

Predictors of Psychological Well-Being Among Older Adults in Urban Areas: Closeness With Children, Loneliness, and Independence

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Abstract

The phenomenon of population aging in Indonesia is on the rise, especially in urban areas, posing challenges to the psychological well-being of the elderly. One factor that can enhance older adults' psychological well-being is the closeness of their relationship with their children. This study employed a cross-sectional quantitative research design and hypothesized that each dimension of relationship closeness affects psychological well-being through loneliness, and that independence buffers the impact of loneliness on well-being. Data were collected from 242 older adults living with their children in urban areas using incidental sampling and analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that among the three dimensions of closeness, the strength dimension exerted the strongest influence on psychological well-being, both directly ($\beta = -0.257, p < .001$) and indirectly through loneliness ($\beta = -0.064, p < .01$). Additionally, the interaction between loneliness and independence was found to significantly affect the psychological well-being of older adults ($\beta = 0.090, p < .05$), which means independence as a protective moderator. These findings suggest that older adults individuals' ability to maintain independence can buffer the negative impact of loneliness on their psychological well-being.

Abstrak

Fenomena penuaan penduduk di Indonesia semakin meningkat, terutama di wilayah perkotaan, yang menimbulkan tantangan terkait kesejahteraan psikologis lansia. Salah satu faktor yang dapat meningkatkan kesejahteraan psikologis lansia adalah kedekatan hubungannya dengan anak. Hipotesis penelitian ini adalah setiap dimensi kedekatan hubungan memengaruhi kesejahteraan psikologis melalui kesepian sebagai mediator, dan kemandirian memoderasi hubungan antara kesepian dan kesejahteraan psikologis. Data diperoleh dari 242 lansia yang tinggal bersama anak di wilayah perkotaan dengan menggunakan teknik *incidental sampling* dan dianalisis menggunakan metode Partial Least Squares Structural Equation Modeling (PLS-SEM). Hasil penelitian menunjukkan bahwa dari ketiga dimensi kedekatan dengan anak, dimensi kekuatan memberikan pengaruh lebih kuat terhadap kesejahteraan psikologis lansia, baik secara langsung ($\beta = -0,257, p < 0,001$) maupun secara tidak langsung melalui kesepian ($\beta = -0,064, p < 0,01$). Selain itu, interaksi antara kesepian dan kemandirian juga ditemukan berpengaruh terhadap kesejahteraan psikologis lansia ($\beta = 0,090, p < 0,05$), yang berarti kemandirian sebagai moderator yang berfungsi melindungi. Hal ini menunjukkan bahwa kemampuan lansia untuk tetap mandiri dapat mengurangi dampak negatif dari kesepian terhadap kesejahteraan psikologis mereka.



INTRODUCTION

As the older adult population grows worldwide, population aging has become a global issue. Data from Statistics Indonesia (*Badan Pusat Statistik*, 2023) show that the share of elderly people in Indonesia increased by at least 4% between 2010 and 2022, reaching 11.75% of the total population. Since 2021, Indonesia has officially entered a phase of rapid aging, with the proportion of elderly people increasing. The rapid growth of the elderly population worldwide has increased attention on their mental health (Yang et al., 2021). *Survei Kesehatan Indonesia* (Indonesian Health Survei; SKI) 2023, conducted by the Ministry of Health of the Republic of Indonesia (*Kementerian Kesehatan Republik Indonesia*, 2023), shows that around 369,660 people in Indonesia living in urban areas experience mental health problems, more than those living in rural areas. Meanwhile, the percentage of elderly people in urban areas of Indonesia constitutes the largest population, at 55.53% (*Badan Pusat Statistik*, 2023).

Older adults in urban areas, who outnumber those in rural areas, often lack intense social interaction. This is due to the fast-paced dynamics of life in large cities (Kandt & Batty, 2021). Alongside reduced social engagement, aging is accompanied by physical and psychological changes, including declining socioeconomic status and shrinking social networks (Khalid et al., 2021). Local studies also indicate a high prevalence of psychological problems among older Indonesian adults, particularly those living in urban areas, with levels comparable to findings reported in Western populations (Hanum et al., 2018). This highlights that psychological well-being concerns among urban older adults in Indonesia are substantial and align with global patterns, underscoring the urgency of examining psychological well-being within this demographic. Those who are unprepared to cope with the changes that occur in old age may increase the risk of psychological problems, which ultimately impact their psychological well-being (Erika & Kusmawati, 2024).

Unlike adolescents who prioritize romantic relationships over family ties (Gudykunst & Nishida, 1993), older adults in urban areas with limited external interaction depend more on close relationships with their children to sustain psychological well-being. As physical and environmental conditions decline with age, older adults increasingly rely on their children for care and support (Reis et al., 2000), highlighting the essential role of parent–child relationships in old age. This closeness can compensate for limited social interaction outside the home by providing emotional support, comfort, and a sense of being valued, with direct contact with children being especially beneficial for older adults' psychological well-being compared to digital contact (Skałacka & Pajestka, 2021). Berscheid et al. (1989) define relationship closeness in line with Kelley's Interdependence Theory, which refers to the high level of mutual dependence between relationship partners as evidenced in daily activities. This closeness in the relationship is examined across three dimensions: frequency, diversity, and strength.

The first dimension of closeness in relationships is frequency (Berscheid et al., 1989), which refers to the amount of time individuals spend interacting directly with others. The more time spent together, the more opportunities older adults and children have to influence each other's thoughts and behaviors. The findings of Finlay et al. (2021) report that spending time with children and remaining socially connected can improve the well-being of older adults. The next dimension is diversity, which refers to the specific activities that individuals engage in with others, such as doing laundry, eating, and going for walks. Findings from Liu et al. (2022) show that individuals will enjoy engaging in daily activities with individuals with whom they have strong bonds because this creates full attention in the relationship, which then contributes positively to the individual's psychological well-being. The final dimension of relationship closeness is strength, which refers to the extent to which individ-

uals influence each other's behavior, decisions, plans, and daily goals. In line with the research by Steele et al. (2024), which revealed that the elderly, especially those with greater needs, will receive practical and financial assistance from their children, and vice versa.

However, previous research has shown inconsistent results regarding the effect of closeness to children on the psychological well-being of older adults. Studies that examined each dimension separately found that frequency of contact was negatively, though insignificantly, associated with well-being (Firdausi & Hanum, 2019), while other studies that measured closeness as a single construct reported positive effects on well-being (Di Malta et al., 2024; Sapmaz, 2023). These inconsistencies suggest that treating relationship closeness as a unidimensional construct may obscure the distinct contributions of its components. The relational perspective emphasizes that the quantity of interaction does not necessarily reflect its quality; with age, shared activities tend to decrease while emotionally meaningful conversations increase, indicating that different aspects of closeness may operate in different ways. Jackson-Dwyer (2013) explains that the more frequent, diverse, and strong the impact of individuals' thoughts, feelings, and behaviors on one another, and the longer the relationship lasts, the closer the relationship becomes. Measuring these dimensions as a single score fails to capture this variability. Therefore, research that analyzes each dimension of relationship closeness separately is necessary to clarify its specific effects on the psychological well-being of older adults.

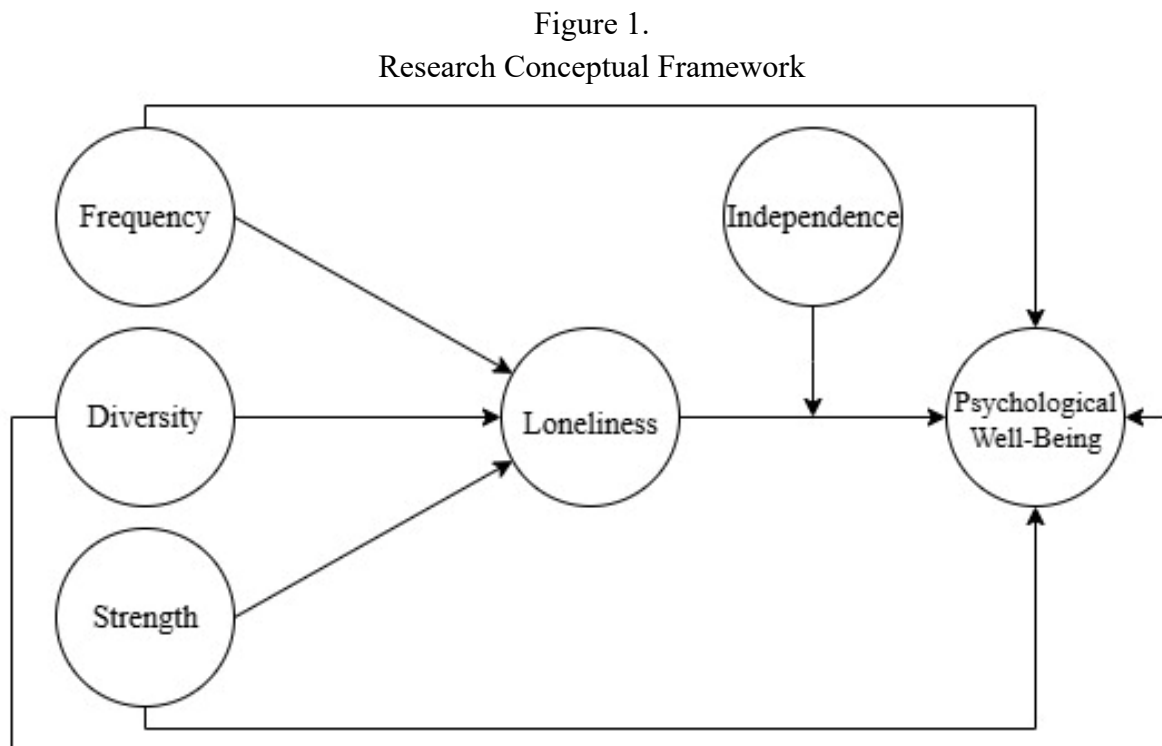
On the other hand, the World Health Organization (2023) notes that one of the main problems older adults face, due to limited social interaction and declining support from social networks, is loneliness. Loneliness tends to be stronger among those who feel their children have not fulfilled expected responsibilities or unmet needs (Bhagchandani, 2017; Lim & Kua, 2011). Moreover, high-quality parent–child relationships are linked to greater happiness and lower depression, whereas consistently low-quality ties predict poorer well-being (Ward, 2008). Other research findings reveal that older adults tend to view their relationships with their children as closer, and that loving relationships with children are the main source of support against loneliness (Long & Martin, 2000). Loneliness further mediates the link between social support/barriers and overall well-being (Chen & Feeley, 2014) and acts as a risk factor for further social withdrawal in older adults (Dural et al., 2022).

Loneliness is an unpleasant experience that occurs when a person's social network is significantly lacking in quantity or quality (Perlman & Peplau, 1998). A lack of social interaction and a shortage of close or friendly relationships with others can also make people feel lonely (Bevinn, 2011). Older adults tend to have smaller social networks and fewer contacts, making them more vulnerable to loneliness (Ejiri et al., 2021). Older adults who are lonely generally exhibit characteristics such as having lost a spouse or being separated from family, having less deep emotional relationships, being psychologically vulnerable, and living in less cohesive urban environments (Anastasia & Baba, 2024; Ejiri et al., 2021). On the other hand, it found that loneliness is a strong stressor in the development of depressive symptoms (As et al., 2022).

Another factor that can affect the psychological well-being of older adults and pose a challenge in old age is their ability to care for themselves independently. Older adults who are able to maintain their independence, such as managing daily activities and making important life decisions, tend to feel more confident and have greater control over their lives, which, in turn, enhances their psychological well-being (Toledano-González et al., 2019). In line with Handajani et al. (2024), showing that independence in performing daily activities or activities of daily living (ADL) influences the psychological well-being of the elderly. Independence in ADLs means performing them without supervision, guidance, or active personal assistance (Katz et al., 1963). Recent research indicates that nearly three-quarters of older adults can independently perform basic daily activities, nearly half can

independently perform more complex daily activities, and over half rely on assistance for daily activities (Eid et al., 2024).

Thus, this study aims to determine the effect of each dimension of closeness in relationships with children on the psychological well-being of the elderly, with loneliness as a mediator and independence as a moderator of the relationship between loneliness and the psychological well-being of urban older adults. Figure 1 shows the conceptual framework of this research.



Specifically, the major hypothesis of this study is that the theoretical model, consisting of the direct effects of the frequency, diversity, and strength dimensions of relationship closeness with children on psychological well-being, with loneliness as a mediator and independence as a moderator between loneliness and psychological well-being among urban older adults, fits the data. The minor hypotheses of this study are as follows.

1. The frequency dimension of relationship closeness with children increases the psychological well-being of urban older adults (H_{1a}).
2. The diversity dimension of relationship closeness with children increases the psychological well-being of urban older adults (H_{1b}).
3. The strength dimension of relationship closeness with children increases the psychological well-being of urban older adults (H_{1c}).
4. Loneliness decreases the psychological well-being of urban older adults (H_2).
5. The effect of the frequency dimension of relationship closeness with children on the psychological well-being of urban older adults is mediated by a reduction in loneliness (H_{3a}).
6. The effect of the diversity dimension of relationship closeness with children on the psychological well-being of urban older adults is mediated by a reduction in loneliness (H_{3b}).
7. The effect of the strength dimension of relationship closeness with children on the psychological well-being of urban older adults is mediated by a reduction in loneliness (H_{3c}).

8. The effect of loneliness on the psychological well-being of older adults is moderated by independence among urban older adults (H_4).

METHODS

This study is a cross-sectional quantitative research design. The study aims to investigate the relationship between closeness to children and psychological well-being, with loneliness as a mediator and independence as a moderator in the relationship between loneliness and psychological well-being among urban elderly individuals. The characteristics of the study participants include being 60 years of age or older, residing in the Jabodetabek region, and having children. The decision to focus on co-residing older adults is supported by previous findings showing that individuals who live together interact frequently, and the more time they spend with one another, the greater the opportunity for mutual influence on thoughts and behavior (Berscheid et al., 1989). Close family relationships also shape comfort in co-residence (Firdausi & Hanum, 2019). In urban settings, older adults tend to prefer living with their children, as co-residence strengthens emotional bonds with them (Zimmer & Dayton, 2005).

With regard to the sampling method, Sarstedt et al. (2021) do not emphasize the use of a specific sampling technique for complex structural models, but instead highlight the importance of an adequate sample size. For complex models, especially in PLS-SEM, the recommended minimum sample size is at least ten times the number of indicators or the number of independent variables in the most complex regression in the model. Therefore, although this study used incidental sampling, the final sample size met the minimum requirements to ensure stable and reliable model estimation. PLS-SEM was employed in this study because the proposed model is relatively complex, involving multiple latent constructs, mediation, and moderation paths. PLS-SEM is particularly suitable for complex structural models, as it allows all hypothesized relationships to be tested simultaneously within a single analytical procedure, offering more efficient estimation and greater flexibility than CB-SEM (Hair et al., 2019). Every respondent who agreed to participate in the survey, either online or offline, received an incentive in the form of an e-wallet or a souvenir. This study has been approved by the Research Ethics Committee under approval letter No. 032/FPsi.Komite Etik/PDP.04.00/2025.

The variables in this study were measured using four questionnaires adapted into Indonesian. Psychological Well-Being Scale (Firdausi & Hanum, 2019) to measure psychological well-being, operationalizing it as a positive evaluation of one's own life and functioning. The scale consists of 18 items, rated on a 6-point Likert scale (1 = *strongly disagree* to 6 = *strongly agree*). Higher scores indicate higher psychological well-being, and the scale showed a Cronbach's alpha of .778 in this study. Loneliness was assessed using the UCLA Loneliness Scale (Fauziyyah & Ampuni, 2018), which defines loneliness as a subjective feeling of social isolation and a lack of sufficient emotional connection. The scale contains 20 items rated on a 4-point scale (1 = *never* to 4 = *always*), with higher total scores indicating greater loneliness. The instrument demonstrated good internal consistency, with a Cronbach's alpha of .886.

Independence was measured using the Barthel Index of Activities of Daily Living (*Kementerian Kesehatan Republik Indonesia, 2023*), which assesses functional independence in performing basic activities of daily living, such as bathing, dressing, toileting, mobility, and eating. It consists of 10 items, each scored on a weighted categorical scale (0–15 per item, depending on the activity), with higher scores indicating greater independence. The Cronbach's alpha in this study was .819. Relationship closeness with the child was measured using the Relationship Closeness Inventory (Berscheid et al., 1989), which assesses a high level of interdependence between relationship partners, as evidenced in daily activities. The frequency dimension comprises three items that assess how often respondents

engage in various interactions with their child and has a Cronbach's alpha of .744. The diversity dimension includes 38 items representing different types of shared activities, with a Cronbach's alpha of .848. Respondents indicate which activities they typically engage in with their child, and the total score is obtained by summing all selected activities. The strength dimension consists of 34 items measured using a 6-point Likert scale (1 = *strongly disagree* to 6 = *strongly agree*) and has a Cronbach's alpha of .893. The score for this dimension is calculated by summing the responses to all items, with higher scores indicating greater perceived closeness in the relationship.

Meanwhile, the data analysis employed PLS-SEM (Sarstedt et al., 2021), which comprises two stages: measurement model evaluation and structural model evaluation. The results of the measurement model evaluation show that there are six items of psychological well-being ($\rho_c = .830$, AVE = .456, factor loadings = .467–.779), six items of independence ($\rho_c = .865$, AVE = .519, factor loadings = .598–.790), five items of loneliness ($\rho_c = .838$, AVE = .511, factor loadings = .662–.799), three items of frequency dimension ($\rho_c = .485$, AVE = .368, factor loadings = .100–.897), five items of diversity dimension ($\rho_c = .817$, AVE = .390, factor loadings = .648–.708), and six items of strength dimension ($\rho_c = .867$, AVE = .522, factor loadings = .653–.808). Two constructs did not meet the AVE criteria: the diversity and frequency dimensions. Nevertheless, several previous studies have reported that AVE values do not always meet the convergent validity threshold and instead rely solely on factor loadings, which must exceed .400 (Cheung et al., 2023).

The authors decided to retain all five items in the diversity dimension because the ρ_c value for assessing internal consistency reliability continued to decrease and no longer met acceptable standards when items were eliminated one by one. Sarstedt et al. (2021) also recommend considering the ρ_c value when item elimination based on AVE leads to further declines in reliability. The frequency dimension's failure to meet AVE, factor loadings, and internal reliability criteria is also consistent with Berscheid et al. (1989), who stated that the three items measuring the duration of time spent with a partner are expected to demonstrate low internal consistency. This is because individuals who spend a great deal of time with their partner in the morning do not necessarily spend the same amount of time together in the afternoon or evening. What matters is the total time spent together and the opportunities this creates for mutual influence. In line with this conceptual reasoning, Berscheid et al. (1989) also retained these items in their own measurement model despite their low psychometric indicators. Finally, the four stages of structural model evaluation are model fit testing (GoF > .100 and SRMR < .080), collinearity testing (VIF < 5), significance testing, and model explanatory power testing, all of which will be used to analyze the data by using SmartPLS.

RESULTS

The respondents participating in this study were elderly people aged 60 years or older who lived with their children in Greater Jakarta. A total of 189 respondents completed the research questionnaire online, and 150 completed it through offline data collection. Of the 339 respondents, the researchers excluded 48 who did not live with their children, 12 who were under 60 years old, and 37 who did not complete the questionnaire. Ultimately, the data analysed in this study were from 242 respondents. Table 1 shows the demographic data of respondents.

Table 1.
Demographic Data of Respondents

Characteristic	<i>n</i>	%
Age (in years)	-	-
Young elderly (60–69)	176	72.7
Middle elderly (70–79)	55	22.7
Old elderly (> 80)	11	4.5
Residence	-	-
Jakarta	100	41.3
Bogor	46	19.0
Depok	25	10.3
Tangerang	47	19.4
Bekasi	24	9.9
Gender	-	-
Men	54	22.3
Women	188	77.7
Education	-	-
Elementary school/equivalent	27	11.2
Junior high school/equivalent	40	16.5
Senior high school/equivalent	102	42.1
Diploma	17	7.0
Bachelor’s degree	40	16.5
Master’s degree	11	4.5
Doctorate degree	5	2.1
Marital status	-	-
Married	126	63
Divorced	19	9.5
Widowed	55	27.5
Family members living together	-	-
Children only	54	22.3
Children, husband/wife	51	21.1
Children, son/daughter-in-law	9	3.7
Children, grandchildren	22	9.1
Children, husband/wife, and son/daughter-in-law	7	2.9
Children, husband/wife, and grandchildren	5	2.1
Children, son/daughter-in-law, and grandchildren	43	17.8
Children, husband/wife, son/daughter-in-law, and grandchildren	35	14.5
Children and others (siblings-in-law, nieces/nephews, assistants)	16	6.6

To evaluate the major hypothesis, the overall model fit was first assessed. The model was declared fit (GoF = .350, SRMR = .077), indicating that the proposed structural model adequately represented the observed data. Based on this acceptable level of model fit, the major hypothesis was supported. Additionally, all relationships among variables met the collinearity test criteria (VIF < 5), as shown

in Table 2. It indicates that there were no collinearity issues in the model. Therefore, the contribution of each variable can be considered independent in explaining psychological well-being

Table 2.
Collinearity Testing

Variable Relationship	VIF	Description
Loneliness → Psychological Well-Being	1.288	No Multicollinearity
Diversity → Psychological Well-Being	1.209	No Multicollinearity
Frequency → Psychological Well-Being	1.035	No Multicollinearity
Strength → Psychological Well-Being	1.125	No Multicollinearity
Independence → Psychological Well-Being	1.588	No Multicollinearity
Diversity → Loneliness	1.011	No Multicollinearity
Frequency → Loneliness	1.002	No Multicollinearity
Strength → Loneliness	1.013	No Multicollinearity
Independence x Loneliness → Psychological Well-Being	1.287	No Multicollinearity

Afterward, a significance test was conducted to test the eight research hypotheses. The significance test results are shown in Table 3.

Table 3.
Hypothesis Testing

Hypothesis	Variable Relationship	Path Coefficient	T-statistic	p-value
H_{1a}	Frequency → Psychological Well-being	-0.052	0.638	.523
H_{1b}	Diversity → Psychological Well-Being	0.063	0.931	.352
H_{1c}	Strength → Psychological Well-Being	-0.257	3.668	.000
	Frequency → Loneliness	0.084	0.823	.411
	Diversity → Loneliness	-0.346	6.290	.000
	Strength → Loneliness	0.207	3.274	.001
H_2	Loneliness → Psychological Well-Being	-0.311	5.708	.000
H_{3a}	Frequency → Loneliness → Psychological Well-Being	-0.026	0.803	.422
H_{3b}	Diversity → Loneliness → Psychological Well-Being	0.108	4.132	.000
H_{3c}	Strength → Loneliness → Psychological Well-Being	-0.064	2.996	.003
H_4	Independence x Loneliness → Psychological Well-Being	0.090	2.010	.044

Based on Table 3, five of the eight minor hypotheses proposed in the research model were confirmed ($p < .05$), namely H_{1c} , H_2 , H_{3b} , H_{3c} , and H_4 . First, H_{1c} was supported, showing a negative effect of the strength dimension on psychological well-being. This suggests that higher scores on the strength dimension are associated with lower psychological well-being. H_2 was also supported, demonstrating that loneliness significantly and negatively predicts psychological well-being. This reaf-

firms that greater loneliness undermines the emotional and social aspects of well-being among older adults.

The mediation hypotheses, H_{3b} and H_{3c} , were also supported but with different directional patterns. H_{3b} exhibited a positive indirect effect, indicating that greater diversity in relationship closeness helps reduce loneliness, which in turn enhances psychological well-being. H_{3c} showed a negative indirect effect, suggesting that lower perceived relationship strength or closeness is associated with greater loneliness, which in turn decreases psychological well-being. Finally, H_4 was supported, showing that independence moderates the relationship between loneliness and psychological well-being. This indicates that the negative effect of loneliness on well-being is weaker among older adults with higher levels of independence. Additionally, Figure 2 presents the significance test results for the structural model, illustrating the path coefficients and their corresponding p -values.

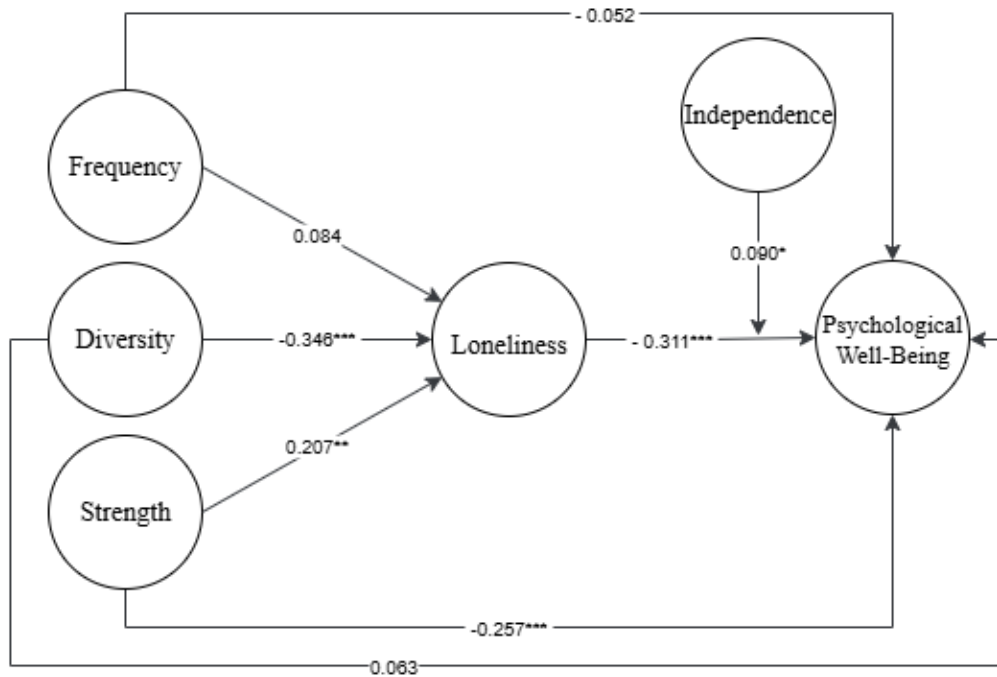


Figure 2.
Significance Test Results

Specifically, the simple slopes analysis (see Figure 3) shows that loneliness negatively predicts psychological well-being, but this effect is weaker among individuals with greater independence. At low levels of independence, increases in loneliness are associated with a steeper decline in psychological well-being, whereas at high levels of independence, the negative association becomes less pronounced. This suggests that independence serves as a protective or buffering moderator.

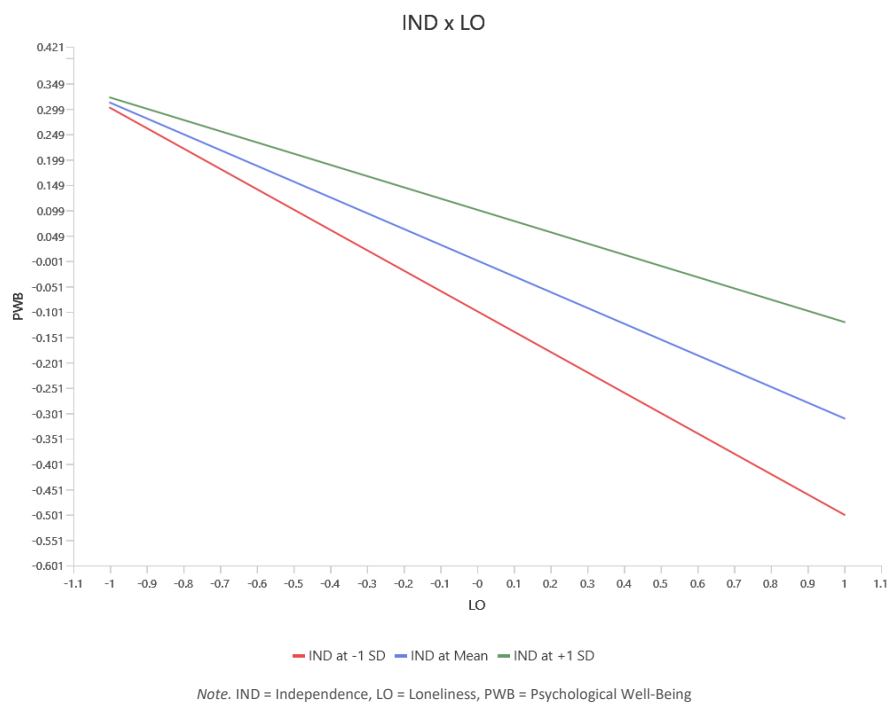


Figure 3.
Simple Slope Plot

In addition to simple slope analysis, the coefficient of determination (R^2) was evaluated to assess the model's ability to explain the variables. The classification of the coefficient of determination is small for .25, moderate for .50, and large for .75 (Sarstedt et al., 2021). R^2 in PLS-SEM is used to assess the predictive quality of the model for endogenous variables. A higher R^2 value indicates that the model is better at explaining the variance in the variable. The following are the results of the coefficient of determination test, as shown in Table 4.

Table 4.
Coefficient of Determination Testing

Variable	R^2	Description
Loneliness	.185	Small
Psychological Well-Being	.322	Moderate

Based on the table, loneliness has an R^2 of .185, indicating that 18.5% of the variance in loneliness is explained by its exogenous variables, namely the three dimensions of the relationship closeness variable. The remaining 81.5% is explained by other factors not included in the model. For the psychological well-being variable, an R^2 of .322 means that 32.2% of the variance in psychological well-being can be explained by its exogenous variables, namely loneliness and the three dimensions of relationship closeness.

DISCUSSION

The results of the analysis show that the tested model fits the data well. The fit of this model supports the proposed theoretical structure and indicates that the relationships among constructs are consistent with empirical data on urban elderly people. The goodness-of-fit (GoF) values are in the high category, and the SRMR values meet the model-fit criteria, indicating good overall model quality in both the measurement and structural models. This model fit provides strong support for the proposed

theoretical structure and reinforces the validity of the constructs and relationships between variables established in the model. This means that the assumed relationships among closeness to children, loneliness, independence, and psychological well-being among the elderly are consistent with empirical data from elderly populations in urban areas.

Furthermore, the study results indicate that the strength dimension of closeness to children has a significant negative effect on psychological well-being, whereas the frequency and diversity dimensions have no significant effect. This finding differs from the research by Finlay et al. (2021), which suggests that engaging in outdoor activities with others, such as walking with children, can promote improved well-being among the elderly. However, the findings of this study align with Thibaut and Kelley's Interdependence Theory, which posits that satisfaction in a relationship depends not only on what is received (rewards) and what is given (costs), but also on comparisons of rewards and costs with other relationships (Jackson-Dwyer, 2013). This means that if the rewards in their relationship with their children are greater than those in other relationships they compare it to, then the elderly will feel more satisfied.

In other words, this theory also emphasizes the comparison level with alternative relationships (the comparison level for alternatives), meaning that involvement in one relationship can limit comparisons with other relationships. It suggests that if children spend more time with others, it will inevitably reduce the time available to their parents, thereby preventing the dimensions of frequency and diversity from contributing significantly to the psychological well-being of the elderly. The older adults in this study may also choose alternatives to the parent-child relationship that they consider more beneficial, such as spending time with friends or neighbors or seeking new social networks rather than spending time with their children.

Unlike previous studies, Firdausi and Hanum (2019) found that none of the dimensions of closeness with children significantly affected older adults' psychological well-being, although a negative relationship was observed between the frequency dimension and psychological well-being. However, in this study, the interpretation of results for the frequency and diversity dimensions should be approached with caution, given the poor construct validity observed in the measurement model. Several indicators within these dimensions may not have adequately captured the intended conceptual meaning of contact frequency or interaction variety. For instance, high frequency of contact does not necessarily reflect emotional closeness if interactions are obligatory or conflictual. Similarly, diversity of shared activities might not indicate a meaningful connection when activities are routine or lack emotional reciprocity. These measurement-precision issues could have attenuated the true relationships between these dimensions and psychological well-being.

The findings of this study also show that the greater the mutual influence between parents and children, the lower their psychological well-being. In general, the negative relationship between the strength dimension and psychological well-being among older adults may be linked to the quality of intergenerational relationships. This aligns with Sutor et al. (2022), who explain that close intergenerational relationships characterized by high levels of contact and mutual support positively influence the well-being of older adults, while strained intergenerational relationships marked by issues with adult children or disregard for the values and autonomy of older adult parents negatively impact the psychological well-being of older adults. Autonomy itself is one aspect of psychological well-being that reflects an individual's ability to make decisions about their own life (Ryff, 1995). Similarly, Wang et al. (2024) found that children who support their elderly parents do indeed contribute significantly to their physical health, but negatively to the psychological well-being of the elderly themselves.

Of the three dimensions of closeness in relationships with children, strength is the most influential for psychological well-being. This dimension influences psychological well-being in two ways: directly and through loneliness. Both pathways yield the same result: the greater the influence of children on older adults' lives, the lower their psychological well-being. This means that there is a partial mediating effect of loneliness on the indirect relationship between the strength dimension and psychological well-being. Consistent with Russel's (1996) view, the perceived quality of interpersonal relationships is more important for assessing loneliness than the quantity or frequency of contact with friends. Supporting this interpretation, research in Indonesia (Almira et al., 2019) found that negative qualities in parent-child relationships, such as intrusiveness, neglect, and rejection, were significantly associated with lower psychological well-being among older adults.

The positive relationship between the strength dimension and loneliness indicates that the greater the influence older adults feel from their children in their daily lives, the greater the likelihood of experiencing loneliness. This finding suggests that when children are perceived as interfering too much in their parents' personal affairs, as reflected in the strength dimension items and supported by respondents' comments, older adults may feel a reduced sense of control over their own lives. It is consistent with Firdausi and Hanum (2019), who observed that children's excessive attention can make the elderly feel powerless and unable to manage their own lives. Recent research shows that older adults who can decide for themselves what they want to do perceive moments of loneliness as less negative than younger adults do (Nikitin et al., 2022). When older adults are given the space to continue fulfilling their own roles and responsibilities, such as managing finances, choosing daily activities, or arranging meal schedules, they tend to feel more useful, valued, and less emotionally isolated. Ultimately, high levels of loneliness are associated with decreased psychological well-being, consistent with previous findings (Cicek, 2021; Lyyra et al., 2021; Yildirim et al., 2024; Yung et al., 2023).

The next finding of this study is that loneliness negatively affects the psychological well-being of urban older adults. In other words, older adults who feel lonely tend to have lower levels of psychological well-being. This is consistent with previous studies showing that loneliness significantly negatively impacts the psychological well-being of older adults (Hapsari & Yek, 2022; Satorres et al., 2024; Suprayogi & Hamidah, 2024). This study also revealed the role of loneliness as a mediator in fully mediating the relationship between diversity in closeness with children and psychological well-being. The results of Fitriana et al.'s (2021) study indicate that physical activities, such as exercise, family-based recreational activities, or social gatherings, help reduce feelings of loneliness among the elderly. Moreover, physical and social participation have been shown to correlate significantly with quality of life (Indrawati et al., 2023). Ultimately, emotional support in the form of empathy, practical assistance, and emotional understanding is foundational to good psychological well-being (Morelli et al., 2015). Yet, it is important to recognize that measuring the diversity dimension may suffer from limited construct validity, as the indicators might not fully capture the theoretical essence of interaction variety. Consequently, the mediating relationship found in this study should be interpreted with caution, as the lack of validity may have influenced the strength or direction of the association.

Finally, the strength of loneliness, which is negatively associated with psychological well-being, varies across levels of independence. A simple slope plot shows the steepest negative slope, suggesting that for individuals with lower independence, increases in loneliness are strongly associated with declines in psychological well-being, and vice versa. For individuals with high independence, the slope is less steep. It indicates that older adults who feel lonely can maintain good psychological well-being if they can take care of themselves independently. These findings align with Chen et al. (2021),

who found that living close to children is beneficial for urban elderly individuals, women, and those who have difficulty performing daily activities independently. Additionally, a literature review study also indicates a significant relationship between independence and the negative impact on psychological well-being, specifically depression among the elderly, particularly elderly women, those with low education levels, and poor health (Hartanti et al., 2022). Thus, independence functions as a protective moderator, mitigating the detrimental effect of loneliness on psychological well-being.

CONCLUSION

Based on the analysis of the research results, the proposed theoretical model is consistent with the empirical data. There is a negative influence on the dimension of strength in closeness to children on the psychological well-being of urban older adults, there is a negative influence on loneliness on the psychological well-being of urban older adults, there is an effect of loneliness as a mediator on the relationship between the diversity and strength dimensions in closeness with children and the psychological well-being of urban elderly individuals, and there is an effect of independence as a moderator on the relationship between loneliness and the psychological well-being of urban elderly individuals. Nevertheless, these findings should be interpreted with caution due to several methodological limitations. The dimensions of frequency and diversity demonstrated weak construct validity, which may have affected the robustness of the observed relationships. In addition, the cross-sectional design restricts the ability to infer causal relationships between variables. Future research employing longitudinal or mixed-method designs and improved measurement models is recommended to confirm and expand these findings.

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