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Main Effect Rather Than Buffering: A Mixed Methods Study of Communication Quality, Social Support, and First-Year Student Adjustment in Compulsory Dormitory Living

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Abstract: Compulsory dormitory living places first-year students in shared rooms they do not choose, making interpersonal communication a condition of daily life rather than an option. Previous studies have examined sources of social support separately, leaving unclear whether peer, Senior Resident, and family support strengthen the effect of communication quality on adjustment when operating simultaneously. This study addresses that gap through an explanatory sequential mixed methods design with a dominant qualitative component. The quantitative phase surveyed 151 first-year dormitory residents at a private university in Indonesia and analysed the data using PLS-SEM with 10,000 bootstrap subsamples. The qualitative phase involved ten informants selected through extreme case sampling on adjustment outcome, analysed thematically. Communication quality was positively associated with student adjustment, while no statistically significant moderating effects were detected for the three support sources, either individually or simultaneously. Senior Resident support showed a significant direct association with adjustment, whereas peer support demonstrated a borderline association. These findings are more consistent with a main-effect pattern, although measurement limitations prevent definitive conclusions about the underlying mechanisms. The qualitative phase provided further insight into these findings and identified five additional themes beyond the hypothesised framework. Participants' accounts suggested that persistence in initiating communication after an initially unreciprocated attempt may distinguish different adjustment experiences. The interviews also indicated that the first three months of residence may represent an important period for early adjustment.

Keywords: Interpersonal Communication Quality, Social Support, Student Adjustment, Student Dormitory, Mixed Methods

INTRODUCTION

The transition into university is widely recognised as a period of heightened psychological vulnerability. Systematic review evidence indicates elevated prevalence of stress, anxiety, and depressive symptoms among first-year undergraduates (Purnamasari et al.,

2022), clustering in the earliest months of study (Cheung et al., 2020; Islam et al., 2022). What makes the transition demanding is not academic workload alone but the requirement to rebuild a relational world from nothing, often while separated from established sources of support (Saputro & Oktaviana, 2025).

This requirement intensifies under compulsory dormitory residence, where first-year students are assigned to shared rooms with roommates they neither choose nor know in

advance. Interpersonal communication ceases to be a matter of preference and becomes a condition of daily life: sleep schedules, cleanliness, noise, and shared space must be negotiated with strangers, continuously and without the option of withdrawal. Institutional records at the site of this study, a private university in Indonesia enrolling 5,015 first-year dormitory residents, documented 15 roommate conflicts and 80 disciplinary cases in a single semester. These counts index reporting rather than incidence: the dimension informants later described as their deepest source of discomfort, being consistently overruled in room decisions, constitutes no rule violation and therefore has no reporting channel at all. Such records are accordingly treated here as an indication that relational strain exists rather than as a measure of how widespread it is.

Uncertainty Reduction Theory explains why early communication matters here (Berger & Calabrese, 1975): increased verbal interaction reduces cognitive and behavioural uncertainty and enables relational development. DeVito (2019) operationalises communication quality through five dimensions: openness, empathy, supportiveness, positiveness, and equality. Empirical work supports the link between communication quality and adjustment among students living away from home (Rizki Wulandini & Murti Rozamuri, 2024; Tang et al., 2025; Zhang et al., 2021), and identifies communication skills as a principal first-year challenge (Gerald & Joseph, 2024).

Communication quality, however, does not operate in isolation. Social support is consistently associated with adjustment outcomes (Acoba, 2024; Natasya & Rahayu, 2024; Ruihua et al., 2025), and studies in dormitory settings report that peer support is the most salient source for residents (Christanti & Wati, 2023; Riztiardhana, 2025). Yet the literature examines sources one at a time. Peer support has been modelled as a direct predictor or mediator (Sun & Wang, 2024; Wider et al., 2023; Zhu et al., 2025); near-peer support through mentoring programmes (Collings et al., 2014; Flott et al., 2022; Pavlovic & Jeno, 2024); and family support largely in isolation from campus-based sources (An et al., 2024; Gao & Liu, 2025; Lee & Fletcher, 2023). Students in compulsory dormitories, however, are embedded in all three simultaneously. Whether these sources reinforce one another, substitute for one another, or work at cross-purposes has not been tested directly. Naibaho & Murniati (2022) offer an early indication that they may not align, reporting that institutionally sourced support was negatively associated with adaptation among students living away from home.

A second limitation concerns the mechanism assumed rather than tested. S. Cohen & Wills (1985) distinguish two ways support may operate: under the main effect model it improves wellbeing directly regardless of stress level, while under the buffering model it protects individuals specifically when stress is high, producing a statistical interaction. Crucially, Cohen and Wills (1985) specify a matching condition under which buffering occurs when the support function corresponds to the needs elicited by a particular stressor. They further anticipate that global measures of perceived availability, which do not target specific functions, will produce main effects without buffering interactions. Much of the dormitory literature nonetheless treats support as a strengthening factor without adjudicating between these mechanisms, and studies reporting moderation seldom compare it against the main-effect alternative (Cao, 2021; McLean et al., 2023).

The present study addresses both limitations by testing peer, Senior Resident, and family

support simultaneously as moderators within a single model, and by framing that test as an adjudication between the main-effect and buffering mechanisms rather than as a prediction that moderation will occur. Extending S. Cohen & Wills, the study proposes that the simultaneous availability of three support sources differing in role and in physical proximity may increase the probability that the matching condition is satisfied. It should be noted at the outset that the instruments used here distinguish support by its source rather than by the specific function each source supplies, so the proposition is tested in terms of source diversity rather than functional diversity. Compulsory residence, where the stressor is relational and continuous rather than episodic and support sources differ in proximity, offers a demanding test case for both mechanisms. The design is explanatory sequential mixed methods with a dominant qualitative component, so that the mechanism behind whichever pattern emerges can be traced to students' own accounts rather than inferred from coefficients alone.

Based on this reasoning, the study addresses the following questions:

1. Does interpersonal communication quality affect the adjustment of first-year students in compulsory dormitory residence?
2. Does peer support moderate that relationship?
3. Does Senior Resident support moderate that relationship?
4. Does family support moderate that relationship?
5. Do the three sources moderate that relationship simultaneously, and does a model containing all three predict better than a model containing one?
6. How do students themselves account for the role of communication and support in their adjustment, and what distinguishes those who adjust successfully from those who do not?

Following the two mechanisms distinguished by S. Cohen & Wills (1985), the study tests five hypotheses. H1 states that interpersonal communication quality has a positive effect on student adjustment. H2, H3, and H4 state that peer support, Senior Resident support, and family support respectively moderate that relationship. H5 states that the three sources moderate that relationship simultaneously and that a model containing all three predicts adjustment better than a model containing one.

H2 through H5 are formulated as hypotheses competing with the main-effect model rather than as predictions that moderation will necessarily occur. S. Cohen & Wills structured their own review as a comparison between the two mechanisms and anticipated that globally worded measures would yield main effects without buffering interactions. If H2 through H5 are not supported while significant direct associations are observed, the findings may be more consistent with a main-effect pattern than with the hypothesised moderating relationships. However, the absence of statistically significant interactions cannot establish that buffering mechanisms are absent, particularly when measurement validity and statistical power are limited.

METHODS

This study employed an explanatory sequential mixed methods design in which a quantitative phase precedes and informs a qualitative phase, with the qualitative component treated as dominant (Creswell & Clark, 2018). The quantitative phase was positioned as exploratory mapping of the relationships among constructs; the qualitative phase carried the explanatory weight. Data were collected at a private university in Indonesia that requires all first-year students to reside in campus dormitories, with four students assigned per room. Residential mentoring at this institution is provided by senior undergraduates holding the official designation of Senior Resident, a near-peer mentoring role broadly comparable to the resident assistant position in North American and European residential systems. The

institutional title, Senior Resident, is used throughout this article.

The quantitative phase surveyed 151 first-year dormitory residents drawn from a population of 5,015 through quota sampling stratified by building and faculty. Minimum sample size was determined using the inverse square root method rather than population-based formulas, since the relevant criterion in PLS-SEM is the weakest path, the study seeks to detect (Kock & Hadaya, 2018); the obtained sample exceeded that threshold. Interpersonal communication quality was measured with ten items reflecting the five dimensions specified by DeVito (2019). Student adjustment was measured with ten items covering the four dimensions of the Student Adaptation to College Questionnaire (Baker & Siryk, 1984), an instrument whose applicability in the Indonesian context has been examined by Rifameutia & Malay (2023). Each support source was measured with items adapted from the functional conceptualisation of S. Cohen & Wills (1985), distinguishing sources rather than the specific

functions each supply. All items used a five-point Likert scale. Careless responding was screened following Meade & Craig (2012).

Data were analysed using PLS-SEM in SmartPLS 4. The measurement model was evaluated using outer loadings, average variance extracted, composite reliability, and the heterotrait-monotrait ratio (HTMT; Henseler et al., 2015). The structural model was assessed using R^2 , effect sizes, variance inflation factors, and PLSpredict (Shmueli et al., 2019). Effect sizes were interpreted using the thresholds of 0.02, 0.15, and 0.35 (J. Cohen, 2013). Significance was estimated through bootstrapping with 10,000 subsamples and bias-corrected and accelerated confidence intervals, following the reporting guidelines of Hair et al. (2019). Interaction terms were constructed using the two-stage approach, appropriate for models containing several interaction terms. Three single-moderator models were additionally estimated as a robustness check, so that any null result could be distinguished from an artefact of model configuration.

The qualitative phase involved ten informants selected through extreme case sampling on the outcome (Patton, 2015): five who described their adjustment as successful and five who described persistent difficulty, including three who had left the dormitory early. This strategy suits explanatory sequential designs seeking to account for a pattern already established quantitatively rather than to estimate its prevalence; the consequence is that between-group comparisons are interpretive rather than inferential. Data were collected through semi-structured interviews guided by a protocol organised into seven thematic blocks comprising thirty-five aspects, developed from the theoretical framework rather than from obtained results. Saturation at the category level was reached at the eighth informant; two further interviews were conducted as confirmatory checks and produced variation within existing categories rather than new ones (Guest et al., 2006; Malterud et al., 2016).

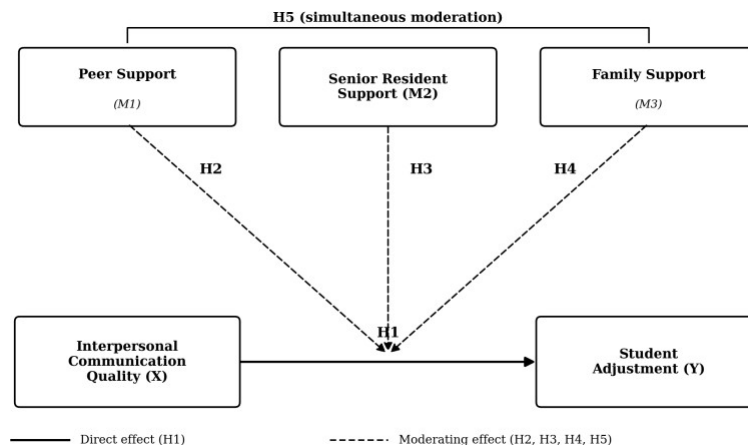
Interviews were conducted in Indonesian, recorded with consent, and transcribed verbatim; quotations below were translated into English by the authors. Analysis was thematic (Braun & Clarke, 2006), conducted in Atlas.ti 26. Theoretical concepts were treated as sensitising concepts guiding inquiry rather than as predetermined coding categories (Blumer, 1954), and coding proceeded inductively through open, axial, and selective cycles. The process generated 151 codes, 215 quotations, 30 categories, and eight themes. Trustworthiness was addressed through the four criteria of Lincoln et al. (1985): credibility through source triangulation and member checking, transferability through thick description, dependability through the audit trail recorded in the project file, and confirmability through retention of verbatim quotations supporting each theme.

All informants provided written informed consent prior to interview, were advised of their right to withdraw at any point and were assured that their accounts would be reported under codes. Names, room numbers, building names, and other identifying markers were removed from transcripts before analysis. Institutional permission for data collection was

obtained from the dormitory management unit.

Integration occurred at the interpretation stage through a joint display mapping each hypothesis against the corresponding qualitative finding and classifying the relationship as confirmation, complementarity, or divergence. Divergence was treated as a substantive finding to be reported and explained rather than as a defect to be resolved.

Based on the phenomena, research gap, and theoretical reasoning outlined above, this study develops the following conceptual framework.



Source: Developed by the authors (2026)

Figure 1. Conceptual Framework

RESULTS AND DISCUSSION

Result

Evaluation of the Measurement Model

All indicators exceeded the recommended outer loading threshold of 0.70, and all constructs met the criteria for internal consistency and convergent validity, with composite reliability above 0.70 and average variance extracted above 0.50. Descriptive statistics placed all five constructs in the high category, within a narrow range of means from 3.64 to 3.79 on a five-point scale, with family support highest and adjustment lowest.

Discriminant validity, however, was not established. Heterotrait-monotrait ratios ranged from 0.908 to 1.008 across all construct pairs, exceeding both the conservative threshold of 0.85 and the liberal threshold of 0.90 recommended by Henseler et al. (2015). Table 1 reports the matrix.

Table 1. Heterotrait-Monotrait Ratio (HTMT) Between Constructs						
Construct		X	M1	M2	M3	Y
X — Communication Quality		—				
M1 — Peer Support		0.999	—			
M2 — Senior Resident Support		0.908	0.932	—		
M3 — Family Support		0.979	1.008	0.944	—	
Y — Student Adjustment		0.969	0.977	0.921	0.962	—

Source: SmartPLS 4 output (2026)

Four diagnostic checks were run: Harman's single-factor test, the eigenvalue structure of the unrotated solution, comparison of inter-construct correlations against their reliabilities, and full collinearity variance inflation factors. The diagnostic results indicate substantial

overlap among the measured constructs, raising serious concerns about discriminant validity. Common method variance associated with the uniformly positively worded, single-occasion questionnaire may have contributed to this overlap. However, the available diagnostics cannot conclusively determine the extent to which the problem reflects measurement characteristics or conceptual overlap among the constructs.

Three consequences follow, and they are stated here so that all subsequent results are read accordingly. First, path coefficients reported below are exploratory associations, not precise estimates of distinct causal effects. Second, interaction terms carry weakened independent information. Third, and most consequentially, the HTMT of 1.008 between peer and family support means these two constructs cannot be treated as empirically distinct in this dataset. Any

comparison between them is accordingly a comparison of associations observed under overlapping measurement, not a comparison of independently verified constructs. This constraint governs every subsequent interpretive claim in this article and is treated as a primary limitation rather than a peripheral one.

Structural Model and Hypothesis Testing

The structural model explained a substantial share of variance in student adjustment, with R-square of 0.780 and adjusted R-square of 0.769. Variance inflation factors for the interaction paths ranged up to 3.719, below the threshold of 5. Table 2 presents the results of hypothesis testing for H1 through H4.

Table 2. Results of Hypothesis Testing (H1–H4)

H	Path	β	t	p	f^2	95% CI (BCa)	Decision
H1	$X \rightarrow Y$	0.511	5.953	0.000	0.256	0.340 – 0.676	Supported
H2	$M1 \times X \rightarrow Y$	–0.099	1.308	0.191	0.025	–0.258 – 0.039	Not supported
H3	$M2 \times X \rightarrow Y$	–0.032	0.389	0.697	0.002	–0.193 – 0.130	Not supported
H4	$M3 \times X \rightarrow Y$	0.077	1.015	0.310	0.012	–0.065 – 0.227	Not supported

Source: SmartPLS 4 output (2026)

Given a sample of 151 estimating three interaction terms simultaneously, these null results should be read primarily as insufficient evidence for moderation rather than as evidence of its absence; statistical power for detecting interaction effects in PLS-SEM is known to be substantially lower than for main effects at comparable sample sizes.

Communication quality significantly predicted adjustment, with the only effect size of medium magnitude in the model. None of the three interaction terms reached significance, and all bootstrap confidence intervals crossed zero. The direct effects of the moderators, reported in Table 3, present a different picture.

Table 3. Direct Effects of the Three Support Sources on Adjustment

Path	β	t	p	95% CI (BCa)	Decision
M1 — Peer Support $\rightarrow Y$	0.156	1.978	0.048	–0.002 – 0.310	Marginal
M2 — Senior Resident Support $\rightarrow Y$	0.177	2.257	0.024	0.031 – 0.337	Significant
M3 — Family Support $\rightarrow Y$	0.064	0.815	0.415	–0.104 – 0.203	Not significant

Source: SmartPLS 4 output (2026)

Senior Resident support showed a statistically significant positive association with adjustment, with a bias-corrected confidence interval excluding zero. However, this result should be interpreted cautiously because discriminant validity was not established among the measured constructs. Peer support reached significance on the p-value criterion, but its interval marginally included zero at its lower bound and is therefore reported here as a borderline effect; following Hair et al. (2019), the bootstrap interval is treated as the primary basis for inference. Family support contributed neither directly nor through interaction. One qualification is essential: the difference between these coefficients was not itself tested, and a significant result differing from a non-significant one is not equivalent to a significant difference between them (Gelman & Stern, 2006). The intervals for the three direct paths overlap substantially and cannot be treated as reliably distinguishable. What the quantitative phase establishes is the contrast between the presence of direct effects and the complete absence of interaction effects, rather than a ranking among sources, and the interpretation below draws its principal support from the qualitative phase.

Model Comparison and Robustness

Table 4 compares the simultaneous model against three single-moderator models, addressing both the robustness of the null moderation results and the second clause of the fifth research question

Table 4. Comparison of the Simultaneous Model and Single-Moderator Models

Model	Moderator(s)	X → Y β	R ² adj.	Interaction p	Q ² predict
Simultaneous	M1, M2, M3	0.511	0.769	0.191 / 0.697 / 0.310	0.252 – 0.402
Model 1	M1 only	0.639	0.761	0.116	0.257 – 0.416
Model 2	M2 only	0.646	0.756	0.125	0.272 – 0.393
Model 3	M3 only	0.735	0.743	0.689	0.236 – 0.406

Source: SmartPLS 4 output (2026). Highest VIF: 2.915 (Model 1), 3.037 (Model 2), 2.999 (Model 3), 4.637 (simultaneous).

The interaction terms remained statistically non-significant across all model configurations, suggesting that their non-significance was not limited to the simultaneous model specification. The simultaneous model showed only a small improvement in adjusted R² compared with the single-moderator models. The reported PLSpredict results also did not demonstrate a clear predictive advantage for the simultaneous model. The second clause of the fifth research question is therefore answered negatively, and H5 is not supported.

Table 4 also qualifies the stability of H1. What remains constant across specifications is the direction and significance of the path from communication quality to adjustment, not its magnitude: the coefficient rises from 0.511 to 0.735 as moderators are removed. This pattern is consistent with the redistribution of shared variance reported in the measurement model section, and it reinforces the decision to read coefficient magnitudes as exploratory rather than as precise estimates.

Qualitative Findings

Thematic analysis of the ten interviews produced eight themes (Table 5).

Table 5. Themes Derived from Thematic Analysis

No	Theme	Pattern Across Groups
1	Initial expectations and entry experience	Shared across groups
2	Strategies for initiating relationships	Sharp contrast
3	Communication quality with roommates	Sharp contrast
4	Management of room conflict	Sharp contrast
5	The role of the Senior Resident	Sharp contrast
6	Family support and communication	Concentrated in non-adjusted group
7	Academic and institutional adjustment	Shared across groups
8	Outcomes and meanings of adjustment	Sharp contrast

Source: Atlas.ti 26 output (2026)

Five findings warrant particular attention. First, all informants in the non-adjusted group reported attempting introductions on their first day. What distinguished the two groups was not whether initiative occurred but whether it was repeated after an initial flat response.

“I tried some small talk, asked their names, their study programme, where they were from. But the answers were perfunctory, very short. No question came back to me. Because their response was so flat, I felt they were not interested in knowing me further. In the end I became reluctant and chose to stay quiet too.” (INF08)

The contrast with the adjusted group lay not in the opening move but in what happened after it. “I greeted people every morning. When I first entered the room, I introduced myself to my roommates and made simple conversation. I also joined in whenever there were dormitory activities,

or when friends invited me to eat or study together. Gradually I felt more comfortable and no longer awkward.” (INF02)

Second, informants spontaneously distinguished between communication being pleasant and support being real, treating communication quality as a necessary but insufficient condition for support to materialise.

“They are two very different things. Open, comfortable communication is conversation, verbal interaction. Someone can talk easily, be friendly, be open about many things. But when we are hit by a problem and need something real, physical help or a sacrifice of their time, someone whose

conversation flows well will not necessarily give real support. Good communication is only the entrance.” (INF08)

“Very different. People can be friendly, make small talk, and their communication can look smooth on the surface. But the moment we need real help when we are ill, or need moral support, that person will not necessarily care or step in.” (INF10)

Third, episodes of illness recurred across interviews as the decisive test of relational quality. Informants evaluated others less by the frequency of shared time than by the response received at a moment of vulnerability.

“I once had a high fever and could not get up to go out and buy food. I hoped they would at least ask or offer to bring me something from the canteen. But they simply left for class without asking how I was.” (INF08)

“When I fell ill first, the Senior Resident took me to the campus clinic. Not long after, my roommates fell ill too, and it was the Senior Resident who bought them food.” (INF01)

Fourth, informants converged on a critical window within the first one to three months. Those who had not reached relational comfort within that period reported no subsequent spontaneous recovery; they either remained through formal obligation or left before the residence period ended.

“For me personally it took about one to two months. After that I felt more accustomed to dormitory life and came to regard it as a second home.” (INF02)

“Up to this moment I still do not feel part of this dormitory. The thought of moving out comes up almost every week. I stay only because of the first-year residence requirement.” (INF08)

Fifth, the dimension of equality emerged as the deepest source of discomfort while never appearing as a formal complaint. Because being overruled in room decisions constitutes no rule violation, no reporting channel exists for it, and it remains invisible to institutional records.

“Decisions were often taken unilaterally by the roommate with the most dominant character. When I offered input, it was usually ignored, treated as something passing. It felt as though I was not considered equal, as though I was not there in that room at all.” (INF08)

“One dominant person made decisions alone without asking the others. My opinion was often ignored, so I chose to give in rather than cause trouble.” (INF09)

Integration of the Two Phases

Table 6 presents the joint display mapping each hypothesis to the corresponding qualitative finding.

Table 6. Joint Display of Quantitative and Qualitative Findings

H	Quantitative Result	Qualitative Explanation	Integration Pattern
H1	Supported	All informants identified room communication as decisive for their adjustment experience	Confirmation
H2	Not supported; direct effect significant	Peer support is judged by response at moments of vulnerability, not by frequency of contact	Complementarity
H3	Not supported; direct effect significant	Three institutional mechanisms weaken the moderating function of the Senior Resident	Complementarity
H4	Not supported; no direct effect	Qualitative data offer an indication that family support may buffer sustained strain, though this is not confirmed quantitatively	Divergence
H5	Not supported	The three sources stand in a relationship of imperfect substitution	Complementarity

Source: Research data (2026)

Discussion

1. Communication Quality and Student Adjustment

The first hypothesis was supported, and the path remained positive and significant across all model configurations tested. This is consistent with prior findings linking interpersonal communication to adjustment among students living away from home (Rizki Wulandini & Murti Rozamuri, 2024; Tang et al., 2025; Zhang et al., 2021), and with the identification of communication skills as a central first-year challenge (Gerald & Joseph, 2024).

The qualitative data specify where the difference lies. Of DeVito's five dimensions, the sharpest divergence between groups occurred in openness, empathy, and equality. The prominence of equality is notable because it corresponds to no disciplinary category, which explains how a setting can produce low recorded conflict while containing substantial unaddressed relational strain.

2. Peer Support: A Borderline Main Effect Rather Than a Buffer

Peer support did not moderate the relationship between communication quality and adjustment, and contributed to adjustment only at a borderline level of significance, with its bias-corrected interval marginally including zero. In the terms of S. Cohen & Wills (1985), this

borderline direct contribution is closer to a main effect than to the buffering mechanism. The finding aligns with studies positioning peer support as a direct predictor or mediator rather than as a factor amplifying other predictors (Sun & Wang, 2024; Wider et al., 2023; Zhu et al., 2025), and with dormitory research identifying peers as the most salient support source for residents (Christanti & Wati, 2023; Riztiardhana, 2025).

The qualitative data indicate why an interaction was unlikely to appear. Informants evaluated peer support not by its availability but by its activation at moments of vulnerability, and a measure of generally perceived availability captures the former and not the latter. This is precisely the condition under which Cohen and Wills anticipate main effects without buffering interactions.

3. Senior Resident Support: Direct Contribution Without Moderation

Senior Resident support produced the largest direct coefficient while showing no moderating function. Evidence on near-peer support is itself mixed: it improves wellbeing, integration, and retention in controlled evaluation (Collings et al., 2014), yet is additive rather than necessary elsewhere (Pavlovic & Jeno, 2024), and has even been reported as negatively associated with adaptation (Naibaho & Murniati, 2022).

The interviews identified three mechanisms constraining the moderating function: residents were reluctant to raise problems with a Senior Resident perceived as an enforcer of rules, complaints that were raised stalled at the follow-up stage, and announcements were lost in general-purpose group chats. Each concerns the accessibility of support rather than its existence, consistent with a source that contributes directly to wellbeing without becoming available when communication in the room breaks down.

A caveat applies to the comparison drawn between peer and Senior Resident support in this and the preceding section. Because discriminant validity was not established between these constructs ($HTMT = 0.932$), the claim that they operate through different mechanisms rests on their differing observed associations with adjustment rather than on independently verified constructs. This caveat is developed further below in relation to family support, where the same measurement constraint applies across all three sources.

4. Family Support: A Divergence Between Phases

Family support neither moderated nor contributed directly in the quantitative phase. The qualitative phase, however, offers a qualitative indication that family support may function as a buffer under sustained relational strain: informants described parental contact as what held them together when the room failed to provide a sense of safety. This is reported as a qualitative explanation for the null quantitative result, not as confirmation of moderation, since the quantitative design does not support a buffering claim. Following the integration framework adopted here, this divergence is treated as a substantive finding in its own right.

Four explanations converge. Buffering is theoretically observable only among individuals under high stress, whereas the quantitative test operates at aggregate level across a sample whose means occupy a narrow band from 3.64 to 3.79. The instrument measures perceived availability, whereas the qualitative data indicate that what functions as a buffer is support activated at the point of crisis; informants reported initially concealing difficulty from their parents and disclosing it only gradually. Moderation tests have low statistical power, particularly with three interaction terms at this sample size, and the limited discriminability of the constructs reduces the independent information those terms carry.

An alternative account must be acknowledged: students experiencing difficulty may contact home more often because of that difficulty, making contact a consequence of stress rather than a moderating mechanism. Cross-sectional data cannot separate these accounts. One

feature is nonetheless difficult to reconcile with the alternative: the pattern of deliberate initial concealment followed by gradual disclosure is hard to explain if contact were simply a direct stress response, and is more consistent with family contact as a resource already in place before stress peaked. These findings extend evidence that parental support operates conditionally (Lee & Fletcher, 2023) and through indirect pathways (An et al., 2024; Gao & Liu, 2025).

“At first, I hid it, because I did not want to worry my mother back home. But because I could no longer bear it alone, I began telling her a little at a time that the atmosphere in the room was not good. Even then I did not pour everything out. I felt sorry for my parents.” (INF08)

A qualification applies across all three sources and must be stated plainly. The global character of the instrument, invoked above to explain the absence of buffering for peer support, applies equally to family support. The divergence observed here is therefore not evidence that family support behaves differently from the other two sources under measurement; it is evidence that a global instrument cannot detect activated support for any source, and that the qualitative phase made this most visible where informants' accounts were most explicit. Any distinction between sources advanced in this article accordingly rests on the qualitative accounts and the descriptive pattern of direct effects, not on the divergence in moderation results.

5. Simultaneous Moderation and Imperfect Substitution

The three sources did not moderate jointly, and the simultaneous model offered no predictive advantage over single-moderator models. The proposition that simultaneous availability of sources differing in role and proximity would increase the probability of satisfying the matching condition was therefore not supported.

The qualitative data explain why. Informants described the three sources as standing in a relationship of imperfect substitution: family support could sustain morale from a distance but not supply physical presence during illness, and the Senior Resident could resolve procedural matters but not the discomfort of being overruled within the room. Read through the matching condition, this is not a refutation of S. Cohen & Wills but an illustration of it, since buffering depends on correspondence between the function supplied and the need elicited rather than on the number of sources available.

6. Findings Beyond the Hypothesised Framework

Five findings emerged that the hypothesised model did not anticipate. The first qualifies Uncertainty Reduction Theory: Berger & Calabrese (1975) propose that verbal interaction reduces uncertainty, yet where interaction is compulsory rather than chosen, high frequency did not produce familiarity when initial approaches went unreciprocated. Reciprocity at first contact appears necessary for the mechanism to operate. Related evidence indicates that coping style, rather than exposure to conflict itself, differentiates emotional outcomes (Pan et al., 2025), and that poor dormitory relations are associated with withdrawal (Karimi et al., 2025).

The second concerns model specification. Because informants distinguished communication quality from tangible support, communication cannot be assumed to generate support automatically. These qualitative findings suggest that effective interpersonal communication does not necessarily translate into tangible social support. However, because the present study did not directly test mediation, further research is required to determine whether social support mediates the relationship between communication quality and adjustment.

The third concerns what students use to evaluate support. Episodes of illness functioned as the decisive test of relational quality, suggesting that instruments measuring frequency of

contact or general availability capture something students do not treat as diagnostic. The fourth concerns timing. The critical window within the first three months, after which no spontaneous recovery was observed, indicates that institutional intervention distributed evenly across the residence period is unlikely to reach students at the point where it would matter most.

The fifth concerns institutional visibility. Being consistently overruled within the room, the deepest source of discomfort informants identified, generates no administrative record because it constitutes no rule violation. Institutions relying on incident data will therefore systematically underestimate relational strain, and the low conflict counts reported in the introduction should be read in this light.

The novelty of this study lies in showing that the pattern of association between social support and adjustment differs by the physical proximity of the support source, and in identifying the mechanisms behind that pattern through students' own accounts. Support continuously present in the shared living space, namely peer and Senior Resident support, was associated with adjustment directly and irrespective of communication quality. Physically distant family support produced no detectable aggregate association yet was described by students under sustained strain as the resource that held them together when the room failed to provide safety. Two constraints bound this claim. Because those students were purposively selected on their adjustment difficulty, their accounts are offered as an explanation to be tested rather than an established subgroup effect. And because the measurement model did not establish discriminant validity between peer and family support, the data cannot demonstrate that these sources operate through distinct mechanisms. What the data show is that two sources differing in proximity differ in their observed association with adjustment while being described by students in categorically different terms. Whether this reflects genuinely distinct mechanisms, or instruments that fail to separate support sources in shared-residence settings, is a question this study raises rather than settles; documenting that measurement failure transparently is itself a contribution.

A second qualification concerns design. Because both phases were cross-sectional, the proximity-based distinction proposed here describes a pattern of association at a single point in time rather than a demonstrated causal mechanism, and the direction of the relationship between family contact and adjustment difficulty remains unresolved. The contribution of this study is accordingly interpretive and hypothesis-generating: it identifies a pattern worth testing with instruments and designs capable of establishing the mechanisms it proposes, rather than establishing those mechanisms itself.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This study examined whether peer, Senior Resident, and family support moderate the effect of interpersonal communication quality on the adjustment of first-year students in compulsory dormitory residence and reached the following conclusions.

1. Interpersonal communication quality significantly predicts student adjustment and constitutes the only effect of medium magnitude in the model, remaining positive and significant across all configurations tested.
2. None of the three support sources moderates that relationship, whether individually or simultaneously, and a model containing all three offers no predictive advantage over a model containing one.
3. Support nonetheless matters, through a different mechanism than hypothesised. Senior Resident support contributes directly to adjustment and peer support does so at a borderline level, indicating a main effect rather than a buffering effect, although the three direct paths were not tested against one another and cannot be treated as reliably distinguishable.

4. Family support diverged between phases, showing no aggregate effect quantitatively while producing a qualitative indication of buffering that the quantitative phase does not confirm; this pattern suggests that buffering is specific to conditions of sustained strain and is not legible as an average effect.
5. What differentiates successful from unsuccessful adjustment is not the severity of problems encountered but how they are handled, and specifically whether relational initiative is repeated after an initial rebuff.
6. A critical window operates within the first three months of residence, beyond which no spontaneous recovery was observed.

Taken together, these findings indicate that institutional efforts to improve adjustment in compulsory residence settings should address the quality of communication within rooms rather than assume that providing additional layers of support will strengthen it.

Limitations

Several limitations qualify these findings. The sample of 151, while exceeding the minimum threshold, remains modest for estimating three interaction terms simultaneously, and moderation tests have low power; null results cannot be read as evidence of absent moderation in the population. Discriminant validity was not established, so coefficients are read as exploratory mapping rather than precise estimates, and the uniformly positive single-occasion instrument may have contributed to overlap through common method variance. Instruments distinguished support by source rather than function, so the design tests source diversity as a proxy for the functional diversity on which the matching condition operates. Informants were selected on the outcome, making between-group comparisons interpretive rather than inferential; coding was performed by a single analyst without an intercoder agreement test, mitigated through member checking and an audit trail but not eliminated. The study covered one institution and cohort, three informants had already left the dormitory at interview, and the cross-sectional design cannot establish the direction between distress and family contact.

Recommendations

For institutions, three implications follow. Room orientation in the first week should produce explicit room agreements rather than ceremonial introduction, since the critical window closes early. Senior Resident practice should shift from a complaint-driven model to scheduled outreach, since the principal barrier was reluctance to raise problems rather than the absence of a channel. Complaint handling requires documented tracking with defined response times, since failure at follow-up rather than at reporting eroded trust.

For future research, longitudinal designs are needed to establish whether family contact precedes or follows adjustment difficulty. Moderation should be tested with instruments measuring support activation at moments of strain, differentiating functions rather than only sources. Subgroup or latent profile analysis among students under high relational strain would test buffering more appropriately than aggregate moderation. Finally, instrument development is needed for shared-residence settings, given that the constructs proved empirically inseparable here.

Author Contributions

The first author took primary responsibility for conceptualisation, instrument development, data collection, quantitative and qualitative analysis, and drafting. The second author contributed to the theoretical framework, the integration strategy, interpretation of results, and critical revision. Both authors have read and approved the final version submitted

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