Ansiedad y Estrés 31(3) (2025) 159-166

Ansiedad y Estrés

https://www.ansiedadyestres.es

Original

Predictors of life satisfaction in adults with type 2 diabetes

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ARTICLE INFO

Article history:
Received 26 June 2025
Accepted 15 September 2025

Keywords:
Type 2 diabetes
Life satisfaction
Quality of life
Affect
Emotional intelligence
HbA1c

A B S T R A C T

This study examined whether age, glycosylated haemoglobin (HbA1c), health-related quality of life (HRQOL), affect, and perceived emotional intelligence (PEI) predicted the level of life satisfaction in adults with type 2 diabetes (T2D). The study included 131 adults with T2D aged 21 to 85 years (mean= 55.76, SD= 12.03). Psychological constructs were measured through the following questionnaires: SWLS (life satisfaction), TMMS-24 (PEI), PANAS (affect), and DQOL (HRQOL). HbA1c levels were obtained from medical records. The results showed that the participants presented high levels of life satisfaction. Higher life satisfaction was associated with older age, greater emotional clarity and repair, positive affect (PA), HRQOL, greater satisfaction with treatment, impact of treatment, and general well-being. Hierarchical regression analysis revealed that age (β= .16, p<.05), PA (β= .35, p<.001), satisfaction with treatment (β= -.26, p<.01), and general well-being (β= -.16, p<.05) were significant predictors of patient's life satisfaction. The model explained 42% of the variance in life satisfaction. PA was the most significant predictor, highlighting the need for therapeutic approaches that address both the physical and emotional aspects of diabetes management. Finally, the influence of PEI—particularly emotional repair—on life satisfaction through PA is emphasized. Practical implications, limitations, and future research directions are discussed.

Predictores de la satisfacción vital en adultos con diabetes tipo 2

Palabras clave:
Diabetes tipo 2
Satisfacción vital
Calidad de vida
Afecto
Inteligencia
Emocional
HbA1c

R E S U M E N

Este estudio examinó si la edad, la hemoglobina glicosilada (HbA1c), la calidad de vida relacionada con la salud (CVRS), el afecto y la inteligencia emocional percibida (IEP) predecían el nivel de satisfacción vital en adultos con diabetes tipo 2 (DM2). El estudio incluyó 131 adultos con DM2 con edades comprendidas entre los 21 y los 85 años (media= 55,76; DE= 12,03). Los constructos psicológicos se midieron mediante los siguientes cuestionarios: SWLS (satisfacción vital), TMMS-24 (IEP), PANAS (afecto) y DQOL (CVRS). Los niveles de HbA1c se obtuvieron de los historiales médicos. Los resultados mostraron que los participantes presentaron altos niveles de satisfacción vital. Una mayor satisfacción vital se asoció con una mayor edad, una mayor claridad y reparación emocional, afecto positivo (AP), CVRS, mayor satisfacción con el tratamiento, impacto del tratamiento y bienestar general. El análisis de regresión jerárquica reveló que la edad (β= ,16, p<,05), el AP (β= -,35, p<,001), la satisfacción con el tratamiento (β= -,26, p<,01) y el bienestar general (β= -,16, p<,05) fueron predictores significativos de la satisfacción vital del paciente. El modelo explicó el 42% de la varianza en la satisfacción vital. El AP fue el factor predictivo más significativo, lo que resalta la necesidad de enfoques terapéuticos que aborden tanto los aspectos físicos como emocionales del control de la diabetes. Finalmente, se enfatiza la influencia de la IEP— en particular la reparación emocional—en la satisfacción vital a través del AP. Se discuten implicaciones prácticas, limitaciones y futuras líneas de investigación.

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https://doi.org/10.5093/anyes2025a20

Introduction

Recognising and addressing the emotional needs of people with chronic diseases is essential, as these have been shown to be associated with higher rates of depression and anxiety (Bobo et al., 2022; O'Connor-Pérez et al., 2025). Among these chronic diseases, type 2 diabetes (T2D) stands out as one of the most prevalent. This is a metabolic disorder that accounts for approximately 90% of all diabetes cases. Changes in eating habits and physical activity, linked to rapid development and urbanization, have contributed to a significant increase in the number of people diagnosed with T2D (International Diabetes Federation [IDF], 2023).

The literature indicates that individuals with diabetes experience lower subjective well-being (SWB) than the general population (Holmes-Truscott et al., 2016; Naess et al., 2005). Diener et al. (1999) consider SWB as: "a broad category of phenomena that includes people's emotional responses, domains of satisfaction, and global judgments of satisfaction with life" (p. 277). SWB is typically divided into two main components: cognitive well-being (CWB) and affective well-being (AWB) (Diener, 1984; Diener et al., 1999). CWB refers to an individual's cognitive evaluation of their life, which can be both general and domain-specific. For instance, life satisfaction represents a general cognitive assessment, providing an overall evaluation of one's life (Diener et al., 1985). In contrast, domain-specific cognitive assessments, such as health-related quality of life (HRQOL), focus on how individuals perceive their physical, psychological-cognitive, and social functioning (Hays & Reeve, 2008).

AWB encompasses both pleasant and unpleasant emotions that individuals experience (Diener et al., 1999). Although CWB and AWB are distinct concepts, they are closely interconnected (Schicmmack, 2008). According to the time-sequential framework of SWB, the affective component significantly influences the cognitive component, as individuals often rely on their emotional experiences to assess their overall life satisfaction (Kim-Prieto et al., 2005). This division is supported by various studies showing that both the CWB and AWB of individuals with T2D are negatively impacted (Jing et al., 2018; Perrin et al., 2017; Zurita-Cruz et al., 2018). Specifically, research on CWB has shown that higher HRQOL in individuals with T2D is related to higher life satisfaction (Jafari et al., 2024; Nawaz & Usman, 2019). Regarding AWB, studies in the general population indicate a positive relationship between positive affect (PA) and life satisfaction. In contrast, negative affect (NA) is inversely correlated (Busseri, 2018; Jovanovic & Joshanloo, 2022). However, studies focusing on AWB in individuals with T2D are limited. Notably, Lee et al. (2021) found that emotional distress in this population was linked to lower life satisfaction.

Health professionals are interested in identifying the variables that can influence the SWB of individuals with T2D to develop more effective intervention programmes. One medical variable of significant interest in this population is glycosylated haemoglobin (HbA1c). This variable represents the average blood glucose level over approximately three months (American Diabetes Association [ADA], 2023), with higher HbA1c levels indicating higher blood glucose levels (National Institutes of Health [NIH], 2022). According to the guidelines published by the ADA (2023), adults with diabetes should aim to maintain a HbA1c < 7%. In individuals with T2D, HbA1c levels have been negatively related to life satisfaction, HRQOL, and PA, and positively related to NA (Beran et al., 2022; Hamdan-Mansour et al., 2016; Horner et al., 2023; Ławnik et al., 2023; Shim et al., 2012).

Another psychological variable that is gaining attention as a protective factor is emotional intelligence (EI). This construct has been defined as "the ability to perceive accurately, appraise, and express emotion; the ability to access and generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and regulate emotions to promote emotional and intellectual growth" (Mayer & Salovey 1997, p. 10). EI can be assessed using self-report tests (perceived emotional intelligence [PEI]) or performance tests (Matthews et al., 2002). It is essential to consider the evaluation method, as research suggests that there are weak correlations between these two types of measurements (Goldenberg et al., 2006). In the general population, EI measured by both self-report and performance tests have been positively associated with SWB, including life satisfaction (Llamas-Díaz et al., 2022; Sánchez-Álvarez et al., 2016). Empirical evidence supports the hypothesis that PEI enhances emotional well-being by promoting adaptive coping ability to deal with daily stress (Puigbó et al., 2019). Conversely, evidence has also been found that maladaptive cognitive emotion regulation strategies are related to greater somatic symptoms (Esteller et al., 2023). Although studies on EI in individuals with T2D are limited, EI programmes have shown promising results, improving quality of life, well-being, and PEI, as well as reducing anxiety, burnout, and HbA1c levels (Karahan & Yalcin, 2009; Yalcin et al., 2008).

Finally, an important sociodemographic variable to consider concerning life satisfaction is age. In individuals with T2D, no significant relationship has been found between age and life satisfaction (Hamdan-Mansour et al., 2016). In the general population, recent literature suggests a possible positive and linear relationship between age and subjective well-being (Blanchflower et al., 2024). Although further research is needed on this relationship in persons with TD2, the complications associated with diabetes may likely attenuate the relationship between age and life satisfaction, as previous studies show that these complications compromise HRQOL in this population (Jing et al.,2018). While numerous studies have explored the factors that predict HRQOL in individuals with T2D (Teli et al., 2023), relatively few studies have examined the predictors of life satisfaction specifically in this population (e.g., Hamdan-Mansour et al., 2016; Phelps et al., 2012).

In chronic diseases such as T2D, life satisfaction can be influenced by multiple factors beyond strictly clinical ones. In this regard, it is important to adopt a biopsychosocial perspective to understand how biological, psychological, and social factors interact in patients' well-being (Engels, 1977). Given the limited literature on this topic and the lack of research examining PEI as a predictor variable in diabetes, together with age, HbA1c, affect, and HRQOL, the present study aimed to investigate whether these variables predict life satisfaction in a sample of Mexican adults with T2D. To the best of our knowledge, this is the first study to simultaneously examine these variables as integrated predictors of life satisfaction in this population. Taking this objective as a starting point, we propose three hypotheses:

1. Age will be a positive predictor of life satisfaction.
2. PA, PEI, and HRQOL will be positive predictors of life satisfaction.
3. HbA1c and NA will be negative predictors of life satisfaction.

Method

Participants

The sample size was estimated using G*Power software (version 3.1.9.6) for a multiple regression analysis. A medium effect size ($f^2 = .15$), a significance level of .05, and a power of 80%

(1-β = .80) were assumed. With 12 predictors in the model, the estimated sample size required to detect moderate effects was 127 participants. The study sample consisted of 131 volunteers recruited between June and September 2022 from (anonymous peer review). The inclusion criteria were: (1) adults diagnosed with T2D aged 18 years or older, (2) voluntary consent to participate in the study, and (3) the ability to read and write. The exclusion criteria were (1) having clinical HbA1c test results older than three months from the date of the survey, (2) having a neuropsychiatric disorder, and (3) a lack of proficiency in the Spanish language. The participants' ages ranged from 21 to 85 years, with a mean age of 56.76 years (SD = 12.03). The sample comprised 93 women (71%). The mean HbA1c level was 8.79 (SD = 20.46), with 73.3% (n = 96) of participants having poor glycaemic control (HbA1c > 7%). All volunteers provided informed consent after being fully informed about the details of the study, and they were treated in accordance with the Helsinki Declaration (World Medical Association [WMA], 2013). The Ethics and Research Committee of the (anonymous peer review).

Procedure

Participants completed the survey via the LimeSurvey platform (http://limesurvey.org) at the hospital, which took approximately 35-50 minutes to complete. The questionnaires were provided in digital format, with participants using a tablet or computer. Assistance was offered to those who had difficulty completing the survey independently. The informed consent form was presented on the first page of the questionnaire. HbA1c levels were obtained from participants' clinical records.

Instruments

Satisfaction With Life Scale (SWLS; Diener et al., 1985). The SWLS is a self-report scale consisting of five items. In the Spanish version, responses are rated on a 5-point Likert-type scale ranging from 1 "*completely disagree*" to 5 "*completely agree*" (Atienza et al., 2000). A higher score indicates greater life satisfaction. The scale has been validated in the Mexican population, demonstrating good reliability (α = .83) (Padrós Blázquez et al., 2015). In this study, the internal consistency was α = .81.

Trait-Meta Mood Scale (TMMS; Salovey et al., 1995). The Spanish version of the TMMS, based on the original scale by Salovey et al. (1995) (*TMMS-24*; Fernández-Berrocal et al., 2004), was used in this study. This self-report instrument belongs to the ability models of EI and comprises 24 items that evaluate three dimensions: 1. Attention to one's feelings (attention), which measures the degree to which people think about their feelings. 2. Emotional clarity (clarity), which measures how a person thinks that they perceive emotions. 3. Mood repair (repair) evaluates a person's efforts to maintain positive emotions and mitigate negative moods. The instrument provides a score for each dimension. Responses are scored on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale has shown high reliability (Attention α = .86, clarity α = .90, and repair α = .85) and validity in the Mexican population (Zúñiga et al., 2019). In this study, the internal consistency was also satisfactory (attention α = .83, clarity α = .84, and repair α = .87).

The Diabetes Quality of Life (DQOL) (The DCCT Research Group, 1988). This questionnaire is a specific measure of HRQOL in individuals with diabetes. The Spanish version of the scale, which has been validated in the Mexican population (Robles-García et al., 2003), was used in this study. The instrument comprises 46 items divided into four subscales: satisfaction with treatment, impact of treatment, social/vocational concerns, and worries about diabetes. Additionally, the scale includes a single item that measures general well-being. The instrument provides a score for each subscale and an overall quality of life score, with higher scores indicating a lower quality of life. The internal consistency of the subscales in previous research ranged between .68 and .86 (Robles-García et al., 2003). In the current sample, internal consistency ranged from .51 to .88.

Positive and Negative Affect Schedule (*PANAS*; Watson et al., 1988). The Mexican version of the PANAS scale was used (Robles-García & Páez, 2003). This 20-item self-report measure is designed to assess both PA (10 items) and NA (10 items). Participants rate the extent to which they generally experience each emotion on a five-point scale ranging from 1 ("*very little or nothing*") to 5 ("*extremely*"). The scale has demonstrated good reliability in previous studies (PA α = .90, NA α = .85)(Robles-García & Páez, 2003). In this research, the internal consistency was also satisfactory (PA α = .89, NA α = .88).

Data Analysis

All statistical analyses were conducted using the SPSS software (version 28.0; IBM, United States). First, the reliability of the scales was evaluated using Cronbach's alpha coefficient. Second, preliminary analyses were conducted to compute descriptive statistics. Third, it evaluated whether the data met the assumption of normality by applying the Kolmogorov-Smirnov test. The results indicated that not all variables in the study followed a normal distribution (p < .05). Therefore, all subsequent analyses were performed using nonparametric statistical methods. Fourth, bivariate Spearman correlation analyses were conducted to examine the relationships between variables. Fifth, the Mann-Whitney U test was used to determine whether there were differences in life satisfaction according to sex. Fifth, a four-step hierarchical regression analysis with the enter method was conducted to identify predictors of life satisfaction in adults with T2D. Only variables that showed a significant Spearman correlation were included in the regression analysis, except for the total scores of the scales. To ensure the validity of the regression model, multicollinearity among the predictor variables was evaluated using the variance inflation factor (VIF). Additionally, the assumption of normality for the standardized residuals was assessed using the Kolmogorov-Smirnov test.

Finally, Model 4 of the PROCESS macro (Hayes, 2013) was used to test the mediating effect of PA in the relationship between emotional repair and life satisfaction. Age was included as a covariate in the analyses. Indirect effects were estimated using a bootstrapping procedure (n = 5000) and statistical inference was determined based on 95% confidence interval (CI).

Results

Preliminary Analyses

Descriptive statistics and correlations among study variables are presented in Table 1. Participants reported a high level of life satisfaction (M = 18.91, SD = 4.90) (Atienza et al., 2000). Life satisfaction, as measured by the SWLS, was positively correlated with age, clarity, repair, and PA. Conversely, it was negatively correlated with total DQOL score, satisfaction with treatment, impact of treatment, and general well-being. No significant correlations were observed between SWLS scores and HbA1c, attention, NA, social/vocational concerns, and worries about diabetes.

Table 1.
Descriptive statistics and Spearman correlations among the study variables

			Spearman correlations												
	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	55.76	12.03	-												
2. HbA1c	8.79	2.46	-.23**	-											
3. SWLS	18.91	4.90	.27**	-.02	-										
4. Attention	27.27	7.03	-.00	.28**	.16	-									
5. Clarity	27.79	6.93	.11	-.004	.34**	.38**	-								
6. Repair	30.44	7.06	.13	-.01	.48**	.40**	.66**	-							
7. NA	26.58	9.01	-.04	.20*	-.12	.37**	.15	-.01	-						
8. PA	34.86	7.96	.05	.03	.55**	.27**	.53**	-.64**	.11	-					
9. Total DQOL	117.05	26.26	-.16	.19*	-.31**	.20*	-.07	-.18*	.29**	-.13	-				
10. Satisfaction with treatment	34.15	11.60	-.09	.13	-.40**	.16	-.12	-.21*	.32**	-.21*	.78**	-			
11. Impact of treatment	45.69	12.65	-.18*	.15	-.28**	.14	-.04	-.13	.20*	-.08	.83**	.49**	-		
12. Social/Vocational concerns	24.76	6.89	.08	.03	.08	.19*	.10	.05	.14	.08	.50**	.16	.26**	-	
13. Worries about diabetes	9.84	4.15	-.33*	.17	-.07	.07	-.09	-.14	.11	-.01	.58**	.33**	.43**	.15	-
14. General well-being	2.60	.76	-.12	.22*	-.37**	.13	-.10	-.20*	.19*	-.29**	.34**	.33**	.22*	.08	-

*p<.05; **p<.01
Note: Higher scores on the DQOL and its subscales indicate poorer quality of life.

Finally, no sex differences were found regarding life satisfaction levels (U= 2026, p= .19).

Hierarchical Regression Analyses

To determine the predictors of life satisfaction (criterion variable) in individuals with T2D, we conducted a four-step hierarchical regression analysis. The predictor variables were age, PEI (clarity and repair), PA, and three subscales of the DQOL questionnaire (satisfaction with treatment, impact of treatment, and general well-being).

The results of the regression models are presented in Table 2. In the first step, age emerged as a significant positive predictor of life satisfaction (95% CI = .02, .16, ΔR2= .05). In the second step, clarity and repair were introduced into the model. Both age (95% CI = .01, .13) and repair (95% CI = .13, .43) continued to be positive and significant predictors of a higher level of life satisfaction (ΔR2= .17). In the third step, PA were added to the regression model. The results indicated that age (95% CI = .02, .14) and PA (95% CI = .13, .37) were positively associated with life satisfaction (ΔR2= .10). In the final step, the three DQOL subscales (satisfaction with treatment, impact of treatment, and general well-being) were incorporated into the model. The analysis revealed that age (95% CI = .01, .12) and PA (95% CI = .10, .33) remained positive predictors of life satisfaction, whereas satisfaction with treatment (95% CI = -.18, -.04) and general well-being (95% CI = -1.97, -.11)

Table 2.
Hierarchical regression to determine life satisfaction from age, PEI, affect, and DQOL

	Life satisfaction					
	B	*SE*	β	R^2	ΔR^2	*F*(*df*)
Step 1				.04*	.05*	6.625 (1,129)*
Age	.09	.04	.22*			
Step 2				.20***	.17***	13.445 (2,127)***
Age	.07	.03	.17*			
Clarity	.01	.08	.01			
Repair	.28	.07	.40***			
Step 3						
Age	.08	.03	.20*	.29***		
Clarity	-.04	.07	-.06			
Repair	.13	.08	.19			17.493(2,126)***
PA	.25	.06	.41***			
Step 4				.42***	.10***	
Age	.07	.03	.16*			
Clarity	-.03	.07	-.04			
Repair	.09	.07	.13			
PA	.22	.06	.35***		.14***	10.309(3,123)***
Satisfaction with treatment	-.11	.04	-.26**			
Impact of treatment	-.03	.03	-.07			
General well-being	-1.04	.47	-.16*			
Total R^2				.42***		

*p<.05; **p<.01; ***p<.001
Note: Higher scores on the DQOL subscales indicate poorer quality of life.

were negatively associated with life satisfaction (ΔR2= .14). Model 4 explained 42% of the variance in life satisfaction, with PA emerging as the most significant predictor.

No multicollinearity problems were detected among the predictor variables (all VIF < 5). On the other hand, the results showed that the standardized residuals of the regression model had a normal distribution, as indicated by the Kolmogorov-Smirnov test (p > .05).

Finally, it was considered appropriate to perform a mediation analysis, given that in step 2 of the regression, the repair variable significantly predicted life satisfaction. However, when PA was included in step 3, this significant relationship disappeared. Therefore, the hypothesis was proposed that PA could mediate the relationship between repair and life satisfaction. The results confirmed a positive relationship between repair and life satisfaction through PA (indirect effect coefficient = .18; SE = .05 [95% CI =.09, .29]).

Discussion

The objective of the present study was to examine and analyse possible predictors of life satisfaction in adults with T2D. Based on the existing literature highlighting their importance either generally or specifically among individuals with diabetes, age was included as a demographic variable, HbA1c as a biological variable, and PEI, affect, and HRQOL as psychological variables.

The final regression model revealed that 42% of the variance in life satisfaction was explained by age, positive affect, satisfaction with treatment, and general well-being in our sample. Specifically, older participants and those with higher PA reported greater life satisfaction. Conversely, higher scores on the satisfaction with treatment and general well-being subscales, indicating lower quality of life, predicted lower life satisfaction.

Our findings support the first hypothesis. Consistent with recent literature in the general population (Blanchflower et al., 2024), but not in individuals with diabetes (Hamdan-Mansour et al., 2016; Imayama et al., 2011), a positive predictive relationship between age and life satisfaction was observed in this study. This finding suggests that older age is associated with greater life satisfaction.

The second hypothesis was partially supported. We found that PA and two subscales of the DQOL questionnaire, but not PEI, were predictors of life satisfaction. First, PA emerged as this sample's strongest predictor of life satisfaction. This finding is consistent with the literature, which has demonstrated a positive predictive relationship in the general population (Capone et al., 2021; Singh & Duggal Jha, 2008). Moreover, this aligns with the time-sequential framework of SWB (Kim-Prieto et al., 2005), which suggests that the affective component significantly influences the cognitive component, as individuals use affective experiences to evaluate their life satisfaction.

On the other hand, we found that lower satisfaction with treatment and reduced overall well-being (indicated by higher scale scores) predict lower life satisfaction. Several studies have shown that patients with T2D who use insulin, and therefore undergo a more invasive treatment, experience a lower quality of life compared to those who do not use insulin (Jing et al., 2018). Consistent with our results, a negative perception of one's health or medical treatment can impact their quality of life.

Third, although we found positive associations between two PEI subscales (clarity and repair) and life satisfaction, PEI did not emerge as a significant predictor of this variable in individuals with T2D once PA was included in the analysis. This finding contradicts studies conducted in the general population, which suggest that several dimensions of PEI can serve as protective factors for life satisfaction (Blasco-Belled et al., 2020; Câmara et al., 2023). For instance, Blasco-Belled et al. (2020) measured emotional intelligence using the TMMS-24 and found that inadequate attention to emotions negatively predicted life satisfaction, while adequate emotional repair positively predicted it. However, it is worth noting that in the second step of the regression of our study, emotional repair was identified as a determining factor of life satisfaction. Nonetheless, as previously mentioned, after including the effect of PA in the third step, this relationship disappeared. This raised the possibility that affect could act as a mediating variable between PEI and life satisfaction, consistent with previous research conducted in the general population (Kong & Zhao, 2013; Ruvalcaba-Romero et al., 2017). This effect was confirmed by the mediation analysis performed, which showed that PA mediated the relationship between emotional repair and life satisfaction.

Finally, our third hypothesis was not supported. We had anticipated that the HbA1c variable would influence life satisfaction, given its established relationship with quality of life in previous research and its impact on disease management (Cepeda Marte et al., 2019; Hsu et al., 2018; Shim et al., 2012). However, HbA1c was not a significant predictor of life satisfaction in the present study. Nonetheless, we did find a correlation between HbA1c and DQOL. Again, this raises the hypothesis that HbA1c could impact life satisfaction indirectly through multiple factors, including psychological, social, and personal aspects beyond diabetes control, such as HRQOL. It is essential to consider the role of psychological factors in the relationship between HbA1c levels and the well-being of people with diabetes. For example, in a recent study conducted in people with type 1 diabetes, it was found that emotional intelligence acted as a moderating variable between HbA1c and HRQOL, through NA (Pérez-Fernández, 2024). Another possible explanation for the lack of a direct relationship between HbA1c and life satisfaction in this study could be the limited variability of HbA1c in the sample. A total of 73.3% (n = 96) of the participants had poor glycaemic control (HbA1c > 7%) according to ADA (2023) recommendations. Similarly, Hamdan-Mansour et al. (2016) found no predictive relationship between HbA1c and life satisfaction in adults with T2D.

On the other hand, no significant relationship was found between NA and life satisfaction. This result may be due to the participants having a higher mean score for PA (PA = 34.86 and NA = 26.56), which could have mitigated the impact of negative experiences. This conclusion is consistent with research indicating that PA can effectively buffer against stress and negative emotions, promoting general well-being (Garland et al., 2010).

The results of this study have practical implications and are of theoretical importance. Given the protective role of PA in life satisfaction, future prevention and clinical intervention programmes for individuals with T2D might focus on increasing the experiences of PA. PA can be particularly beneficial for people with T2D when dealing with negative thoughts and emotions in stressful situations (Watson et al., 1988). Overall, prospective and longitudinal research indicates that positive emotions can predict favourable outcomes, such as improved physical and mental health, rather than simply being a consequence of them (Lyubomirsky et al., 2005). The study by Huffman et al. (2015) proposed a theoretical model and developed a structured intervention in positive psychology specifically designed for persons with T2D. The authors highlight the potential benefits of incorporating positive psychological techniques that may contribute to better psychological adjustment and improved health behaviours in

this population. On the other hand, the results of this research found that lower general well-being and lower satisfaction with treatment are key determinants of poorer life satisfaction. In this context, some studies investigating the effects of self-efficacy-focused education for people with diabetes indicate that such interventions could reduce HbA1c, improve self-efficacy, regulate self-management behaviours, increase knowledge of the disease, and enhance quality of life (Jiang et al., 2019).

Despite the implications discussed, this study has several limitations. First, most participants had high HbA1c levels (>7%) according to ADA (2023) guidelines. Consequently, the sample consisted primarily of individuals with poorly controlled diabetes, which limited the variability in HbA1c levels and may have hindered the detection of associations between the variables. Future research should explore whether differences in life satisfaction exist between individuals with good and poor glycaemic control. Second, this study used a self-report measure to assess EI. Future research could employ EI performance tests, such as the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2002) to provide a more objective evaluation of the role of EI in the context of well-being in T2D. Finally, the cross-sectional design of this study limits the ability to establish causal relationships between the variables. To address this limitation, future research should consider using longitudinal designs.

Conclusions

The results of this study suggest that age, PA, satisfaction with treatment, and general well-being are significant predictors of life satisfaction in adults with T2D. PA emerged as the strongest predictor in this relationship. Additionally, PEI abilities, specifically emotional repair, significantly influence life satisfaction by enhancing PA. These findings underscore the importance of therapeutic approaches that address the disease's physical aspects and patients' emotional well-being to enhance life satisfaction in this population.

Statements and declarations

The authors declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

Data and resource availability

The datasets generated during and/or analysed in the current study are available from the corresponding author upon reasonable request.

Source of funding

This work was supported by The Spanish Ministry of Economy, Industry and Competitiveness (project: PSI2017-84170-R) and by the Junta de Andalucía (UMA18-FEDERJA-114).

Acknowledgements

The authors would like to thank all the study participants.

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