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When Friendship Matters: The Role of Peer Relationship Quality in Predicting Loneliness among Generation Z

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ABSTRACT

The present study examined the role of peer relationship quality in predicting loneliness among Generation Z. A quantitative approach with a cross-sectional design was employed. A total of 155 individuals aged 16–22 years in Indonesia were recruited using purposive sampling. Data were collected through an online survey using the Friendship Quality Scale (FQS) to assess peer relationship quality and the UCLA Loneliness Scale Version 3 to measure loneliness. The results indicated that peer relationship quality significantly predicted loneliness among Generation Z, demonstrating a negative association ($\beta = -0.695$, $p < .001$). Furthermore, peer relationship quality accounted for 61.1% of the variance in loneliness ($R^2 = .611$, $f^2 = 1.57$). These findings suggest that individuals who perceive their peer relationships as higher in quality tend to experience lower levels of loneliness. The importance of developing psychosocial interventions aimed at improving peer relationship quality is emphasized by the findings from a practical perspective. Future research is required to examine other contributing factors such as family support and mental health conditions to further understand loneliness among Generation Z.

Key words: *peer relationship quality, loneliness, generation Z*

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1. INTRODUCTION

Peer relationships constitute a central developmental context during adolescence and early adulthood, a period characterized by increasing autonomy from family and a growing reliance on peer interactions. At this stage, peers function not only as sources of companionship but also as key agents of socio-emotional development, contributing to identity formation, emotional regulation, and interpersonal competence (Bukowski et al., 1994; Miething et al., 2016). Within educational and broader social environments, peer relationships provide opportunities for individuals to experience acceptance, validation, and a sense of belonging, which constitute essential psychological needs. Consequently, the quality of peer relationships has been consistently associated with variations in psychological well-being (Alsarrani et al., 2022).

Despite their importance, individuals differ in their ability to establish and maintain high-quality peer relationships. While some individuals develop supportive and emotionally close friendships, others experience relational dissatisfaction, including perceived rejection, lack of trust, and emotional distance. Such discrepancies between expected and actual relational experiences may lead to loneliness (Russell, 1996).

Loneliness is understood as a subjective psychological condition that emerges when there is a gap between the social relationships individuals desire and those they actually experience (Russell, 1996). It reflects a cognitive-affective evaluation of the adequacy of one's social connections rather than merely the absence of social contact. Empirical studies have linked loneliness to a range of adverse

outcomes, including anxiety, depressive symptoms, stress, sleep disturbances, and reduced psychological well-being (Annamalai et al., 2025; Surijah & Nanik, 2023). Evidence from meta-analyses indicates that loneliness is associated with poorer friendship quality and heightened vulnerability to maladaptive social behaviours and internalizing problems (Schwartz-Mette et al., 2020).

The present study is grounded in the conceptual framework of peer relationship quality proposed by Bukowski et al. (1994) and the conceptualization of loneliness by Russell (1996). Peer relationship quality encompasses multiple dimensions, including companionship, help, security, closeness, and conflict, reflecting both supportive and problematic aspects of interpersonal interactions (Bukowski et al., 1994). Meanwhile, loneliness emerges when these relationships fail to fulfill individuals' emotional and social needs, indicating that the perceived quality of relationships is more critical than their quantity (Russell, 1996).

Various methods have been employed to investigate the association between peer relationships and loneliness in previous research. Cross-sectional studies are commonly employed due to their efficiency in examining associations within large populations; however, they are limited in establishing causal direction and developmental changes over time (Alsarrani et al., 2022; Riyadi & Qoyyimah, 2023). Longitudinal studies provide a more comprehensive understanding of temporal dynamics but require more time and resources (Chiao et al., 2022). Additionally, systematic reviews offer a broad synthesis of existing findings but are limited in testing empirical relationships within specific cultural contexts (Abaurrea et al., 2025). While these approaches provide valuable insights, each method presents both strengths and limitations in understanding the complexity of peer relationships and loneliness.

Previous studies have consistently demonstrated that high-quality peer relationships act as a protective factor, promoting healthier psychological adjustment. Positive friendships can buffer against negative emotional states and depressive symptoms (Bukowski et al., 2010). Longitudinal evidence indicates that peer relationship quality during adolescence predicts loneliness into early adulthood and across life domains, including work contexts (Chiao et al., 2022). Furthermore, high-quality friendships are consistently associated with increased subjective well-being and higher levels of life satisfaction (Alsarrani et al., 2022; Salsabila & Ramadhani, 2025). Emerging findings suggest a bidirectional relationship, where poor friendship quality increases loneliness, and prolonged loneliness impairs the ability to form meaningful relationships (Abaurrea et al., 2025; Geukens et al., 2023).

Despite these findings, most previous studies have focused on social support as a broad construct encompassing multiple relational sources, such as family, romantic partners, and peers (Farida & Tjiptorini, 2021; Setiasih & Siregar, 2022). In contrast, peer relationship quality represents a more specific construct that emphasizes individuals' subjective experiences of closeness, trust, acceptance, and meaningful engagement within peer interactions (Bukowski et al., 1994). This distinction is particularly important during late adolescence and early adulthood, when peer relationships become a primary source of emotional support and social identity formation (Christina & Helsa, 2022; Madsen et al., 2025).

Furthermore, the number of friendships does not necessarily reflect their psychological quality. Individuals may be embedded in social networks yet still experience feelings of disconnection or emotional distance (Fikrie et al., 2021). This suggests that the presence of social ties alone is not necessarily sufficient to mitigate loneliness, highlighting the importance of examining relationship quality.

Despite extensive research on friendship and loneliness, studies specifically examining peer relationship quality as a predictor of loneliness among Generation Z in Indonesia remain limited. Moreover, prior research has largely emphasized general social support, thereby overlooking the nuanced role of peer relationship quality. Therefore, the present study proposes an empirical examination of the role of peer relationship quality in predicting loneliness among Generation Z using a quantitative approach and simple linear regression analysis.

Thus, this study seeks to examine the role of peer relationship quality in predicting

loneliness among Generation Z in Indonesia. By focusing on the subjective quality of peer interactions rather than the presence of social connections, this study aims to provide a more nuanced understanding of how interpersonal experiences contribute to loneliness during a critical developmental period.

The findings of this study are expected to contribute to the field of psychology, particularly in the area of social and developmental psychology, by offering empirical evidence regarding the importance of high-quality peer relationships in mitigating loneliness. Furthermore, this research highlights that loneliness among young individuals is not solely an individual issue but is closely linked to the quality of their social environments and interpersonal dynamics.

This study is important as the well-being of Generation Z is increasingly shaped by complex social demands and evolving patterns of interaction, both offline and online. Peer relationships play a central role in shaping emotional experiences and psychological adjustment. Understanding the role of peer relationship quality may therefore provide valuable insights for the development of targeted psychosocial interventions aimed at fostering supportive, meaningful, and adaptive social connections among young individuals.

2. METHOD

This study employed a quantitative approach with a descriptive design and simple linear regression analysis to examine the role of peer relationship quality in predicting loneliness among Generation Z. A quantitative approach was chosen since the study focused on measuring variables in the form of numerical data obtained through standardized psychological instruments, enabling objective and systematic hypothesis testing (Creswell & Creswell, 2023; Sugiyono, 2013). Descriptive analysis was used to describe the level of peer relationship quality and loneliness, while simple linear regression analysis was conducted to determine the extent to which peer relationship quality predicts loneliness.

The study involved peer relationship quality as the independent variable and loneliness as the dependent variable. Peer relationship quality is defined as the quality of interpersonal interactions between individuals and their peers, encompassing companionship, conflict, help, security, and closeness (Bukowski et al., 1994). Loneliness refers to a subjective psychological experience that arises from a discrepancy between desired and actual social relationships (Russell, 1996).

Participants in this study were Generation Z individuals aged 16–22 years who resided in Indonesia at the time of data collection. This age range represents late adolescence and early adulthood, a developmental stage characterized by an increased need for peer relationships and social connectedness. Prior to data collection, the minimum required sample size was determined using power analysis through G*Power with a significance level of 0.05 and statistical power of 0.80, based on a large effect size reported in previous studies examining the relationship between peer relationship quality and loneliness.

Data were collected online and initially obtained from 169 respondents. A screening process was then conducted based on age criteria and a screening question regarding the number of peers whom participants genuinely trusted. This question was not used as a primary indicator of peer relationship quality but rather as preliminary information to describe participants' social characteristics and to support the data selection process. Following this procedure, 14 respondents did not meet the inclusion criteria and were excluded from the analysis. Therefore, the final sample consisted of 155 participants.

Data collection was conducted online using Google Forms from October 17 to November 10, 2025. This method was selected considering the characteristics of Generation Z, who demonstrate high engagement with internet and social media platforms, allowing for broader and more efficient participant reach. The questionnaire link was distributed through digital platforms, primarily via Instagram direct messages and WhatsApp personal messages. Before completing the questionnaire, participants were provided with an informed consent form outlining the purpose of the study, confidentiality assurance, and their right to withdraw from participation at any time.

The research instrument consisted of four sections: informed consent, demographic information, the Friendship Qualities Scale (FQS), and the UCLA Loneliness Scale Version 3. All responses were automatically

recorded through the Google Forms system, which facilitated data cleaning and minimized data entry errors.

Peer relationship quality was measured using the Friendship Qualities Scale developed by Bukowski et al. (1994) and adapted into the Indonesian context by Farida and Tjiptorini (2021). The instrument is composed of 23 items, and five response options ranging from 1 (strongly disagree) to 5 (strongly agree) are provided for each item. In this study, the scale demonstrated good reliability with a Cronbach's Alpha value of 0.839.

The researchers assessed loneliness using the UCLA Loneliness Scale Version 3 developed by Russell (1996) and subsequently adapted and validated for the Indonesian population by Rinaldi and Rizky (2025). The instrument consists of 20 items with four response options ranging from 1 (never) to 4 (always). The reliability analysis showed excellent internal consistency with Cronbach's Alpha value of 0.941.

The researchers conducted data analysis in several stages. The first stage consisted of a descriptive analysis used to characterize the participants and examine the tendencies of the study variables. The second stage included item validity testing, internal consistency reliability testing, and regression assumption testing, including normality and linearity tests. The final stage involved hypothesis testing using simple linear regression analysis to examine the predictive role of peer relationship quality on loneliness among Generation Z.

All statistical analyses were performed using JASP software. This software was selected due to its accessibility as an open-source platform, as well as its capability to provide comprehensive statistical outputs, including effect sizes and confidence intervals, which support transparent and reproducible research practices.

3. RESULTS

3.1. Descriptive Analysis Results

Descriptive analysis was conducted to examine the general tendencies of peer relationship quality and loneliness among participants, focusing on central tendency, score distribution, and the extent of variability in their responses to each variable. This analysis also provides an initial overview of the data patterns before proceeding to further inferential testing.

Table 1. Descriptive Statistics

Variable	N	Mean	SD	Min	Max
PR.	155	70.37	15.53	39	103
Loneliness	155	54.17	13.82	22	78

Note. PR. = peer relationship; N = number of participants; SD = standard deviation; Min = minimum score; Max = maximum score.

Descriptive statistics showed that the peer relationship variable (PR) had a mean score of 70.37 (SD = 15.53), with observed scores ranging from 39 to 103. This relatively wide range indicates that participants reported varying levels of perceived peer relationship quality, from relatively low to very high. The standard deviation also suggests a considerable spread in responses, reflecting meaningful individual differences in how participants experience and evaluate their peer relationships.

For loneliness, the mean score was 54.17 (SD = 13.82), with scores ranging from 22 to 78. Although the variability in loneliness appears slightly lower than that of peer relationship quality, the range of scores still indicates noticeable differences across participants.

3.2. Assumption Test Results

To ensure that the required statistical criteria were met, several assumption tests were performed before the regression analysis. These included tests of residual independence, homoscedasticity, and normality. These procedures were necessary to ensure that the regression model could be interpreted appropriately and without bias, and that the relationships between variables were consistent with the assumptions underlying the analysis.

Table 2. Model Summary

Model	R	R^2	Adjusted R2	DW
M_1	0.78	0.611	0.608	1.68

Note. R = multiple correlation coefficient; R^2 = coefficient of determination; Adj. R^2 = adjusted coefficient of determination. The model presented (M1) includes peer relationship quality as the predictor of loneliness.

The model summary indicates that the regression model including peer relationship quality (M1) demonstrates a substantial level of explanatory power. The R value of 0.78 reflects a strong association between peer relationship quality and loneliness. Furthermore, the R^2 value of 0.611 suggests that approximately 61.1% of the variance in loneliness can be accounted for by peer relationship quality. The adjusted R^2 value (0.608) remains very close to R^2, indicating that the model provides a stable estimate with minimal bias.

Table 3. Residual Statistics

	Min	Max	Mean	SD
PV.	31.49	75.99	54.17	10.80
Residual	-22.00	21.51	-7.442×10^{-17}	8.62
Std. PV.	-2.10	2.02	-3.062×10^{-17}	1.00
Std. Residual	-2.55	2.53	2.368×10^{-4}	1.00

Note. Min = minimum; Max = maximum; SD = standard deviation. PV. (Predicted Value) refers to the estimated scores generated by the regression model, while Residual represents the difference between observed and predicted values. Std. PV. (Predicted Value) and Std. Residual indicate standardized scores. Values within ±3 suggest the absence of extreme outliers.

The predicted values of loneliness range from 31.49 to 75.99 (M = 54.17, SD = 10.80), indicating that the model produces estimates that are reasonably distributed and generally reflect the pattern of the observed data.

The residuals, representing the difference between observed and predicted values, range from –22.00 to 21.51. This suggests that some participants' loneliness scores are approximately 22 points lower or 21 points higher than the model's predictions. The mean residual is close to zero, indicating that the model does not systematically overestimate or underestimate the data. The residual standard deviation (SD = 8.62) suggests a moderate level of variability in prediction errors, which remains within an acceptable range for social data.

The standardized predicted values range from –2.10 to 2.02 (M ≈ 0, SD = 1.00), indicating a normal distribution without extreme values. Similarly, the standardized residuals range from –2.55 to 2.53, which fall within acceptable limits (typically ±3), suggesting no indication of extreme outliers. The near-zero mean and standard deviation close to one further support that the residuals are approximately normally distributed.

3.3. Hypothesis Test Results

Hypothesis testing was conducted to examine whether peer relationship quality significantly predicts loneliness. This stage involved evaluating the ANOVA results and regression coefficients as the basis for drawing conclusions.

Table 4. Analysis of Variance (ANOVA)

Model		df	F	p
M_1	Regression	1	240.22	< .001
	Residual	153		
	Total	154		

Note. df = degrees of freedom. The F value represents the overall significance of the regression model. A significant p-value ($p < .05$) indicates that the predictor variable contributes to explaining the dependent variable.

The regression model is statistically significant, $F(1, 153) = 240.22$, $p < .001$. This finding shows that peer relationship quality has a meaningful contribution in predicting loneliness among participants. In other words, the variation in loneliness can be explained, in part, by differences in the quality of peer relationships, and this relationship is unlikely to have occurred by chance.

Table 5. Regression Coefficients

Model	B	SE	β	t	p
M_1	-0.70	0.05	-0.78	-15.50	< .001

Note. B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

Peer relationship quality was a significant negative predictor of loneliness (B = –0.70, SE = 0.05, β = –0.78, t = –15.50, $p < .001$). In practical terms, higher peer relationship quality was associated with lower loneliness. The standardized coefficient indicates a strong effect, showing that peer relationship quality made a substantial contribution to explaining loneliness among participants.

4. DISCUSSION

The findings indicate that peer relationship quality constitutes a significant predictor of loneliness among Generation Z. Higher levels of peer relationship quality were associated with lower levels of loneliness, whereas friendships characterized by low trust, limited warmth, and a lack of acceptance were

associated with greater feelings of loneliness. The magnitude of the coefficient of determination further suggests that peer relationship quality is not merely a complementary factor but rather an important social determinant in explaining loneliness among Generation Z.

This association may be explained by the inherent characteristics of high-quality friendships. The quality of peer relationships is determined not only by the presence of friends but also by the quality of interactions established within those relationships, including mutual trust, support, intimacy, and low levels of conflict (Bukowski et al., 1994). When friendships provide a safe space for sharing experiences, receiving support, and feeling valued, individuals are more likely to develop a stronger sense of social connectedness and interpersonal security. In contrast, relationships characterized by conflict, rejection, or indifference may cause individuals to feel alone even when surrounded by others.

These findings further indicate that loneliness is not necessarily associated with the number of friends an individual has. Rather, loneliness seems to be influenced more by the quality than by the quantity of social relationships (Russell, 1996). Individuals may have many friends and actively participate in various social groups, yet they experience loneliness when these relationships fail to provide understanding, acceptance, and emotional closeness. Conversely, individuals with only a few friends may avoid loneliness if those relationships are warm and meaningful (Weiss, 1973). These findings suggest that the subjective quality of interpersonal relationships is more critical than the mere presence of social contacts in protecting individuals from loneliness.

Adolescents in Indonesia demonstrate that the quality of friendships is more strongly associated with loneliness than the number of friends they have. Adolescents who have warm, supportive, and high-quality friendships tend to report lower levels of loneliness, regardless of whether they have many or few friends (Zhang et al., 2025).

The relationship between peer relationship quality and loneliness can also be interpreted within the developmental context of Generation Z. Most participants in this study were in late adolescence and emerging adulthood, a period during which individuals begin to develop their identities, expand their social networks, and establish more intimate interpersonal relationships (Santrock, 2019). Emerging adulthood is characterized by identity exploration, instability, and changes in education, employment, and interpersonal relationships (Arnett, 2007). Such transitions often generate uncertainty and psychological pressure. Consequently, emotionally supportive and trustworthy friendships become an essential source of psychological resilience. During this developmental stage, peers gradually assume a more prominent role than family in fulfilling individuals' emotional needs. Therefore, difficulties in establishing warm and meaningful friendships may increase feelings of isolation and increase the risk of loneliness.

The need to feel close and connected to others represents one of the most fundamental psychological needs. According to Self-Determination Theory, three basic psychological needs, namely autonomy, competence, and relatedness, are proposed to be inherent in every individual (Ryan & Deci, 2020). Among these needs, relatedness is particularly relevant to friendship quality. Individuals who feel accepted, understood, and valued by their peers tend to develop a stronger sense of belonging and social connectedness.

The fulfillment of the need for relatedness enables individuals to perceive themselves as part of a social group and to have access to emotional support. A strong sense of belonging may function as a protective mechanism that buffers individuals against feelings of loneliness. Conversely, when the need for relatedness remains unmet, individuals are more likely to experience alienation, social rejection, and feelings of meaninglessness in their interpersonal relationships, thereby increasing their vulnerability to loneliness and various psychological difficulties (Vansteenkiste et al., 2020).

Beyond loneliness, friendship quality appears to play an important role in promoting psychological well-being. In Ryff's model of psychological well-being, positive relations with others constitute an essential dimension that reflects an individual's capacity to establish warm, trusting, and empathetic relationships with others (Purnama et al.,

2022). Individuals who have high-quality friendships generally find it easier to obtain emotional support, develop self-acceptance, and cope effectively with various life stressors. Conversely, poor interpersonal relationships may diminish psychological well-being because individuals lose an important source of support needed to deal with developmental challenges. This condition may ultimately increase feelings of loneliness, stress, and other forms of psychological distress.

The significance of social relationships becomes particularly evident in light of the growing mental health concerns among Generation Z. Previous studies have demonstrated that Generation Z is more vulnerable to stress, anxiety, and depression than previous generations (Prawesti et al., 2024). One defining characteristic of this generation is its strong need for social acceptance and meaningful interpersonal relationships. When these needs remain unfulfilled, individuals are more likely to experience isolation and loneliness. In contrast, healthy friendships may serve as protective factors that help individuals cope with academic pressures, social demands, and various transitions into adulthood.

The importance of peer relationships in protecting individuals from loneliness has also been highlighted by a study examining adolescents' friendships during the COVID-19 pandemic. Specifically, the study found that adolescents who maintained more frequent contact and stayed connected with their friends experienced lower increases in loneliness than those who had limited social interactions (Lorijn et al., 2023).

The present findings are largely consistent with previous empirical evidence. Chiao et al. (2022) reported that peer relationship quality during adolescence is associated with loneliness in emerging adulthood and even in workplace settings. Similarly, Geukens et al. (2023) demonstrated that this relationship is bidirectional, whereby poor friendship quality increases loneliness, while prolonged loneliness impedes individuals' ability to establish healthy social relationships. Furthermore, Abaurrea et al. (2025) found that negative social experiences during adolescence may intensify feelings of loneliness and affect the quality of interpersonal relationships in later developmental stages.

Despite these similarities, several distinctions from previous studies warrant further consideration. Riyadi and Qoyyimah (2023) focused on post-pandemic migrant students with relatively homogeneous social characteristics, whereas the present study involved Generation Z individuals from diverse educational and occupational backgrounds. These differences in participant characteristics may explain why peer relationship quality contributed more substantially to loneliness in this study. Moreover, Geukens et al. (2023) employed a longitudinal approach that allowed them to identify the reciprocal relationship between friendship quality and loneliness, whereas the present study used a cross-sectional design that could only describe predictive relationships at a single point in time.

The implications of friendship quality extend beyond loneliness and encompass broader aspects of psychological adjustment. Positive friendships have been linked to higher levels of subjective well-being (Alsarrani et al., 2022; Salsabila & Ramadhani, 2025). Conversely, poor friendship quality has been associated with increased depressive symptoms, lower psychological well-being, and social adjustment difficulties (Schwartz-Mette et al., 2020). Therefore, peer relationship quality not only contributes to explaining loneliness but is also related to broader aspects of psychological functioning.

The present study contributes to the growing body of literature on loneliness among Generation Z within the Indonesian context. Most previous studies have focused on school adolescents or university students with relatively homogeneous sample characteristics. The present findings indicate that peer relationship quality remains an important predictor of loneliness among Generation Z individuals from diverse educational and occupational backgrounds. These findings expand the empirical evidence regarding the importance of interpersonal relationship quality in explaining the psychological health of Generation Z within the Indonesian cultural context. Moreover, research on loneliness among Generation Z in Indonesia remains limited and has primarily focused on individual factors, such as self-esteem or social media use. The significant role of relational factors,

particularly peer relationship quality, is also highlighted by the present findings.

The substantial contribution of peer relationship quality to loneliness observed in this study can also be understood within the collectivistic characteristics of Indonesian culture. In collectivistic societies, interpersonal relationships and a sense of belonging to a group are considered important components of personal identity. Consequently, social acceptance and the quality of peer relationships become highly meaningful for individuals' psychological well-being. When relationships with peers are unsatisfactory, individuals not only lose a source of emotional support but also experience a diminished sense of belonging and social connectedness which ultimately increase their vulnerability to loneliness.

Despite its substantial contribution, loneliness remains a multifaceted and multidimensional phenomenon influenced by numerous other factors. A considerable proportion of the variance in loneliness remained unexplained by the present model. Previous studies have shown that self-disclosure, mattering to peers, emotional intelligence, self-esteem, family relationships, and social support also influence individuals' levels of loneliness (Christina & Helsa, 2022; Hartanti et al., 2025).

Self-disclosure enables individuals to develop emotional closeness with others, whereas mattering to peers allows individuals to perceive themselves as valued and important within their social environment. Emotional intelligence helps individuals understand and regulate their emotions when facing interpersonal conflicts. In addition, warm family relationships and adequate social support may reduce the risk of loneliness. Therefore, peer relationship quality should be regarded as an important factor, yet not the sole determinant of loneliness.

From a practical perspective, the findings of this study highlight the importance of creating social environments that facilitate healthy friendships. Schools, universities, and communities can develop peer-support programs, social skills training, and activities that encourage the formation of closer and more supportive peer relationships. Such efforts not only have the potential to reduce feelings of loneliness but also enhance psychological well-being and promote the broader mental health of Generation Z.

The interpretation and generalization of the present findings should take several limitations into consideration. This study employed a cross-sectional design and therefore could not explain causal relationships in depth. In addition, the study gathered data through online questionnaires distributed via social media, potentially limiting the sample representing the overall Generation Z population in Indonesia. Furthermore, the use of self-report instruments may have resulted in response biases, such as social desirability bias and common method bias. Future studies are encouraged to employ longitudinal designs and develop more comprehensive models by incorporating mediating and moderating variables, such as self-esteem, emotional intelligence, mattering to peers, fear of missing out (FoMO), and the frequency of social media usage. Such approaches are expected to provide a more comprehensive understanding of the psychological mechanisms through which peer relationship quality influences loneliness among Generation Z

5. CONCLUSION

This study demonstrates that peer relationship quality is a significant predictor of loneliness among Generation Z. Lower levels of loneliness are generally reported by individuals who perceive their friendships as warm, supportive, and characterized by trust, whereas greater feelings of social isolation tend to arise from poor-quality peer relationships. These findings suggest that loneliness among Generation Z is not merely a consequence of limited social interactions but is more closely related to the inability of social relationships to fulfill emotional needs and foster a sense of belonging.

The findings further indicate that meaningful peer relationships remain an essential psychological resource for Generation Z despite living in an era characterized by extensive digital connectivity and broad social networks. This study contributes to the development of psychological knowledge by providing empirical evidence that, within the Indonesian collectivistic context, the quality and meaningfulness of peer relationships play a more important role in explaining loneliness

than the mere presence of social connections. Therefore, peer relationship quality should be considered a central relational factor in understanding loneliness and promoting psychological well-being among Generation Z.

Schools, universities, and communities are encouraged to develop interventions that facilitate supportive and meaningful peer relationships through peer support programs, social skills training, and activities that strengthen interpersonal connectedness. Future studies are recommended to employ longitudinal designs and incorporate additional variables, such as self-esteem, emotional intelligence, fear of missing out (FoMO), family relationships, and social support, to obtain a more comprehensive understanding of the psychological mechanisms underlying loneliness among Generation Z.

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