

Supplementary material

Table S1: Change in HF power within the second session, mothers and fathers separately

Mothers (102 observations)	B (SE)	P-Value
Intercept ^a	8.47 (0.58)	<0.001***
Session part: last	4.52 (0.82)	<0.001***
Treatment: MT+SSC	1.13 (0.81)	0.201
Session part: last X treatment: MT+SSC	8.03 (1.14)	<0.001***
Fathers (22 observations)		
Intercept	7.41 (2.86)	0.022*
Session part: last	1.42 (3.09)	0.653
Treatment: MT+SSC	3.35 (3.07)	0.326
Session part: last X treatment: MT+SSC	-0.57 (3.31)	0.867

HF, high frequency; MT, music therapy; SSC, skin-to-skin care

^a Intercept is the predicted value for the sample in the first part of the 2nd SSC session.

B, beta coefficient; SE, standard error.

Table S2: Primary outcome: covariate examination

HF: Change within session + Covariates (no. of observations: 124)	B (SE)	P-value
Intercept	16.44 (12.08)	0.177
Session part: last	4.52 (0.96)	<0.001***
Parent: Fathers	-3.61 (1.90)	0.061
Infant gender: Female	0.24 (1.03)	0.821
Gestational Age in weeks	-0.20 (0.35)	0.556
Postnatal age in days at T1	-0.05 (0.05)	0.404
Birthweight	-0.00 (0.00)	0.800
Neonatal medical index grade	0.01 (1.16)	0.992
Treatment: MT+SSC	-10.55 (16.51)	0.524
Session part: last X treatment: MT+SSC	5.05 (1.29)	<0.001***
Parent: Fathers X treatment: MT+SSC	-1.21 (2.18)	0.581
Infant gender: Female X treatment: MT+SSC	-0.36 (1.41)	0.807
Gestational Age in weeks X treatment: MT+SSC	0.34 (0.49)	0.486
Postnatal age in days at T1 X treatment: MT+SSC	0.10 (0.07)	0.188
Birthweight X treatment: MT+SSC	0.00 (0.00)	0.891
Neonatal medical index grade X treatment: MT+SSC	-0.07 (1.41)	0.962

HF, high frequency; MT, music therapy; SSC, skin-to-skin care

^a Intercept is the predicted value for mothers in the first part of the 2nd SSC session.

B, beta coefficient; SE, standard error.

Table S3: Observed values of HRV parameters in all 3 sessions

Variable	MT+SSC	SSC	P-value ^a	Effect Size
	ms2/Hz (SD)	ms2/Hz (SD)		d (95% CI)
Mean HF T1	12.34(2.50)	12.15(2.07)	.739	.081(-.402, .565)
Mean HF T1M	12.20 (2.64)	12.09(2.34)	.874	.040(-.463, .544)
Mean HF T1F	12.36(2.71)	12.30(2.71)	.963	.023(-.930, .975)
Mean LF T1	16.94(3.03)	17.74(5.64)	.485	-.180(-.663, .305)
Mean LF T1M	17.49(2.80)	18.72(5.52)	.292	-.288(-.793, .219)
Mean LF T1F	12.61(1.99)	12.41(2.63)	.866	.086(-.896, 1.065)
Mean LF/HF ratio T1	1.49(0.48)	1.53(0.61)	.799	-.065(-.552, .423)
Mean LF/HF ratio T1M	1.54(0.48)	1.64(0.62)	.501	-.181(-.689, .330)
Mean LF/HF ratio T1F	1.14(0.27)	1.00(0.24)	.302	.537(-.472, 1.527)
Mean HF T2	12.74(3.22)	13.02(2.67)	.708	-.095(-.600, .411)
Mean HF T2M	12.85(3.65)	13.10(2.77)	.771	-.077(-.601, .447)
Mean HF T2F	12.81(2.30)	13.90(1.500)	.386	-.503(-1.815, .834)
Mean LF T2	12.63(2.45)	15.20(3.20)	.001***	-.916(-1.443, -.381)
Mean LF T2M	13.02(2.33)	15.52(3.26)	.002***	-.892(-1.434, -.342)
Mean LF T2F	11.59(3.25)	11.27(2.31)	.858	.105(-1.205, 1.410)
Mean LF/HF ratio T2	1.11(0.38)	1.26(0.40)	.145	-.384(-.892, .128)
Mean LF/HF ratio T2M	1.16(0.41)	1.28(0.40)	.274	-.293(-.814, .231)
Mean LF/HF ratio T2F	0.92(0.29)	0.73(0.15)	.189	.713(-.646, 2.039)
Mean HF T3	13.54(2.39)	12.48(2.24)	.109	.458(-.106, 1.017)
Mean HF T3M	13.73(2.52)	12.21(2.22)	.038*	.632(.025, 1.231)
Mean HF T3F	12.62(2.40)	14.73(1.19)	.149	-1.016(-2.519, .557)
Mean LF T3	17.73(2.99)	22.06(2.86)	.001***	-1.108(-1.699, -.508)
Mean LF T3M	18.52(2.24)	23.33(4.47)	.000***	-1.414(-2.067, -.748)
Mean LF T3F	13.14(2.26)	13.00(4.59)	.964	.043(-1.390, 1.473)
Mean LF/HF ratio T3	1.37(0.27)	1.91(0.53)	.000***	-1.336(-1.944, -.716)
Mean LF/HF ratio T3M	1.41(0.27)	2.06(0.49)	.000***	-1.697(-2.378, -1.002)
Mean LF/HF ratio T3F	1.14(0.32)	0.87(0.30)	.288	.865(-.675, 2.343)
Mean HF all sessions	12.82(1.77)	12.60(1.26)	.553	.141(-.337, .618)
Mean HF all sessions, M	12.76(2.39)	12.50(1.39)	.565	.138(-.353, .627)
Mean HF all sessions, F	12.71(2.15)	12.98(2.37)	.797	-.117(-.981, .749)
Mean LF all sessions	15.61(1.71)	17.63(3.12)	.002**	-.826(-1.321, -.326)
Mean LF all sessions, M	16.14(1.64)	18.47(2.84)	.000***	-1.032(-1.550, -.507)
Mean LF all sessions, F	12.17(2.06)	11.99(2.21)	.859	.084(-.813, .977)

Mean LF/HF ratio all sessions	1.31(0.28)	1.50(0.36)	.025	-.574(-1.059, -.085)
Mean LF/HF ratio all sessions, M	1.38(0.30)	1.59(0.33)	.010*	-.670(-1.170, -.165)
Mean LF/HF ratio all sessions, F	1.03(0.20)	0.90(0.12)	.096	.726(-.208, 1.642)
HF change T2	9.80(6.89)	4.43(2.21)	.000***	.998(.438, 1.549)
HF change T2M	12.55(5.35)	4.52(2.21)	.000***	1.946(1.269, 2.610)
HF change T2F	0.85(4.47)	1.10(N/A)	.960 ¹	-.055(-2.119, 2.103)
LF change T2	-5.78(3.16)	-8.47(3.67)	.005**	.791(.245, 1.332)
LF change T2M	-6.37(3.29)	-8.65(4.12)	.035*	.612(.047, 1.172)
LF change T2F	-4.48(2.99)	-6.17(2.77)	.425	.572(-.771, 1.889)
LF/HF ratio change T2	-1.18(0.61)	-1.62(0.73)	.020*	.660(.119, 1.194)
LF/HF ratio change T2M	-1.37(0.69)	-1.71(0.73)	.096	.476(-.084, 1.030)
LF/HF ratio change T2F	-0.65(0.53)	-0.43(0.58)	.599	-.409(-1.718, .919)

MT, music therapy; SSC, skin-to-skin care; HF, high frequency; LF, low frequency; T1, first session, T2, second session, T3, third session; M, mothers, F, fathers.

^a *P*-values are from t-tests not assuming equal variances except where indicated. ¹ n=1; *p*-value only given for equal variance assumed. * *p* < 0.05; ** *p* < 0.01; *** *p* < 0.001.

Table S4: Observed values of parental scores on the Maternal Postnatal Attachment Scale and State Trait Anxiety Inventory

Variable	MT+SSC	SSC	P-Value ^a	Effect Size
Maternal Postnatal Attachment Scale	M(SD)	M(SD)		d (95% CI)
T1	77.99(8.33)	80.95(6.10)	.102	-.399(-.887, .092)
T1. M	78.35(8.72)	81.25(5.48)	.117	-.390(-.898, .122)
T1. F	76.00(6.78)	81.28(7.43)	.119	-.745(-1.649, .178)
T2	75.65(6.77)	81.67(5.77)	.031*	-.977(-1.795, -.142)
T2. M	76.71(7.55)	81.32(5.80)	.133	-.717(-1.542, .123)
T2. F	76.07(4.08)	90.00	.055 ¹	-3.410(-6.716, .066)
T3	79.17(4.49)	79.74(8.08)	.767	-.091(-.645, .464)
T3. M	79.91(4.76)	80.81(6.32)	.598	-.165(-.753, .425)
T3. F	75.28(3.79)	72.10(14.45)	.741	.381(-1.032, 1.767)
State Trait Anxiety Inventory (STAI)				
T1 Pre	34.92(11.62)	32.17(7.58)	.248	.275(-.210, .757)
T1.M Pre	35.74(13.62)	32.00(8.12)	.184	.324(-.183, .828)
T1.F Pre	33.83(10.68)	34.11(10.31)	.953	-.026(-.890, .838)
T1 Post	26.67(7.68)	26.63(5.86)	.980	.006(-.475, .488)
T1.M Post	27.40(8.92)	26.81(7.10)	.775	.072(-.431, .573)
T1.F Post	25.67(4.29)	27.67(8.72)	.539	-.307(-1.173, .566)
T2 Pre	35.12(10.64)	29.13(6.95)	.014*	.659(.122, 1.190)
T2.M Pre	37.00(12.11)	29.36(8.12)	.010*	.735(.169, 1.295)
T2.F Pre	31.00(5.00)	31.20(10.35)	.970	-.026(-1.173, 1.122)
T2 Post	27.08(6.73)	25.85(6.80)	.496	.182(-.340, .702)
T2.M Post	27.92(7.82)	25.64(7.53)	.288	.298(-.251, .843)
T2.F Post	26.57(5.06)	27.80(5.07)	.689	-.243(-1.389, .916)
T3 Pre	28.90(6.19)	28.39(8.11)	.807	.072(-.483, .626)
T3.M Pre	27.83(6.08)	27.10(6.10)	.693	.120(-.474, .714)
T3.F Pre	34.50(6.83)	35.00(16.70)	.964	-.047(-1.431, 1.341)
T3 Post	23.59(3.96)	23.39	.853	.052(-.502, .606)
T3.M Post	23.29(4.04)	22.85(3.17)	.686	.120(-.474, .714)
T3.F Post	25.67(3.67)	26.00(6.00)	.936	-.075(-1.459, 1.314)
Change in STAI scores, pre to post test				
T1	-8.24(7.51)	-5.53(4.01)	.064	-.437(-.923, .052)
T1.M	-8.34(7.80)	-5.18(4.22)	.050*	-.476(-.983, .035)
T1.F	-8.17(8.55)	-6.44(4.13)	.550	-.245(-1.109, .626)
T2	-8.03(7.59)	-3.28(3.76)	.004**	-.781(-1.318, -.238)
T2. M	-9.07(7.90)	-3.72(4.56)	.004**	-.822(-1.385, -.251)
T2. F	-4.43(3.95)	-3.40(5.90)	.745	-.213(-1.359, .943)

T3	-5.31(4.42)	-5.00(5.54)	.830	-.063(-.617, .492)
T3. M	-4.54(4.19)	-4.25(4.40)	.824	-.068(-.661, .526)
T3. F	-8.83	-9.00(10.82)	.982	.021(-1.365, 1.407)

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^aP-values are from t-tests not assuming equal variances except where indicated. ¹ n=1; p-value only given for equal variance assumed. * p < 0.05; ** p < 0.01; *** p < 0.001.