

Supplementary Table S1

Summary of key findings for each included study (n = 20)

First Author, Year of Publication	Study Design	Key Findings
Di Blasio et al., 2022 [1]	Cross-sectional	Higher ST levels were associated with higher anxiety and depression symptoms, while PA exhibited opposite associations.
Doré et al., 2022 [2]	Longitudinal over 48 months (Every 3 months during the first year, and then after 24 and 48 months)	MVPA and ST were independent predictors of depressive symptoms. Higher levels of MVPA were associated with lower scores of depressive symptoms, whereas higher levels of ST were associated with higher scores of depressive symptoms. The interaction between MVPA and ST was non-significant.
D'Silva et al., 2018 [3]	Cross-sectional	Total MVPA was not associated with QoL. Higher levels of total light-intensity PA were associated with higher QoL scores at the 50 th and 75 th percentiles and higher physical and functional well-being scores at the 50 th and 75 th percentiles. Higher levels of total ST were associated with lower QoL scores at the 75 th percentile and lower physical and functional well-being scores at the 25 th , 50 th , and 75 th percentiles.
Floor Kenkhuis et al., 2021 [4]	Longitudinal over 24 months (6 weeks, 6 months, 12 months, and 24 months post-treatment)	Higher levels of ST were associated with lower QoL scores. Similarly, higher levels of MVPA were independently associated with higher QoL scores over time, even when accounting for ST. Associations were also clinically significant.
Gaskin et al., 2016 [5]	Cross-sectional	MVPA had stronger associations with QoL, anxiety, and depressive symptoms than ST, but no statistically significant results were found. However, increasing MVPA by less than 1 h/day showed clinically important differences in symptom scales, and meeting recommended MVPA levels had potential clinical benefits for insomnia and financial difficulties.
Hartman et al., 2017 [6]	Cross-sectional	Higher levels of ST were associated with lower physical health scores, but this association became non-significant when adjusting for MVPA, whereas MVPA itself was a significant independent predictor of physical health scores. ST was not associated with mental health, and there was no evidence of moderation by MVPA for the association between ST and QoL.
Hidde et al., 2022 [7]	Cross-sectional	Reallocating 30 minutes of ST to MVPA was associated with higher QoL scores. No significant changes were observed for the QoL subscales. A clinically meaningful increase in QoL scores was observed for reallocating 30 minutes of ST to MVPA or 30 minutes of light PA to MVPA. A clinically meaningful decrease in QoL scores was observed when reallocating time from MVPA to light PA or ST.

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Nurnazahiah et al., 2022 [8]	Cross-sectional	MVPA was associated with global health status, whereas higher ST levels were associated with lower physical functioning, role functioning, and cognitive functioning scores.
Phillips et al., 2015 [9]	Longitudinal over 6 months (Baseline and 6 months later)	Higher levels of baseline MVPA were associated with higher physical well-being, and total FACT-B scores, as well as fewer breast cancer-specific concerns at six months, and these relationships remained largely unchanged after controlling for ST. Baseline ST was associated with lower physical well-being scores at six months, but the relationship did not hold when MVPA was taken into account. Compared with those with lower MVPA levels at baseline, survivors with higher MVPA levels had clinically meaningful higher QoL at six months.
Rees-Punia et al., 2020 [10]	Cross-sectional	Higher levels of MVPA and lower levels of ST were associated with higher mean scores for global mental health. The differences in the mean scores were clinically meaningful.
Roekel et al., 2016 [11]	Cross-sectional	PA was associated with higher physical functioning and lower disability scores. A significantly higher physical functioning score was observed for substituting 1 h/day of ST with PA. Favorable associations surpassing medium effect size cut-offs were observed for substituting 1 h/day of ST with equal time in PA for global QoL, disability, depression, and anxiety scores, but these associations did not reach statistical significance.
Schofield et al., 2018 [12]	Cross-sectional	MVPA was associated with higher physical functioning, general health, and physical component summary scores, as well as lower bodily pain. Higher ST levels were associated with lower physical functioning, general health, vitality, and mental health scores.
Trinh et al., 2015 [13]	Cross-sectional	ST predicted higher levels of depression, and light-intensity PA predicted lower levels of depression. There was a significant interaction effect between MVPA and ST on depression, where ST had a stronger negative impact on this outcome for individuals with lower levels of MVPA, while it did not significantly affect those with higher levels of MVPA.
Vallance et al., 2014 [14]	Cross-sectional	Significant differences in FACT-C scores were found across quartiles of MVPA. Participants meeting MVPA guidelines reported better QoL scores compared to those who did not meet the guidelines. No significant trends were observed for ST.
Vallance et al., 2015 [15]	Cross-sectional	Meeting PA guidelines was associated with reduced anxiety symptoms and higher satisfaction with life. ST did not show significant differences in psychological health outcomes.
Vallance et al., 2017 [16]	Cross-sectional	MVPA in bouts of 10+ minutes was associated with higher QoL scores. No significant associations were found between ST and QoL. No clinically significant associations for ST, light PA or MVPA emerged for QoL.

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Vallance et al., 2018 [17]	Cross-sectional	Higher levels of ST and lower levels of total light-intensity PA were associated with higher depressive symptoms at the 50 th percentile and lower satisfaction with life at the 25 th and 50 th percentiles. However, total MVPA was not significantly associated with any of the assessed psychosocial health outcomes.
Welch et al., 2019 [18]	Cross-sectional	MVPA was associated with higher scores in the FACT-B total, physical well-being, and functional well-being scores. Reallocating 30 minutes of ST to MVPA was associated with higher scores in the FACT-B total, physical well-being, and functional well-being scores; however, no significant associations were found between PA and anxiety or depression. None of the reallocation change scores reached clinical significance.
Wrosch et al., 2013 [19]	Longitudinal over 3 months (Baseline and 3 months later)	Higher T1 levels of PA were associated with more positive affect, less negative affect, and fewer physical symptoms (at both T1 and T2). Higher ST levels (at both T1 and T2) were associated with less positive affect at T2.
Yan et al., 2021 [20]	Cross-sectional	Higher levels of PA were associated with higher physical, role, and emotional function scores, as well as reduced appetite loss and nausea/vomiting compared to lower levels of PA, while higher ST levels were associated with lower physical function and higher insomnia, fatigue, and pain scores.

Abbreviations. FACT-B, Functional Assessment of Cancer Therapy-Breast; FACT-C, Functional Assessment of Cancer Therapy-Colorectal; MVPA, Moderate-to-vigorous physical activity; PA, Physical activity; QoL, Quality of life; ST, Sedentary time.

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