra, 2011).

In terms of social support, the Broaden and Build Theory can elucidate how gratitude serves as a mediator between social support and psychological well-being (Fredrickson, 2004). Social support, gratitude, and psychological well-being are intricately interconnected. The social support received by individuals can heighten their sense of gratitude, which in turn triggers positive emotions, expands their thought processes and behaviors, and enhances their psychological well-being. Furthermore, support from family members contributes to building individuals' resilience in confronting life's challenges (Taufik et al., 2022).

When individuals perceive support from others, they can express gratitude for the presence of these individuals in their lives. Social support can stimulate feelings of gratitude and appreciation for those around them, thereby enhancing both gratitude and psychological well-being (Algoe et al., 2010). Moreover, social support and gratitude have implications not only for individual psychological well-being but also for social well-being and interpersonal relationships. Both social support and a sense of gratitude can fortify social bonds, enhance the quality of social interactions, and foster a positive and healthy social environment for individuals and the broader society. Gratitude, in addition to its direct relationship with social support, can also positively influence social support by enhancing certain facets of relationships. For instance, gratitude has been linked with an increased motivation to assist others (Peng et al., 2018).

Implications

This research illuminates gratitude as a potent buffer against adverse circumstances, positioning it as a protective factor for individuals. By emphasizing gratitude's mediating role in psychological well-being, the study enriches theoretical understandings of how positive emotions, such as gratitude, can mitigate the impact of challenging situations on individuals' mental health. Furthermore, the integration of gratitude into subjective well-being constructs.
underscores its significance in enhancing overall psychological well-being, contributing valuable insights to the theoretical framework of subjective well-being.

The study's practical implications suggest that individuals, especially those living with HIV/AIDS, can bolster their psychological well-being by incorporating gratitude into their daily lives. By acknowledging personal accomplishments and expressing gratitude towards their social environment, individuals can cultivate a more positive outlook and resilience in the face of adversity. Moreover, the findings pave the way for designing targeted interventions tailored to PLHIV populations, integrating gratitude-based training modules. These interventions offer tangible tools and techniques for PLHIV to nurture gratitude and enhance their overall well-being, providing practical pathways for personal growth and resilience.

Limitations and Suggestions for Further Research

However, this study does possess certain methodological constraints. Specifically, the research tool utilized in this study was not intrinsically developed by the investigators. This discrepancy could potentially introduce a divergence in respondent characteristics, as the measurement tool was designed for a distinct group—Individuals living with HIV. Future research efforts should aim to create measurement tools that align with the salient characteristics of the PLHIV demographic. Moreover, subsequent research should strive to include a more diverse participant pool encompassing various ethnic, racial, and religious orientations. This inclusive participant stratification can provide a more holistic range of findings. Additionally, there is relevance in employing experimental designs in future research to determine the effectiveness of gratitude-based interventions in enhancing the psychological well-being of PLHIV beneficiaries.

CONCLUSIONS

Drawing from existing empirical evidence, it is appropriate to deduce that gratitude serves as a key mediating factor, establishing a crucial link between the breadth of social support and the domain of psychological well-being. The mobilization of social support can foster the development of gratitude, which is subsequently associated with the enhancement of psychological well-being. This highlights the importance of individuals nurturing and maintaining strong social connections while diligently practicing the principles of gratitude. In terms of interventions, advocating for and fostering gratitude may effectively serve as a fruitful strategy for improving clients’ psychological well-being.

AUTHOR CONTRIBUTION STATEMENT

DLH led the research from the early stage to the end of the research and was responsible for designing and writing the overall manuscript. EP focusing on the development of thoughts, research objectives, methodology, findings, and review of the final manuscript. MR analyzing instruments of the research, the data and translating the manuscript. NH contribution is in data collection, data management, and data analysis.

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