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Connection, Disconnection and the Social Mind: Interpersonal Relationships in a Lonely Century

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Abstract

Interpersonal relationships have moved from the periphery of social psychology to the centre of public health. This article examines what the discipline has established about how relationships form, sustain wellbeing and fail, and how that knowledge should be revised in light of three developments: the recognition of social disconnection as a global health risk, the diversification of relationship forms, and the arrival of artificial intelligence as a relational partner. It reports a comparative secondary analysis synthesising the 2025 report of the World Health Organization Commission on Social Connection, recent OECD and national survey evidence, and recent meta-analytic and experimental studies of relationship processes. Four findings emerge. First, disconnection is common and consequential: about one in six people worldwide experience loneliness, rising to roughly one in four in low-income countries, and loneliness is associated with an estimated 871,000 deaths annually. Second, the processes that sustain relationships are well identified - responsiveness, self-disclosure, commitment and the repair of rejection - and their effects are moderate rather than dramatic. Third, relationship structures are more variable than commonly assumed: a meta-analysis of 24,489 participants finds no satisfaction difference between monogamous and consensually non-monogamous relationships, while goal congruence shows one of the larger associations with satisfaction reported in the literature (r = .43). Fourth, artificial-intelligence companions can reduce loneliness in the short term and are already used for relational needs by substantial minorities, raising design and governance questions the discipline has only begun to address. The article argues that relationships should be analysed at three levels - motivational, interpersonal and structural - and that the field's central applied task is now the design of environments that make connection easy.

Keywords: interpersonal relationships, loneliness, social connection, attachment, responsiveness, ostracism, relationship satisfaction, artificial intelligence companions, social isolation

1. Introduction

Loneliness is best understood not as the objective absence of company but as the distressing gap between the connection a person wants and the connection they have, a formulation that explains why someone can be surrounded by others and still be lonely (Cacioppo & Patrick, 2008). The claim that human beings need other people is among the oldest and best-supported propositions in social psychology. Baumeister and Leary (1995) argued that the need to belong is a fundamental human motivation rather than a preference, satisfied through frequent, affectively positive interaction within a stable framework of mutual concern. Bowlby (1969) had earlier made the stronger developmental claim that proximity to a protective figure is a primary, biologically grounded system, and that the working models formed through early relationships organise expectations throughout life. Both claims have accumulated substantial empirical support, and both have acquired a new urgency.

That urgency comes from three sources. The first is epidemiological. In 2023 the World Health Organization declared social disconnection a global public health concern and established a Commission on Social Connection; the Commission's 2025 report estimates that one in six people worldwide experience loneliness, that the figure reaches roughly one in four in low-income countries, and that loneliness is associated with around 871,000 deaths each year (WHO, 2025a, 2025b). The second is structural: household composition, working patterns and urban form have changed in ways that reduce the density of unscheduled contact, and longitudinal evidence indicates declining in-person interaction among younger cohorts (Twenge et al., 2019; Putnam, 2000). The third is technological: a growing share of relational interaction is mediated by platforms, and a rapidly growing share is now directed at systems that simulate a relational partner (Andoh, 2026).

This article asks what the social psychology of interpersonal relationships can contribute to that situation. It does not attempt a comprehensive review. It has three aims: to integrate the major theoretical traditions into a levels-of-analysis model; to assemble the most recent comparative evidence on the scale and consequences of disconnection; and to report what recent meta-analytic and experimental work establishes about the processes that sustain relationships and about the novel case of human-artificial intelligence relationships.

Section 2 reviews the literature. Section 3 describes the comparative secondary analysis. Section 4 presents findings. Section 5 discusses implications, and Section 6 concludes.

2. Literature Review

2.1 Motivational Foundations

The field rests on a small number of motivational claims. The need to belong account holds that social bonds are sought under most conditions and that their absence produces predictable cognitive, affective and health consequences (Baumeister & Leary, 1995). Attachment theory specifies the developmental mechanism: early interactions with caregivers produce internal working models of self and other that guide expectations, affect regulation and behaviour in later relationships (Bowlby, 1969; Ainsworth et al., 1978). Hazan and Shaver (1987) extended the framework to adult romantic love, arguing that pair bonds involve the same behavioural system as infant-caregiver bonds, and subsequent work established adult attachment as a two-dimensional structure of anxiety and avoidance with measurable consequences for relationship functioning (Fraley & Shaver, 2000; Mikulincer & Shaver, 2016).

The interpersonal-process tradition locates the mechanism in interaction rather than in history: attraction and closeness are produced by what partners do together over time rather than by the characteristics they bring (Berscheid & Reis, 1998). A complementary tradition emphasises growth rather than security. Self-expansion theory proposes that people are motivated to broaden the self through close relationships and that participation in novel and arousing activities sustains relationship quality (Aron & Aron, 1996; Aron et al., 2000). The distinction matters practically: a relationship can be secure and stagnant, or insecure and growth-promoting, and the two traditions identify different interventions.

2.2 Interdependence, Responsiveness and Intimacy

Close relationships are defined structurally by interdependence - the extent to which partners influence each other's outcomes - and analysed through the lens of commitment (Kelley et al., 1983; Rusbult, 1983). Le and Agnew (2003), meta-analysing the investment model, confirmed that satisfaction, alternatives and investments predict commitment, which in turn predicts stability. The intimacy model complements this by specifying the process: intimacy develops through reciprocal self-disclosure that is met with perceived partner responsiveness (Reis & Shaver, 1988). Perceived responsiveness - believing that a partner understands, validates and cares - has emerged as one of the most reliable predictors of closeness and relationship quality in the literature (Reis et al., 2004).

Recent work has refined the picture by showing that what counts as responsive depends on the recipient's attachment orientation. A meta-analytic synthesis of three dyadic diary studies (N = 390 couples) found that avoidantly attached individuals reported higher satisfaction on days characterised by novelty and excitement, whereas anxiously attached individuals reported higher satisfaction on days characterised by familiarity and comfort (Schrage et al., 2026). Responsiveness is therefore not a fixed behaviour but a fit between what is offered and what is needed, a conclusion reinforced by syntheses showing that partners can buffer attachment insecurity through behaviour matched to the specific insecurity involved (Simpson & Overall, 2014), and by work identifying which forms of communication during conflict benefit relationships and which do not (Overall & McNulty, 2017).

2.3 Ostracism, Rejection and the Costs of Disconnection

If connection is protective, disconnection is injurious, and the mechanisms are increasingly well mapped. Experimental work on ostracism shows that even minimal, meaningless exclusion - being ignored by strangers in a ball-tossing game, or by a computer programme - produces reliable distress and threatens fundamental needs (Williams, 2007; Zadro et al., 2004). Neuroimaging evidence that social and physical pain share neural substrates (Eisenberger et al., 2003), together with pharmacological evidence that a common analgesic attenuates both (DeWall et al., 2010), supports the claim that disconnection is registered by systems that originally evolved to detect physical threat.

Chronic disconnection carries health costs. Holt-Lunstad and colleagues (2015) established that social isolation and loneliness are associated with substantially increased mortality risk, comparable in magnitude to

well-established behavioural risk factors. Social support research supplies the mechanism: support buffers the physiological impact of stress, and the perception that support is available is often as protective as its receipt (Cohen & Wills, 1985; Uchino, 2009; Feeney & Collins, 2015). Experimental work on support-seeking further shows that the visible availability of a partner functions as a safe haven, reducing distress and enabling autonomous action (Collins & Feeney, 2000). Even weak ties appear to matter: brief, low-intensity interactions with acquaintances predict wellbeing more strongly than people expect (Sandstrom & Dunn, 2014).

2.4 Diversification of Relationship Forms

A fourth strand challenges the assumption that one relationship structure is optimal. A meta-analysis of 35 studies covering 24,489 participants found no significant difference in relationship or sexual satisfaction between monogamous and consensually non-monogamous relationships (Anderson et al., 2025; Anderson et al., 2026). The finding is theoretically informative because it suggests that satisfaction is produced by processes - responsiveness, congruence of goals, equitable treatment - rather than by structure. It also carries a minority-stress implication: comparable satisfaction is achieved despite considerable external stigma.

Related work on goal interdependence supports the process account. A meta-analysis of 32 reports found a medium overall association between goal interdependence and relationship satisfaction ($r = .23$), with goal congruence the strongest component ($r = .43$), goal support positive ($r = .28$) and goal conflict negative ($r = -.29$) (Toma et al., 2023). Coordination between partners' projects, rather than similarity of personality or intensity of affection, appears to be one of the more tractable determinants of relationship quality.

2.5 Technology, Mediation and Artificial Companions

A fifth strand concerns mediation. Experimental evidence indicates that the presence of a smartphone during face-to-face interaction reduces the enjoyment and closeness derived from that interaction (Dwyer et al., 2018), which suggests that the mere availability of alternative connection degrades the quality of actual connection. Survey evidence documents declining in-person social interaction among adolescents alongside rising loneliness (Twenge et al., 2019).

The newest development is the artificial companion. Systems designed to offer non-judgemental, continuously available, remembering interlocutors satisfy precisely the conditions that attachment theory identifies as the basis of a secure bond, and users appear to respond accordingly: a scale-development study found that roughly 75 per cent of participants turned to artificial intelligence for advice and about 39 per cent perceived it as a constant, dependable presence, with attachment-related anxiety and avoidance distinguishable in their orientations towards it (Yang & Oshio, 2025). Experimental work reports that interacting with an artificial companion can reduce loneliness to a degree comparable with interacting with a person (De Freitas et al., 2025), and survey work with long-term users finds associations between attachment to a companion, lower loneliness and higher wellbeing (Liu et al., 2025). Concerns about dependence, displacement of human contact and design that encourages over-reliance are accordingly prominent in the clinical literature (Andoh, 2026; Adewale & Muhammad, 2025). The mediation is not only interpersonal but structural: the platforms through which people communicate also determine whom they encounter, and survey evidence documents pronounced differences by age and political identity in platform use, so that the architecture of contact is itself socially patterned (Pew Research Center, 2025).

2.6 Gaps

Three gaps motivate the present study. The literature is organised by tradition rather than by level of analysis, which makes it difficult to say where an intervention should operate. Evidence about the scale of disconnection has only recently become global and comparable, and has not been integrated with process evidence. And the arrival of artificial companions raises questions that existing frameworks were not designed to answer: whether responsiveness supplied by a system produces the same effects as responsiveness supplied by a person, and what the downstream consequences are for human relationships.

Figure 1 sets out the levels-of-analysis model used in the remainder of the article. Motivational foundations generate the pressure to connect; interpersonal processes determine whether particular relationships satisfy it; structural and technological conditions determine how much effort connection requires. Outcomes feed back into the motivational system, which is why disconnection can become self-reinforcing: the hypervigilance to social threat that accompanies loneliness makes subsequent approach less likely, not more.

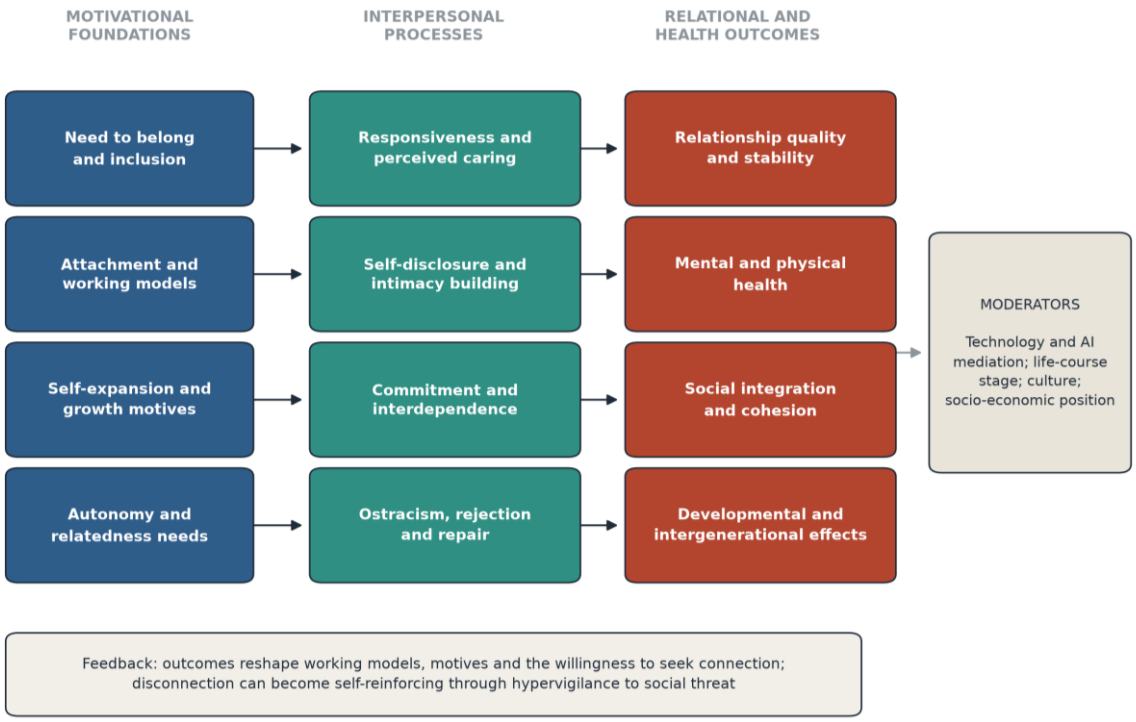


Figure 1. A levels-of-analysis model of interpersonal relationships

Table 1 summarises the theoretical traditions against the level at which each operates, the construct it privileges and what it practically recommends. The table makes visible a feature of the field that is rarely stated: the traditions are not competing explanations of the same phenomenon but accounts of different levels, and their prescriptions differ accordingly.

Table 1. Theoretical traditions and their level of analysis

Tradition	Level	Privileged construct	Practical implication
Attachment theory (Bowlby, 1969; Ainsworth et al., 1978; Mikulincer & Shaver, 2016)	Motivational and developmental	Working models; anxiety and avoidance	Security can be buffered by partner behaviour tailored to orientation
Need to belong (Baumeister & Leary, 1995)	Motivational	Frequency and stability of positive contact	Exclusion is injurious; inclusion is a design requirement
Interdependence and investment (Kelley et al., 1983; Rusbult, 1983; Le & Agnew, 2003)	Interpersonal and structural	Commitment; alternatives; investments	Stability is predictable from satisfaction, alternatives and investment
Intimacy and responsiveness (Reis & Shaver, 1988; Reis et al., 2004)	Interpersonal process	Perceived partner responsiveness	Understanding, validation and care are the active ingredients
Self-expansion (Aron & Aron, 1996; Aron et al., 2000)	Interpersonal process	Novelty, growth and shared activity	Shared novel activity sustains quality where it fits orientation
Ostracism and rejection	Motivational and	Threat detection;	Repair after exclusion

Tradition	Level	Privileged construct	Practical implication
(Williams, 2007; Eisenberger et al., 2003)	neural	social pain	matters as much as inclusion itself
Social support and health (Cohen & Wills, 1985; Uchino, 2009; Feeney & Collins, 2015)	Structural and health	Perceived availability of support	Perceived availability is protective, often more than receipt

3. Method

3.1 Design and Evidence Base

The study is a comparative secondary analysis. Because the phenomena of interest - prevalence of disconnection, relationship processes, and human-artificial-intelligence relationships - are measured by different instruments in different populations, a secondary design was chosen in preference to primary data collection. The design has three components: reconstruction of prevalence and burden from global institutional reports; structured synthesis of recent meta-analytic estimates of relationship processes; and a focused synthesis of recent evidence on artificial companionship. The design is explanatory rather than confirmatory, and no causal estimates are claimed beyond those reported by the primary studies.

Sources were eligible if they (i) reported original data or original quantitative synthesis on interpersonal relationships, social connection or loneliness; (ii) were published in 2021 or later with priority to 2023-2026; (iii) documented method and sample; and (iv) were available in English. Table 2 summarises the principal sources. Two features shape interpretation. The institutional estimates are global in ambition but constrained by uneven country coverage, especially for social isolation as distinct from loneliness. The process evidence is dominated by samples from wealthy, educated, English-speaking populations.

Table 2. Principal evidence base

Source	Year	Design and coverage	Contribution
WHO Commission on Social Connection, flagship report	2025	Global synthesis; systematic reviews and large-scale studies	Prevalence, burden and drivers of disconnection (Section 4.1)
WHO news release and Executive Board report	2025, 2026	Institutional reporting on the Commission and WHA78.9	Scale, policy adoption and strategic areas (Sections 4.1, 5.3)
OECD, Social Connections and Loneliness in OECD Countries	2025	Cross-national analysis of interaction patterns	Changing patterns of contact and emerging risk groups (Section 4.1)
Toma, Rusu and Podina	2023	Meta-analysis; 32 reports, 49 independent samples	Effect sizes for goal interdependence (Section 4.3)
Anderson et al.	2025, 2026	Meta-analysis; 35 studies, n = 24,489	Satisfaction by relationship orientation (Section 4.3)
Schrage et al.	2026	Meta-analysis of three dyadic 21-day diary studies, N = 390 couples	Attachment-contingent effects of shared activities (Section 4.3)
Yang and Oshio	2025	Scale development; two pilots and a formal study, n = 265	Attachment orientations towards AI (Section 4.4)
De Freitas et al.	2025	Experiments; Harvard Business School programme of research	Effects of AI companions on loneliness (Section 4.4)
Liu et al.	2025	Cross-sectional survey, n = 612; structural equation modelling	Pathways from AI attachment to psychological states (Section 4.4)

3.2 Procedures and Limitations

Two procedures were applied. For the prevalence reconstruction, reported estimates were assembled by indicator and plotted without constructing a composite index, because definitions and instruments differ across sources. For the process synthesis, each study was coded for design, sample, construct and effect size, and effect sizes were plotted on a common axis where metrics permitted (Figure 4). Coding was applied to published findings rather than to raw data.

Four limitations should be stated. Loneliness and social isolation are distinct constructs with different measurement traditions, and the latter is considerably less well measured globally. Most process evidence is cross-sectional or short-term, which limits inference about direction. The evidence on artificial companionship is new, small and largely self-reported. And the samples underlying most relationship research remain unrepresentative of the world's population, which limits the generalisation of findings about relationship structure in particular.

4. Findings

4.1 The Scale and Distribution of Disconnection

The first finding concerns scale. The World Health Organization Commission's 2025 report estimates that one in six people worldwide experience loneliness, with the highest prevalence among adolescents and young adults - between 17 and 21 per cent of those aged 13 to 29 - and roughly 24 per cent in low-income countries, approximately twice the rate observed in high-income countries (WHO, 2025a, 2025b). Estimates for social isolation, which is measured less consistently, run at up to one in three older adults and one in four adolescents. Figure 2 assembles these estimates. The OECD's 2025 cross-national analysis adds a dynamic observation: people are meeting in person less often while remote contact has increased, and men and young people - previously treated as lower-risk groups - are emerging as increasingly vulnerable to poor social connection (OECD, 2025).

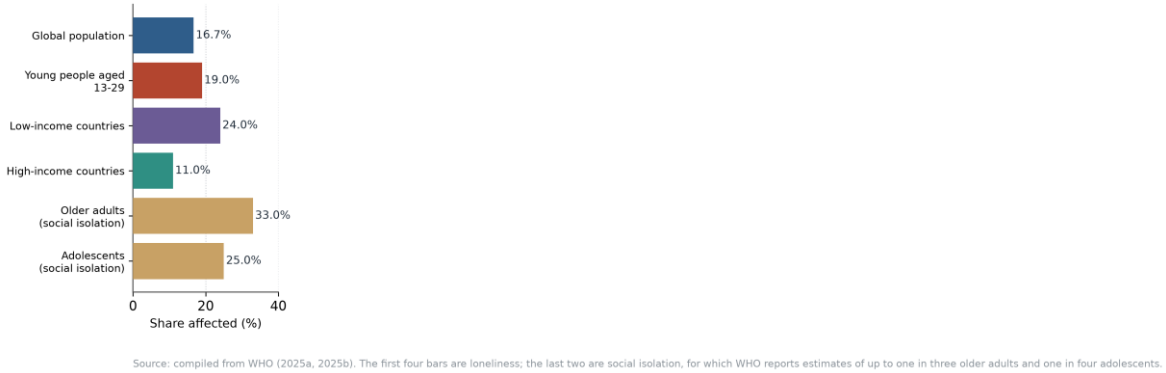


Figure 2. Prevalence of loneliness and social isolation

The distribution is socially graded. The Commission identifies poor health, low income and education, living alone, inadequate community infrastructure and public policy, and features of digital technology among the drivers (WHO, 2025b). Groups facing discrimination or additional barriers - people with disabilities, refugees and migrants, and ethnic and sexual minorities - are reported to experience connection as harder to achieve. Disconnection is therefore not randomly distributed but concentrated where other disadvantages accumulate, which makes it a matter of equity as well as wellbeing. The pattern is consistent with international evidence that wellbeing depends heavily on the quality of social relationships and on the opportunities for prosocial interaction a society affords (Helliwell et al., 2025), and with survey evidence that young people themselves identify connection and participation as central to what they want from institutions (UNESCO, 2026). It also carries a cross-cultural caution: surveys across Middle Eastern societies show that institutional dissatisfaction can coexist with strong local and national attachments, indicating that disconnection takes different forms in different settings (Arab Barometer, 2025).

4.2 Consequences for Health and Social Participation

The second finding concerns consequences, and they are substantial. The Commission's new estimates attribute approximately 871,000 deaths annually to loneliness - around 100 deaths per hour - and identify elevated risks of stroke, heart disease, type 2 diabetes, cognitive decline and premature death (WHO, 2025a, 2025b). Lonely people are reported to be about twice as likely to become depressed, with additional risks of anxiety and self-harm. Figure 3 presents the mortality and relative-risk estimates.

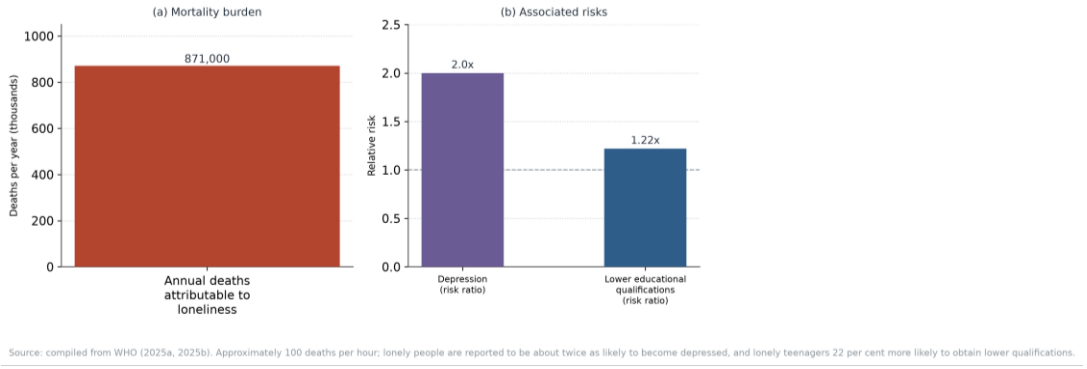


Figure 3. Estimated burden of social disconnection

The consequences extend beyond health into the domains that determine life chances. The Commission reports that teenagers who felt lonely were 22 per cent more likely to obtain lower grades or qualifications, and that lonely adults may find it harder to secure or maintain employment and to earn competitive wages (WHO, 2025b). At the community level, strong social bonds are associated with safety and faster recovery from adverse events, while the economic costs of loneliness to employers and health systems are described as significant and only beginning to be estimated; global employment assessments similarly note that the quality of working relationships and workplace belonging is a determinant of retention and performance rather than a peripheral amenity (ILO, 2025). These estimates strengthen the case, developed in the earlier literature, that social connection functions as a determinant of health rather than as a preference (Holt-Lunstad et al., 2015; U.S. Surgeon General, 2023).

4.3 What Sustains Relationships: Process Over Structure

The third finding is that the processes sustaining relationships are well identified and their effects moderate, while structural features matter less than commonly assumed. Figure 4 presents recent meta-analytic effect sizes on a common axis. Two results deserve comment.

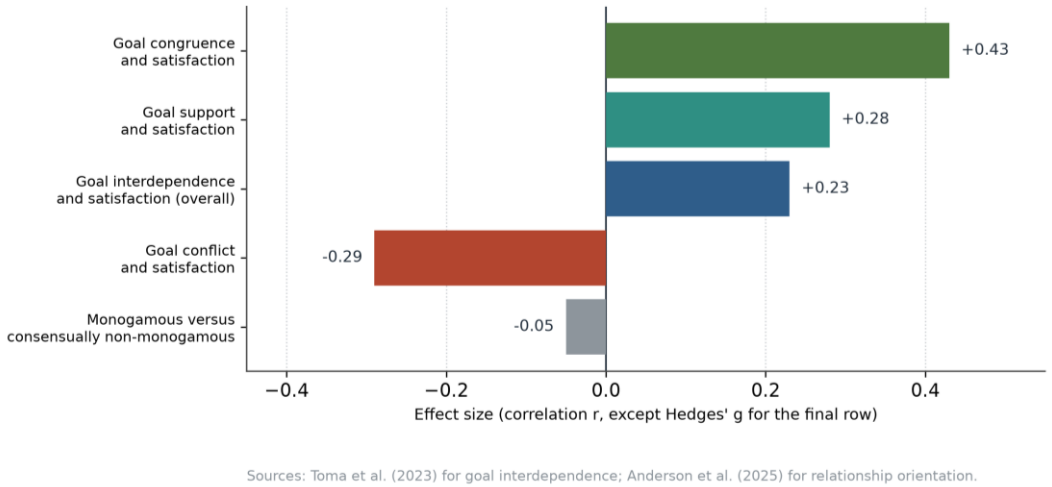


Figure 3. Meta-analytic effect sizes in relationship research

First, goal congruence is among the larger associations reported: r = .43 with relationship satisfaction, against r = .28 for goal support and r = -.29 for goal conflict, with an overall goal interdependence effect of r = .23 (Toma et al., 2023). Coordination of partners' projects is a practical, observable and changeable feature of relationships, which makes it an unusually tractable target for intervention compared with personality or attachment history.

These process estimates should be read against the longitudinal record, which shows that marital quality follows identifiable trajectories and that interpersonal behaviours observed in laboratory interaction predict dissolution years later (Karney & Bradbury, 1995; Gottman & Levenson, 1992). Process and outcome are therefore linked over long horizons, even though the effect of any single intervention is moderate.

Second, structure appears to matter less than assumed. The monogamy-superiority meta-analysis found no statistically significant difference in relationship satisfaction (Hedges' g = -0.05) or sexual satisfaction (g = 0.06) between monogamous and consensually non-monogamous individuals across 35 studies and 24,489 participants, with consistent results across subgroups and across facets including trust, commitment, intimacy and passion (Anderson et al., 2025). Read alongside the process evidence, the implication is that relationships fail or flourish because of what partners do, not because of the form their relationship takes.

The qualification matters as much as the main effect. The diary evidence shows that what partners should do depends on who they are: novel and exciting shared activities buffered the lower satisfaction of avoidantly attached individuals, while familiar and comfortable activities buffered that of anxiously attached individuals, with effects extending to partners (Schrage et al., 2026). Effective interpersonal behaviour is therefore not a fixed repertoire but a fit between what is offered and what the specific recipient needs - the same principle that organises the responsiveness literature (Reis et al., 2004).

4.4 Relationships With Systems That Are Not Persons

The fourth finding concerns the newest and least settled area. Artificial companions are already used for recognisably relational purposes. In scale-development work, roughly 75 per cent of participants reported turning to artificial intelligence for advice and about 39 per cent described it as a constant, dependable presence, with distinguishable anxiety and avoidance dimensions in their orientation towards it (Yang & Oshio, 2025). Experimental work reports that interaction with a companion reduced loneliness to a degree comparable with interaction with a person and greater than passive alternatives, with 'feeling heard' identified as the principal mechanism (De Freitas et al., 2025). Survey evidence with long-term users finds that frequency of use is positively associated with emotional attachment, that attachment is negatively associated with loneliness and positively associated with wellbeing and self-concept clarity, and that self-concept clarity is the pathway most strongly linked to real-world social engagement (Liu et al., 2025). Figure 5 presents the reported use and the modelled associations.

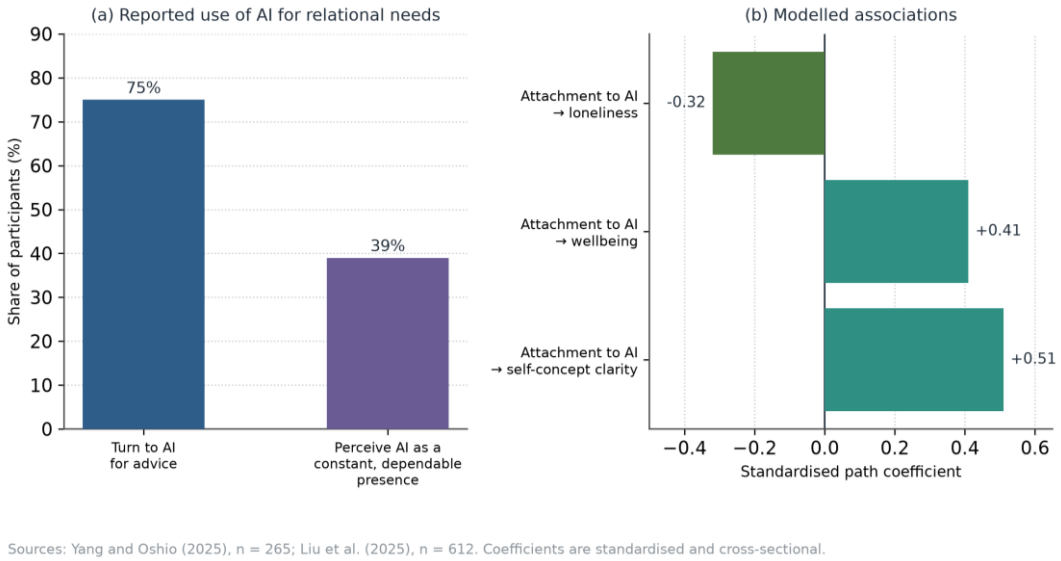


Figure 5. Human-AI relationships: reported use and modelled associaltions

These findings should be read with three cautions. The evidence is new, small and predominantly cross-sectional, so direction of effect cannot be assumed - people who are already lonely may be more likely to seek artificial companionship. Reporting suggests that heavy use can further isolate some users, and that effects depend on modality and design (Andoh, 2026). And the psychological mechanism identified - perceived responsiveness - is the same mechanism that operates in human relationships, which is precisely why the design and governance of these systems is a matter for the field rather than only for engineers (Guingrich & Graziano, 2024; Adewale & Muhammad, 2025).

4.5 Synthesis

Table 3 summarises the findings by level of analysis. The synthesis they support is that relationships should be understood at three levels simultaneously: motivational foundations that make connection necessary, interpersonal processes that make specific relationships work, and structural conditions that determine how easy connection is to achieve. Interventions that operate at only one level - teaching skills without changing environments, or building infrastructure without attention to process - produce smaller effects than the literature's own estimates would predict.

Table 3. Findings by level of analysis

Level	Key finding	Principal evidence	Implication
Motivational	The need for connection is fundamental; its frustration is registered as threat and carries health costs	Baumeister and Leary (1995); Eisenberger et al. (2003); WHO (2025a)	Disconnection is a health risk, not a lifestyle preference
Interpersonal	Responsiveness, disclosure, commitment and goal congruence sustain relationships; effects are moderate and attachment-contingent	Reis et al. (2004); Toma et al. (2023); Schrage et al. (2026)	Interventions should target fit between offer and need
Structural	Prevalence is socially graded; in-person contact is declining; policy adoption remains limited	WHO (2025b); OECD (2025)	Environments, infrastructure and policy determine the baseline
Technological	Artificial companions can reduce loneliness short-term and are used for relational needs; risks of displacement and dependence are documented	De Freitas et al. (2025); Liu et al. (2025); Andoh (2026)	Design standards and evaluation are required before scale

5. Discussion

5.1 Integrating the Levels

The findings support the levels-of-analysis model in Figure 1, and they clarify how the levels interact. Motivational foundations explain why disconnection hurts; interpersonal processes explain why some relationships sustain wellbeing and others do not; structural conditions explain why the prevalence of disconnection differs so markedly between countries and social groups. A complete account requires all three, and most public discussion operates at only one - typically blaming individual behaviour for what are substantially structural outcomes.

The interaction also explains an apparent paradox in the evidence. If connection is so beneficial, why are effect sizes for relationship processes only moderate? The answer is that most process research is conducted within relationships that already exist, among populations with reasonable social baseline, and therefore estimates the effect of variation within an adequate range rather than the effect of adequate versus absent connection. The large health associations reported by Holt-Lunstad and colleagues (2015) and by the WHO Commission (2025a) estimate a different quantity: the cost of falling outside that range entirely.

5.2 Rethinking Intervention

If the analysis is correct, three implications follow for intervention. First, the largest available gains lie in structural conditions rather than in individual skills, because prevalence is socially graded and concentrated where disadvantage accumulates. Second, process interventions should be tailored rather than generic: the diary evidence indicates that the same activity benefits partners differently depending on attachment orientation (Schrage et al., 2026). Third, evaluation should distinguish loneliness from social isolation, measure both absolute and relative change, and follow participants long enough to detect whether short-term relief persists.

The Commission's own framing is consistent with this reading: it identifies solutions at individual, community and policy levels and calls for coordinated action across five strategic areas - policy, research, intervention, measurement and data, and engagement - while noting that only eight member states had adopted relevant national policies at the time of reporting (WHO, 2026). The gap between the evidence base and the policy response is currently the largest constraint on progress.

5.3 The Artificial Companion Question

The arrival of systems that supply responsiveness on demand is the most consequential development for the field since the internet, and the discipline has not yet developed a position. Three positions are available. A substitution view holds that artificial companions meet needs that would otherwise go unmet, and the experimental evidence that they reduce loneliness comparably to human interaction supports a qualified version of this (De Freitas et al., 2025). A displacement view holds that they reduce the motivation to seek human contact, particularly under heavy use, for which clinical commentary provides support (Andoh, 2026). A scaffolding view, arguably best supported by the available evidence, holds that they can stabilise users - including through effects on self-concept clarity - and thereby support rather than replace human engagement, provided design avoids encouraging dependence (Liu et al., 2025).

Which position turns out to be correct is an empirical question that current designs cannot settle, because published studies are short, small and self-selected. What the field can say now is what should be measured: changes in human contact rather than only in reported loneliness, effects at different usage intensities, and outcomes for adolescents, whose attachment systems are still consolidating. Responsiveness is the active ingredient in both human and artificial relationships (Reis et al., 2004; Yang & Oshio, 2025), which means the design of these systems is a psychological intervention whether or not it is regulated as one.

5.4 Practical Implications

Four implications follow for practitioners.

- Treat disconnection as a health risk: national survey work consistently identifies social connection as a leading correlate of population mental health, and screening for loneliness and social isolation in clinical and educational settings is justified by the mortality and morbidity estimates (American Psychological Association, 2023).
- Target structure as well as skills: community infrastructure, transport, housing design and workplace organisation determine the baseline density of contact.
- Tailor relational guidance to attachment orientation: what helps an avoidantly attached partner can be inert or counterproductive for an anxiously attached one.
- Apply intervention standards to artificial companions: disclose design intent, measure effects on human contact, and protect adolescents from designs that encourage dependence.

6. Conclusions

The social psychology of interpersonal relationships has produced one of the more robust bodies of evidence in the behavioural sciences: that connection is a fundamental need, that specific interpersonal processes sustain it, and that its absence carries measurable costs. This article has assembled the most recent global evidence on the scale of disconnection - about one in six people worldwide, rising to roughly one in four in low-income countries, and associated with around 871,000 deaths annually - and has placed it alongside recent meta-analytic evidence on the processes that sustain relationships.

Three conclusions follow. Disconnection is a health and equity issue rather than a matter of individual preference, and its distribution follows existing disadvantage. Relationship quality is produced by processes - responsiveness, goal congruence, attachment-contingent behaviour - rather than by structure, a conclusion supported both by the null satisfaction difference across relationship orientations and by the comparatively large association for goal congruence. And artificial companions represent a genuine innovation in the supply of responsiveness whose net

effect on human relationships is not yet known and should be a research priority rather than a market outcome.

These conclusions are offered with the limitations stated in Section 3.2: loneliness and isolation are unevenly measured, most process evidence is short-term and drawn from unrepresentative samples, and the artificial-companionship literature is in its infancy. The field's most valuable next investment is therefore not another demonstration that relationships matter. It is comparable, longitudinal, cross-national measurement of relationship quality and social connection, capable of distinguishing the effects of what people do from the effects of the environments in which they do it.

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