

Coping Strategies and Psychological Well-Being in Young Women with Autoimmune Disorders: The Role of Age at Diagnosis, Treatment, and Illness Activity

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Abstract: Autoimmune disorders disproportionately affect women and often emerge during adolescence or early adulthood, a critical period for psychosocial development. This study examined the relationship between coping strategies and psychological well-being among 60 women aged 18-35 years diagnosed with autoimmune disorders. Using a cross-sectional correlational design, participants completed a sociodemographic and clinical schedule, Ryff's Psychological Well-Being Scale, and the Brief COPE. Non-parametric analyses, including Spearman correlations, Mann-Whitney U tests, and Kruskal-Wallis tests, were conducted. All 14 coping strategies were significantly associated with the six dimensions of psychological well-being ($p < .01$). Acceptance showed the strongest positive associations ($p = .72-.79$), while venting ($p = -.69$ to $-.80$) and behavioural disengagement ($p = -.68$ to $-.78$) showed the strongest negative associations. Women diagnosed between 16 and 20 years reported higher well-being than those diagnosed between 10 and 15 years. Well-being also varied according to treatment type and current illness condition, whereas diagnostic category, illness duration, and family history were not significantly related to well-being. The findings highlight coping strategies, age at diagnosis, and current disease context as important determinants of psychological well-being and support the integration of psychological screening and coping-focused interventions into routine care for young women with autoimmune disorders.

Keywords: autoimmune disorders; coping strategies; psychological well-being; Brief COPE; young women; chronic illness; age at onset

1. Introduction

Autoimmune disorders are a heterogeneous group of more than 80 conditions in which the immune system fails to distinguish the body's own tissues from foreign agents and mounts a response against healthy cells, tissues or organs (National Academies of Sciences, Engineering, and Medicine [NASEM], 2022; National Institute of Environmental Health Sciences [NIEHS], 2026). Systemic lupus erythematosus (SLE), psoriasis, type 1 diabetes, Graves' disease and related conditions differ in the organs they affect, but they share features that make them psychologically demanding: a chronic and often unpredictable course, pain and fatigue, periods of flare and remission, and long-term treatment (National Institutes of Health [NIH], 2022). Women are disproportionately affected, although the size of the sex difference varies by condition (NASEM, 2022).

The psychological burden of these conditions is well documented. A recent meta-analysis found a bidirectional association between autoimmune disease and depression (Li et al., 2024), and patients with systemic autoimmune rheumatic diseases describe lives in which work, relationships and plans have contracted around the illness (Piper et al., 2025). Adaptation is nonetheless possible and appears to depend on how people appraise and manage the illness over time rather than on the diagnosis alone (Beers et al., 2025; Tunks et al., 2026).

Young women form a group of particular concern. For many, onset falls in adolescence or early adulthood, when

identity, autonomy, intimate relationships and educational and occupational goals are being established. Chronic illness during this period is linked to poorer psychosocial well-being across a range of domains (Berkelbach van der Sprenkel et al., 2026; Cavanagh et al., 2025). In South Asian populations, emotional distress linked to long-term conditions is often expressed and recognised differently, and is under-studied (Awan et al., 2022).

A focus on positive functioning matters clinically as well as theoretically. Medical care for autoimmune disease is organised around disease activity and symptom control, and psychological assessment, where it happens, usually screens for depression or anxiety. Women who are not clinically distressed may still struggle to keep a sense of purpose, mastery or self-acceptance, and these difficulties can go unnoticed in routine follow-up. Identifying the coping patterns and illness characteristics associated with lower well-being could help clinicians decide whom to refer and what kind of support to offer.

Three gaps motivate the present study. First, most research on autoimmune disease has measured distress, such as depression and anxiety, rather than positive psychological functioning. Second, coping has usually been studied within a single diagnosis, such as rheumatoid arthritis (Hinch & Sirois, 2024) or multiple sclerosis (Culicetto et al., 2024), leaving open whether coping-adjustment links hold across conditions. Third, illness characteristics such as age at diagnosis, treatment type and current disease activity are rarely examined together as correlates of well-being in young women.

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This study therefore had two objectives: (a) to examine the relationship between the six dimensions of psychological well-being and 14 coping strategies among young women with autoimmune disorders; and (b) to examine whether well-being and coping differ according to six illness characteristics: type of disorder, age at diagnosis, duration of illness, family history, type of treatment and current illness condition.

2. Theoretical Background and Hypotheses

2.1 Psychological well-being

Ryff (1989) defined psychological well-being in eudaimonic terms, as positive functioning rather than the mere absence of distress. Her model comprises six related but distinct dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance (Ryff & Keyes, 1995). The model suits chronic illness research because each dimension maps onto a recognised challenge of living with a long-term condition: keeping a sense of agency under treatment demands, managing daily life around symptoms, continuing to grow when plans are disrupted, sustaining relationships, keeping a sense of direction and accepting a changed body. In rheumatoid arthritis, for example, satisfaction of basic psychological needs and a sense of agency are linked to better mental well-being (Baliko et al., 2025).

2.2 Coping

The transactional model describes coping as cognitive and behavioural efforts to manage demands appraised as taxing or exceeding a person's resources (Lazarus & Folkman, 1984). The Brief COPE (Carver, 1997) operationalises 14 strategies and is among the most frequently used coping measures (Kato, 2015). Its strategies are commonly grouped into approach-oriented responses, such as active coping, planning, positive reframing, acceptance and seeking support, and avoidant or disengaged responses, such as denial, behavioural disengagement, substance use and self-blame (Monzani et al., 2015). Approach coping is also more common among people with an optimistic disposition (Solberg Nes & Segerstrom, 2006).

2.3 Coping and adjustment in autoimmune disease

In a meta-analysis of rheumatoid arthritis studies, avoidant and emotion-focused strategies were associated with greater psychological distress, whereas several approach strategies were associated with less (Hinch & Sirois, 2024). A systematic review in multiple sclerosis similarly linked adaptive coping to better quality of life (Culicetto et al., 2024). Among women with SLE, social support was associated with better emotional well-being alongside disease activity (Alnaimat et al., 2025). Qualitative work shows that psychosocial factors shape how patients manage disease activity (Stoll et al., 2024), and reviews increasingly argue for integrating psychological and lifestyle interventions into routine rheumatology care (Bekarissova et al., 2024; Geertsema-Hoeve et al., 2024).

Most of this evidence comes from older, mixed-sex samples studied within one diagnosis, and it focuses on distress. Whether the same coping patterns relate to positive functioning in young women across autoimmune conditions is less clear.

2.4 Hypotheses

H1a. Psychological well-being will be positively associated with active coping, emotional support, instrumental support, positive reframing, planning, humour, acceptance and religion.

H1b. Psychological well-being will be negatively associated with self-distraction, denial, substance use, behavioural disengagement, venting and self-blame.

H2. Psychological well-being and coping will differ according to illness characteristics, specifically age at diagnosis, type of treatment and current illness condition. Differences by diagnostic category, illness duration and family history were examined without a directional prediction.

3. Method

3.1 Design and participants

A quantitative, cross-sectional, correlational design was used (Figure 1). Sixty women aged 18–35 years with a medically diagnosed autoimmune disorder were recruited by purposive sampling. Inclusion criteria were a confirmed diagnosis, the ability to understand and complete the instruments, and written informed consent; incomplete protocols were excluded. All participants lived in urban areas and were receiving prescribed treatment at the time of the study. Their characteristics are summarised in Table 1.

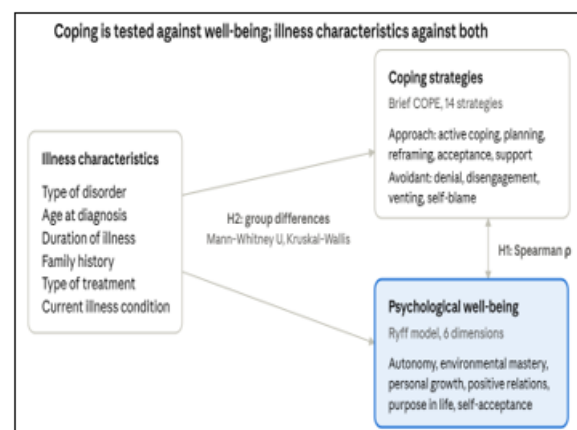


Figure 1: Study model and analyses · 6 illness characteristics, 14 coping strategies, 6 well-being dimensions

Table 1: Sample characteristics (N = 60)

Characteristic	Category	n (%)
Age group	18–21 years (late adolescence)	21 (35.0)
	22–35 years (young adulthood)	39 (65.0)
Occupation	Student	20 (33.3)
	Employed	40 (66.7)
Marital status	Unmarried	20 (33.3)
	Married	40 (66.7)
Reported diagnosis	Psoriasis	13 (21.7)
	Systemic lupus erythematosus	12 (20.0)
	Type 1 diabetes mellitus	12 (20.0)
	Osteoarthritis	11 (18.3)
	Graves' disease	11 (18.3)
	Thyroid disorder, anaemia and psoriatic arthritis	1 (1.7)
Age at diagnosis	10–15 years	37 (61.7)
	16–20 years	23 (38.3)
Duration of illness	More than 1–3 years	32 (53.3)
	More than 5 years	28 (46.7)
Family history of autoimmune disease	Yes	12 (20.0)
	No	48 (80.0)
Type of treatment	Oral medication	35 (58.3)
	Injectable medication	12 (20.0)
	Immunosuppressive medication	13 (21.7)
Current illness condition	Stable or controlled	9 (15.0)
	Mildly active	12 (20.0)
	Moderately active	39 (65.0)
Flares in the past year	2–3	24 (40.0)
	More than 5	36 (60.0)

Source: Prepared by Researcher

3.2 Measures

Sociodemographic and Clinical Information Schedule: A structured schedule recorded age, education, occupation, marital and relationship status, living arrangement, diagnosis, age at diagnosis, illness duration, family history of autoimmune disease, treatment type, current illness condition, flare frequency and self-rated physical health.

Psychological Well-Being Scale: Well-being was assessed with a scale based on Ryff's (1989) model, yielding scores for autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. Higher scores indicate more positive functioning.

Brief COPE: The Brief COPE (Carver, 1997) assesses 14 coping strategies with two items each, rated from 1 (*I haven't been doing this at all*) to 4 (*I've been doing this a lot*), giving subscale scores of 2 to 8.

3.3 Procedure and ethics

Permission was obtained from the relevant authorities before data collection. Eligible participants received information about the study's purpose, were told that participation was voluntary and that they could withdraw at any time, and gave written informed consent. The clinical schedule was administered first, followed by the well-being scale and the Brief COPE. Questionnaires were checked for completeness, and no identifying information was retained in the dataset.

3.4 Data analysis

Analyses were run in SPSS version 25 with $\alpha = .05$. Shapiro–Wilk tests showed that most subscales departed from normality, so non-parametric procedures were used. Spearman's ρ tested H1. Mann–Whitney U tests compared two-group characteristics (age at diagnosis, duration, family history), and Kruskal–Wallis H tests compared characteristics with three or more groups (diagnosis, treatment, illness condition). For this article, effect sizes were derived from the reported statistics: $r = z/\sqrt{N}$ for Mann–Whitney tests and $\varepsilon^2 = H/(N - 1)$ for Kruskal–Wallis tests.

4. Results

4.1 Descriptive statistics

Mean well-being scores were similar across dimensions, ranging from 16.85 (SD = 6.06) for autonomy to 18.85 (SD = 5.65) for positive relations. Among coping strategies, religion (M = 6.70, SD = 1.45), venting (M = 6.60, SD = 1.91) and positive reframing (M = 6.45, SD = 2.07) were endorsed most, and humour and self-blame least (both M = 5.42). Shapiro–Wilk statistics ranged from .940 to .961 for well-being and from .917 to .981 for coping. The six well-being dimensions were strongly intercorrelated ($\rho = .78$ to .93, $p < .01$).

4.2 Coping and psychological well-being (H1)

All 84 coping–well-being correlations were significant at $p < .01$, and each strategy related to all six dimensions in the same direction (Figure 2). H1a and H1b were therefore supported. Acceptance showed the strongest and most consistent positive association ($\rho = .72$ to .79), followed by positive reframing (.69 to .74), planning (.67 to .75), instrumental support (.59 to .78), emotional support (.57 to .74) and active coping (.59 to .74). Religion showed the weakest positive association (.39 to .56). Substance use showed the strongest negative association ($\rho = -.69$ to $-.80$, peaking with autonomy), followed by behavioural disengagement ($-.68$ to $-.78$) and denial ($-.63$ to $-.71$). Purpose in life was the dimension most often at the extreme of a strategy's range, for instance with instrumental support ($\rho = .78$) and behavioural disengagement ($\rho = -.78$).



Figure 2: Spearman correlations between 14 coping strategies and six well-being dimensions · N = 60

Source: Prepared by Researcher

4.3 Age at diagnosis

Women diagnosed at 16–20 years had higher mean ranks than those diagnosed at 10–15 years on all six dimensions (Figure 3). Differences were clearest for positive relations ($U = 246.5$, $p = .006$, $r = .35$) and personal growth ($U = 256.5$, $p = .005$, $r = .33$), and smaller for self-acceptance ($p = .039$), purpose in life ($p = .048$), autonomy and environmental mastery (both $p = .049$). Age at diagnosis was not related to any coping strategy (all $p \geq .25$).

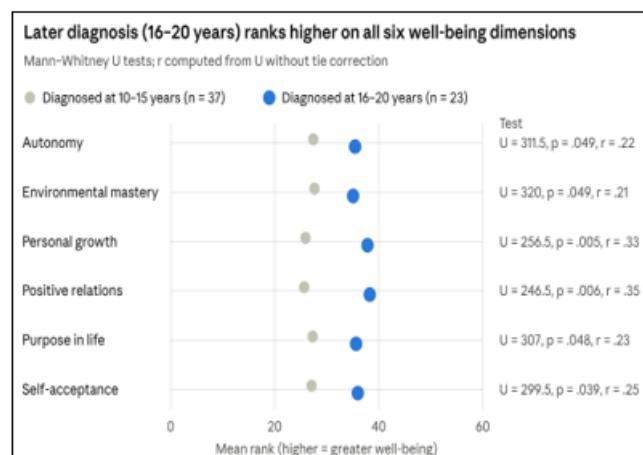


Figure 3: Psychological well-being by age at diagnosis · Mann–Whitney U tests, $N = 60$,

Source: Prepared by Researcher

4.4 Type of treatment

Well-being differed by treatment type on all six dimensions (Figure 4). Effects were large for purpose in life ($\chi^2(2) = 36.02$, $p < .001$, $\epsilon^2 = .61$), environmental mastery ($\epsilon^2 = .58$), autonomy ($\epsilon^2 = .55$), self-acceptance ($\epsilon^2 = .48$) and personal growth ($\epsilon^2 = .47$), and small for positive relations ($\chi^2(2) = 6.14$, $p = .047$, $\epsilon^2 = .10$). The immunosuppressive-medication group ranked lowest on every dimension (mean ranks 8.8 to 20.2), whereas the injectable-medication group ranked highest on four. All 14 coping strategies also differed by treatment type (all $p \leq .001$). The oral-medication group ranked highest on active coping, planning and positive reframing, but also on venting and self-blame. The immunosuppressive group ranked highest on emotional support, acceptance and humour, and lowest on active coping (mean rank 9.3).

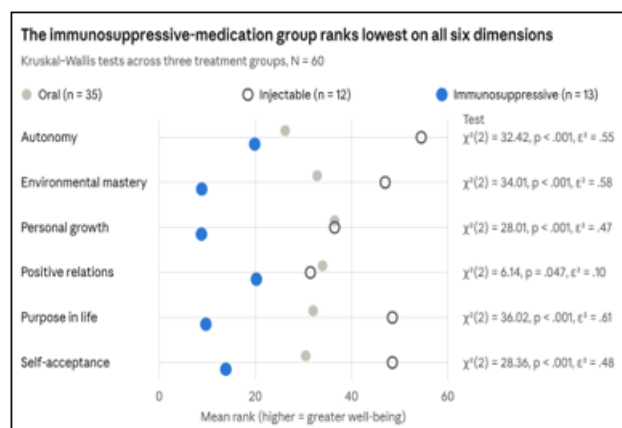


Figure 4: Psychological well-being by type of treatment · Kruskal–Wallis tests, $N = 60$

Source: Prepared by Researcher

4.5 Current illness condition

Well-being also differed by current illness condition on all six dimensions (Figure 5). Effects were large for personal growth ($\chi^2(2) = 34.96$, $p < .001$, $\epsilon^2 = .59$), purpose in life ($\epsilon^2 = .55$) and environmental mastery ($\epsilon^2 = .52$), and smaller for autonomy ($\chi^2(2) = 8.12$, $p = .017$, $\epsilon^2 = .14$). The pattern was not a simple gradient. The mildly active group ranked lowest on every dimension (mean ranks 6.5 to 18.5), the stable group ranked highest on five, and the moderately active group was intermediate except on purpose in life, where it ranked highest. Current condition was associated with 12 of 14 coping strategies; only instrumental support ($p = .063$) and behavioural disengagement ($p = 1.00$) did not differ. The stable group ranked highest on active coping, planning, positive reframing and religion.

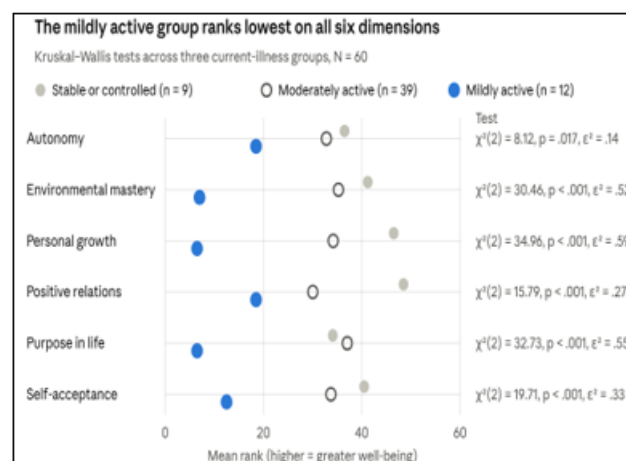


Figure 5: Psychological well-being by current illness condition · Kruskal–Wallis tests, $N = 60$

Source: Prepared by Researcher

4.6 Characteristics unrelated to well-being

Diagnostic category (all $p \geq .198$), illness duration (all $p \geq .263$) and family history (all $p \geq .213$) were not associated with any well-being dimension. Duration was also unrelated to coping (all $p \geq .16$). Family history was associated with 10 of 14 coping strategies in a mixed pattern: women with a family history ranked higher on active coping, planning, emotional support and religion, but also on denial and self-blame, and lower on self-distraction, instrumental support, humour and acceptance. Coping also differed across diagnostic categories, but because one category contained a single participant these results are not interpreted. Table 2 summarises the pattern.

Table 2: Number of outcomes differing significantly ($p < .05$) by illness characteristic

Illness characteristic	Test	Well-being dimensions (of 6)	Coping strategies (of 14)
Type of treatment	Kruskal–Wallis	6	14
Current illness condition	Kruskal–Wallis	6	12
Age at diagnosis	Mann–Whitney U	6	0
Family history	Mann–Whitney U	0	10
Duration of illness	Mann–Whitney U	0	0
Type of disorder	Kruskal–Wallis	0	14 ^a

^a One diagnostic category contained a single participant; not interpreted.

Source: Prepared by Researcher

5. Discussion

Among young women with autoimmune disorders, how they cope was closely tied to psychological well-being, and well-being varied with age at onset, treatment and current illness activity rather than with diagnosis or years since diagnosis.

5.1 Coping as a correlate of well-being

The consistent split between approach and avoidant strategies supports the transactional view of coping (Lazarus & Folkman, 1984). It also extends meta-analytic evidence from rheumatoid arthritis, where avoidant coping was linked to greater distress (Hinch & Sirois, 2024), to positive functioning in young women across several conditions. Acceptance had the strongest positive associations. In conditions whose course cannot be controlled, accepting the illness may free effort for goals that remain attainable, which fits its particularly strong link with purpose in life. Planning, positive reframing and instrumental support were similarly tied to purpose in life and environmental mastery, the dimensions most concerned with directing one's life and managing its demands.

Venting was the strongest negative correlate, even though it was among the most frequently used strategies. In the Brief COPE, venting captures the expression of negative feelings rather than the receipt of support. When symptoms persist, repeated venting without resolution may resemble rumination and signal unresolved distress. Its strongest link was with autonomy, suggesting that women who feel least in control of their lives may express distress most. Religion was the most frequently endorsed strategy but showed the weakest positive association. In this sample, religious coping appears to be a widely shared cultural resource rather than a strong differentiator of well-being.

The correlations observed (up to $|r| = .80$) are larger than those typically reported in coping research (Kato, 2015), and the well-being dimensions themselves correlated at up to .93. Shared self-report method and a general adjustment factor probably inflated these values, so the pattern of signs is more trustworthy than the exact magnitudes.

5.2 Developmental timing of onset

Women diagnosed at 10–15 years reported lower well-being, most clearly in positive relations and personal growth. Early adolescence is when peer relationships, identity and a sense of a developing self take shape. An illness that begins then may disrupt these tasks in ways that persist into adulthood, consistent with evidence that chronic conditions affect adolescents' psychosocial well-being (Berkelbach van der Sprenkel et al., 2026; Cavanagh et al., 2025). Age at onset was not associated with any coping strategy, which suggests that early onset affects well-being through developmental pathways other than current coping. Illness duration was unrelated to both outcomes. This fits qualitative accounts in which adaptation depends on meaning-making and life

circumstances rather than on time alone (Beers et al., 2025; Tunks et al., 2026).

5.3 Treatment and illness activity

The immunosuppressive-medication group ranked lowest on all six dimensions. Treatment type is best understood as a marker of disease severity and treatment burden, including side effects, monitoring and infection risk, rather than as a cause in itself. Because treatment was not randomised and is confounded with diagnosis and severity, these differences should not be read as effects of the medication.

Treatment groups also differed in coping, and not in a uniformly adaptive or maladaptive direction. The oral-medication group reported the most active coping, planning and positive reframing, but also the most venting and self-blame, which suggests a high level of coping effort of every kind. The immunosuppressive group reported the least active coping but the most acceptance, emotional support and humour. Women facing intensive treatment may shift from trying to change their situation towards accommodating it and drawing on others. Whether this shift protects well-being over time, or reflects resignation, cannot be determined from cross-sectional data.

The illness-condition findings were unexpected: the mildly active group, not the moderately active group, had the lowest well-being. Women with mildly active disease may be in an earlier or more uncertain phase, before treatment and routines have stabilised, whereas those with moderate but long-standing activity may have adjusted. The small subgroup ($n = 12$) and its very low mean ranks also suggest that unmeasured factors may be shared within this group. Replication with a validated disease activity index is needed before drawing clinical conclusions. The stable group's greater use of active coping, planning and positive reframing nonetheless fits the view that disease control and approach coping reinforce each other (Stoll et al., 2024).

5.4 Family history

Family history was unrelated to well-being but was associated with a mixed coping profile: more planning, active coping and emotional support, alongside more denial and self-blame. Watching a relative live with autoimmune disease may provide a model for practical management and, at the same time, a source of anxiety or guilt about heritability. This possibility merits qualitative exploration.

5.5 Strengths

The study has several strengths. It examined positive psychological functioning rather than distress alone, assessed the full range of 14 Brief COPE strategies rather than broad composites, and considered six illness characteristics together in the same sample. It focused on young women, a group at elevated risk of autoimmune disease whose developmental needs are often overlooked in samples dominated by older adults. Reporting effect sizes alongside significance tests also allows readers to judge which differences are substantial, such as the large treatment and illness-condition effects, and which are marginal.

5.6 Implications for practice

Three implications follow. First, brief screening of coping and well-being could be built into routine follow-up in rheumatology, dermatology and endocrinology clinics. Second, psychological interventions could strengthen acceptance, planning and positive reframing while reducing disengagement and unproductive venting, in line with calls to integrate psychological care into autoimmune disease management (Bekarissova et al., 2024; Geertsema-Hoeve et al., 2024). Third, girls diagnosed in early adolescence and women on intensive immunosuppressive regimens are priority groups for developmentally informed psychosocial support, including family involvement.

6. Limitations and Future Research

The cross-sectional design precludes causal inference; poor well-being may as plausibly lead to disengaged coping as the reverse. The purposive, urban sample of 60 limits generalisability, and subgroups were unequal, with one diagnostic category containing a single participant. Diagnoses were self-reported and grouped as reported; they included osteoarthritis, which is usually classed as degenerative rather than autoimmune, so future studies should verify diagnoses against medical records. Current illness condition was self-rated rather than measured with a validated disease activity index. Many tests were run without correction for multiple comparisons, so results near $p = .05$, such as several age-at-diagnosis comparisons, should be treated as provisional. Finally, reliability coefficients were not estimated in this sample.

Longitudinal studies with larger, clinically verified samples are needed to test whether coping predicts later well-being, and intervention trials should evaluate acceptance- and planning-based programmes for young women with autoimmune disorders, especially those diagnosed in early adolescence.

7. Conclusion

In this sample of young women with autoimmune disorders, every coping strategy measured was linked to psychological well-being: acceptance, reframing, planning and support with better functioning, and venting, disengagement and denial with poorer functioning. Well-being was lower among women diagnosed in early adolescence, those receiving immunosuppressive treatment and those with currently active disease, but did not differ by diagnosis or illness duration. Psychological care for this group should therefore be guided by how women cope and by their developmental and clinical context, not by diagnostic label alone.

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