#### **Supplementary Online Content**

Mattle M, Chocano-Bedoya PO, Fischbacher M, et al. Association of dance-based mind-motor activities with falls and physical function among healthy older adults: a systematic review and meta-analysis. *JAMA Netw Open*. 2020;3(9):e2017688. doi:10.1001/jamanetworkopen.2020.17688

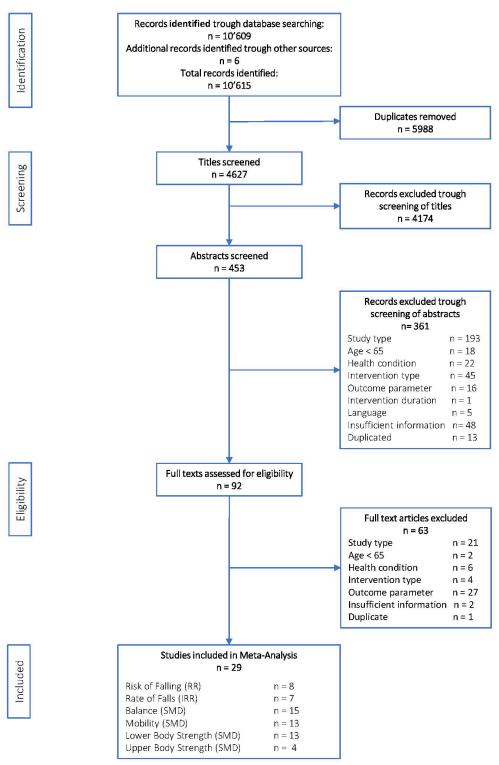
eAppendix. Supplementary Material

This supplementary material has been provided by the authors to give readers additional information about their work.

#### Search Syntax in PubMed

("Aged"[MeSH] OR older[Title/Abstract] OR elderly[Title/Abstract] OR senior\*[Title/Abstract] OR old-age\*[Title/Abstract] OR aged[Title/Abstract]) AND ("Dance Therapy"[MeSH] OR "Dancing"[MeSH] OR "Exercise Movement Techniques"[MeSH] OR dance\* [Title/Abstract] OR dancing[Title/Abstract] OR ballet\*[Title/Abstract] OR jazz\*[Title/Abstract] OR hiphop[Title/Abstract] OR salsa\*[Title/Abstract] OR zumba\*[Title/Abstract] OR aerobic\*[Title/Abstract] OR taiji[Title/Abstract] OR taijiquan[Title/Abstract] OR "tai chi"[Title/Abstract] OR eurythm\*[Title/Abstract]) AND ("Accidental Falls"[MeSH] OR Falls[Title/Abstract] OR faller\* [Title/Abstract] OR falling[Title/Abstract] OR slip\*[Title/Abstract] OR stumble\*[Title/Abstract] OR strength[Title/Abstract] OR fell[Title/Abstract] OR balance[Title/Abstract] OR strength[Title/Abstract] OR mobility[Title/Abstract] OR

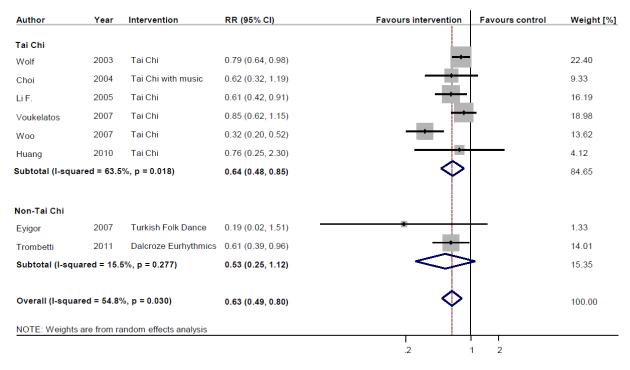
#### Inclusion flow



#### Subgroup Analyses Risk of Falling

Risk of Falling, total N=8 trials	Risk Ratio (95%Cl)	<sup>2</sup>
Full	0.63 (0.49, 0.80)	54.8
		%
by intervention type		
Tai Chi	0.64 (0.48, 0.85)	63.5
		%
Non-Tai Chi	0.53 (0.26, 1.12)	15.5
		%
by intervention frequency		
< 3 times / week	0.78 (0.66, 0.92)	0.0%
≥ 3 times / week	0.48 (0.31, 0.72)	47.1
		%
by intervention duration		
> 24 weeks	0.52 (0.21, 1.25)	91.4
		%
12 - 24 weeks	0.71 (0.58, 0.86)	0.0%
< 12 weeks	0.19 (0.02, 1.51)	
by type of dwelling		
community dwelling	0.58 (0.41, 0.82)	60.9 %
living facilities	0.77 (0.63, 0.95)	0.0%
by type of randomization		
participants randomized	0.56 (0.38, 0.82)	68.4
		%
cluster randomized	0.77 (0.63, 0.94)	0.0%
by duration of one class		
< 60 min	0.77 (0.63, 0.94)	0.0%
≥ 60 min	0.69 (0.54, 0.89)	19.6 %
Woo et al. do not report time		
by total contact time		
< 90 min	0.73 (0.61, 0.87)	0.0%
≥ 90 min	0.75 (0.55, 1.02)	- 25.7 %
Woo et al. do not report duration of classes		

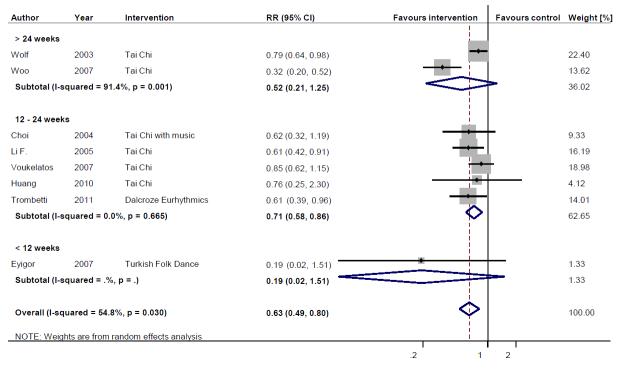
# Assciation of dance-based mind-motor activities with risk of falling by intervention type



# Association of dance-based mind-motor activities with risk of falling by intervention frequency

Author	Year	Intervention	RR (95% CI)	Favours intervention	Favours control Weight [%
<3 times per wee	ek				
Wolf	2003	Tai Chi	0.79 (0.64, 0.98)		22.40
Voukelatos	2007	Tai Chi	0.85 (0.62, 1.15)		18.98
Huang	2010	Tai Chi	0.76 (0.25, 2.30)		4.12
Trombetti	2011	Dalcroze Eurhythmics	0.61 (0.39, 0.96)	+	14.01
Subtotal (I-squared	d = 0.0%, p = 0.	711)	0.78 (0.66, 0.92)	$\diamond$	59.52
≥ 3 times / week					
Choi	2004	Tai Chi with music	0.62 (0.32, 1.19)		9.33
Li F.	2005	Tai Chi	0.61 (0.42, 0.91)		16.19
Eyigor	2007	Turkish Folk Dance	0.19 (0.02, 1.51)	*	1.33
Woo	2007	Tai Chi	0.32 (0.20, 0.52)	<b></b>	13.62
Subtotal (I-squared	d = 47.1%, p = 0	.129)	0.47 (0.31, 0.72)	$\diamond$	40.48
Overall (I-squared	= 54.8%, p = 0.0	030)	0.63 (0.49, 0.80)	$\diamond$	100.00
NOTE: Weights are	from random of	faata analysis			
NOTE. Weights are	nom random er	ieus analysis			
				.2 1	2

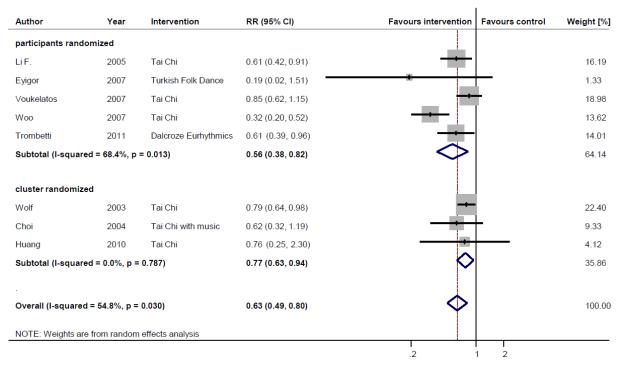
# Association of dance-based mind-motor activities with risk of falling by intervention duration



# Association of dance-based mind-motor activities with risk of falling by type of dwelling

Author	Year	Intervention	RR (95% CI)	Favours intervention	Favours control	Weight [%]
living facilites						
Wolf	2003	Tai Chi	0.79 (0.64, 0.98)			22.40
Choi	2004	Tai Chi with music	0.62 (0.32, 1.19)		-	9.33
Subtotal (I-squared	l = 0.0%, p = 0	.489)	0.77 (0.63, 0.95)	$\diamond$		31.73
community						
Li F.	2005	Tai Chi	0.61 (0.42, 0.91)			16.19
Eyigor	2007	Turkish Folk Dance	0.19 (0.02, 1.51)			1.33
Voukelatos	2007	Tai Chi	0.85 (0.62, 1.15)		÷	18.98
Woo	2007	Tai Chi	0.32 (0.20, 0.52)			13.62
Huang	2010	Tai Chi	0.76 (0.25, 2.30)			4.12
Trombetti	2011	Dalcroze Eurhythmics	0.61 (0.39, 0.96)			14.01
Subtotal (I-squared	l = 60.9%, p =	0.025)	0.58 (0.41, 0.82)	$\diamond$		68.27
Overall (I-squared =	= 54.8%, p = 0	.030)	0.63 (0.49, 0.80)	$\diamond$		100.00
NOTE: Weights are t	from random e	ffects analysis				
				.2	1 1 2	

# Association of dance-based mind-motor activities with risk of falling by type of randomization



# Association of dance-based mind-motor activities with risk of falling by duration of one session

Author	Year	Intervention	RR (95% CI)	Favours intervention	Favours control	Weight
< 60min						
Wolf	2003	Tai Chi	0.79 (0.64, 0.98)			22.40
Choi	2004	Tai Chi with music	0.62 (0.32, 1.19)		_	9.33
Huang	2010	Tai Chi	0.76 (0.25, 2.30)			4.12
Subtotal <mark>(</mark> I-squa	ared = 0.0%, p	= 0.787)	0.77 (0.63, 0.94)	$\diamond$		35.86
≥ 60min				<u> </u>		
Li F.	2005	Tai Chi	0.61 (0.42, 0.91)			16.19
Eyigor	2007	Turkish Folk Dance	0.19 (0.02, 1.51)			1.33
Voukelatos	2007	Tai Chi	0.85 (0.62, 1.15)		t	18.98
Trombetti	2011	Dalcroze Eurhythmics	0.61 (0.39, 0.96)			14.01
Subtotal (I-squa	ared = 19.6%,	p = 0.292)	0.69 (0.54, 0.89)	$\diamond$		50.52
Woo	2007	Tai Chi	0.32 (0.20, 0.52)	<b></b>		13.62
Subtotal (I-squa	ared = .%, p =	.)	0.32 (0.20, 0.52)	$\diamond$		13.62
Overall (I-squar	ed = 54.8%, p	= 0.030)	0.63 (0.49, 0.80)	$\diamondsuit$		100.00
NOTE: Weights	are from rando	m effects analysis				

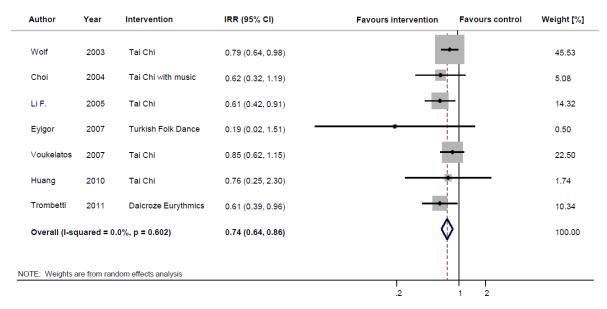
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# Association of dance-based mind-motor activities with risk of falling by total contact time

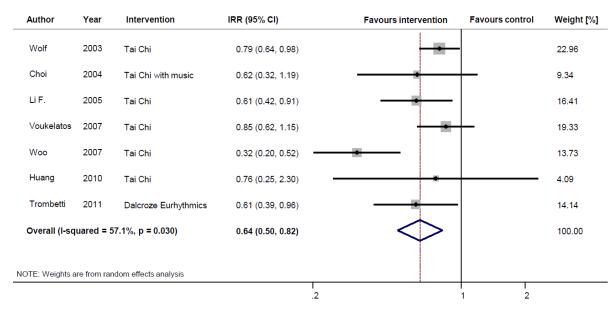
Author	Year	Intervention	RR (95% CI)	Favours intervention	Favours control	Weight [%
< 90min						
Voukelatos	2007	Tai Chi	0.85 (0.62, 1.15)	<u> </u>	-	18.98
Trombetti	2011	Dalcroze Eurhythmics	0.61 (0.39, 0.96)			14.01
Subtotal <mark>(</mark> I-squa	ared = 25.7%,	, p = 0.246)	0.75 (0.55, 1.02)	$\diamond$		33.00
≥90min						
Wolf	2003	Tai Chi	0.79 (0.64, 0.98)			22.40
Choi	2004	Tai Chi with music	0.62 (0.32, 1.19)		-	9.33
Li F.	2005	Tai Chi	0.61 (0.42, 0.91)	+		16.19
Eyigor	2007	Turkish Folk Dance	0.19 (0.02, 1.51)			1.33
Huang	2010	Tai Chi	0.76 (0.25, 2.30)			4.12
Subtotal <mark>(</mark> I-squa	ared = 0.0%,	p = 0.524)	0.73 (0.61, 0.87)	$\diamond$		53.38
Woo	2007	Tai Chi	0.32 (0.20, 0.52)			13.62
Subtotal (I-squ	ared = .%, p =	)	0.32 (0.20, 0.52)	$\Diamond$		13.62
Overall (I-squar	red = 54.8%, j	p = 0.030)	0.63 (0.49, 0.80)	$\diamond$		100.00
NOTE: Weights	are from rand	om effects analysis				
				.2	2	

#### Sensitivity Analyses Risk of Falling

Association of dance-based mind-motor activities with risk of falling Sensitivity analysis 1: without Woo et al.



#### Association of dance-based mind-motor activities with rate of falls Sensitivity analysis 2: without Eyigor et al.



#### Subgroup Analyses Rate of Falls

Rate of Falls, total N=7 trials	IRR (95%CI)	ľ
Full	0.69 (0.53, 0.89)	73.0
		%
by intervention type		
Tai Chi	0.64 (0.54, 0.74)	0.0%
Non-Tai Chi	0.88 (0.02, 1.75)	91.7 %
by intervention frequency		
< 3 times / week	0.80 (0.59, 1.01)	68.0 %
≥ 3 times / week	0.55 (0.39, 0.70)	0.0%
by intervention duration		
> 24 weeks	1.00 (0.41, 1.60)	85.4 %
12 - 24 weeks	0.57 (0.47, 0.61)	0.0%
< 12 weeks		
by type of dwelling		
community dwelling	0.65 (0.48, 0.82)	0.0%
institutionalized	1.00 (0.41, 1.60)	85.4 %
by type of randomization		
participants randomized	0.57 (0.47, 0.68)	0.0%
cluster randomized	1.00 (0.41, 1.60)	85.4 %
by duration of one class		
< 60 min	0.63 (0.45, 0.89)	
≥ 60 min	0.70 (0.52, 0.95)	76.8 %
by total contact time		
< 90 min	0.69 (0.53, 0.89)	73.0 %
≥ 90 min	0.73 (0.53, 1.00)	79.3 %

Author	Year	Intervention	IRR (95% CI)	Favours intervention	Favours control	Weight [%
Tai Chi						
Wolf	1996	Tai Chi	0.63 (0.45, 0.89)			14.99
Wolf	2003	Tai Chi	0.73 (0.58, 0.91)			17.46
Li F.	2005	Tai Chi	0.51 (0.34, 0.75)			13.83
Voukelatos	2007	Tai Chi	0.72 (0.48, 1.10)		_	13.33
Chyu	2010	Tai Chi	0.60 (0.41, 0.89)			13.93
Subtotal <mark>(</mark> I-squar	ed = 0.0%, p = 0.	582)	0.66 (0.57, 0.76)	$\diamond$		73.53
Non-Tai Chi						
Trombetti	2011	Dalcroze Eurhythmics	0.46 (0.27, 0.79)			10.83
Merom	2016a	Folk- or Ballroom Dance	1.34 (0.98, 1.83)			15.64
Subtotal (I-squared = 91.2%, p = 0.001)			0.80 (0.28, 2.29)			26.47
Overall (I-square	ed = 73.0%, p = 0.	001)	0.69 (0.53, 0.89)	$\diamond$		100.00
NOTE: Weights a	re from random ef	fects analysis				
			.2	l ,	1 2	

# Assciation of dance-based mind-motor activities with rate of falls by intervention type

# Assciation of dance-based mind-motor activities with rate of falls by intervention frequency

Author	Year	Intervention	IRR (95% CI)	Favours intervention	Favours control	Weight [%
< 3 times per wee	ek					
Wolf	1996	Tai Chi	0.63 (0.45, 0.89)			14.99
Wolf	2003	Tai Chi	0.73 (0.58, 0.91)			17.46
Voukelatos	2007	Tai Chi	0.72 (0.48, 1.10)		_	13.33
Trombetti	2011	Dalcroze Eurhythmics	0.46 (0.27, 0.79)			10.83
Merom	2016a	Folk- or Ballroom Dance	1.34 (0.98, 1.83)	_	•	15.64
Subtotal (I-squar	red = 76.7%, p = 0	.002)	0.75 (0.54, 1.03)		•	72.24
≥ 3 times / week						
Li F.	2005	Tai Chi	0.51 (0.34, 0.75)			13.83
Chyu	2010	Tai Chi	0.60 (0.41, 0.89)			13.93
Subtotal (I-squar	red = 0.0%, p = 0.9	563)	0.55 (0.42, 0.73)			27.76
Overall (I-square	d = 73.0%, p = 0.0	001)	0.69 (0.53, 0.89)	$\diamond$		100.00
NOTE: Weights ar	re from random eff	fects analysis				
			.2	I	1 2	

Author	Year	Intervention	IRR (95% CI)	Favours intervention	Favours control	Weight [%]
12 - 24 weeks						
Wolf	1996	Tai Chi	0.63 (0.45, 0.89)			14.99
Li F.	2005	Tai Chi	0.51 (0.34, 0.75)			13.83
Voukelatos	2007	Tai Chi	0.72 (0.48, 1.10)		-	13.33
Chyu	2010	Tai Chi	0.60 (0.41, 0.89)			13.93
Trombetti	2011	Dalcroze Eurhythmics	0.46 (0.27, 0.79)	•		10.83
Subtotal (I-squ	ared = 0.0%,	p = 0.662)	0.59 (0.49, 0.71)	$\diamond$		66.90
> 24 weeks						
Wolf	2003	Tai Chi	0.73 (0.58, 0.91)			17.46
Merom	2016a	Folk- or Ballroom Dance	1.34 (0.98, 1.83)		•	15.64
Subtotal (I-squ	ared = 89.4%	, p = 0.002)	0.98 (0.54, 1.78)			33.10
Overall (I-squa	red = 73.0%,	p = 0.001)	0.69 (0.53, 0.89)	$\diamond$		100.00
NOTE: Weights	are from rand	dom effects analysis				
			.2		1 2	

# Assciation of dance-based mind-motor activities with rate of falls by intervention duration

# Assciation of dance-based mind-motor activities with rate of falls by type of dwelling

Author	Year	Intervention	IRR (95% CI)	Favours intervention	Favours control	Weight [%]
living facilites						
Wolf	2003	Tai Chi	0.73 (0.58, 0.91)			17.46
Merom	2016a	Folk- or Ballroom Dance	1.34 (0.98, 1.83)	-	•	15.64
Subtotal (I-squ	ared = 89.4%, p	o = 0.002)	0.98 (0.54, 1.78)			33.10
community						
Wolf	1996	Tai Chi	0.63 (0.45, 0.89)			14.99
Li F.	2005	Tai Chi	0.51 (0.34, 0.75)			13.83
Voukelatos	2007	Tai Chi	0.72 (0.48, 1.10)		-	13.33
Chyu	2010	Tai Chi	0.60 (0.41, 0.89)			13.93
Trombetti	2011	Dalcroze Eurhythmics	0.46 (0.27, 0.79)	•		10.83
Subtotal (I-squ	ared = 0.0%, p	= 0.662)	0.59 (0.49, 0.71)	$\diamond$		66.90
Overall (I-squa	red = 73.0%, p :	= 0.001)	0.69 (0.53, 0.89)	$\diamond$		100.00
NOTE: Weights	are from randor	n effects analysis				
			.2		1 2	

#### IRR (95% CI) **Favours intervention** Author Year Intervention Favours control Weight [%] 14.99 participants randomized Wolf 1996 Tai Chi 0.63 (0.45, 0.89) 13.83 Li F. 2005 Tai Chi 0.51 (0.34, 0.75) 13.33 Voukelatos 2007 Tai Chi 0.72 (0.48, 1.10) 13.93 Chyu 2010 Tai Chi 0.60 (0.41, 0.89) 10.83 2011 0.46 (0.27, 0.79) Trombetti Dalcroze Eurhythmics 66.90 0.59 (0.49, 0.71) Subtotal (I-squared = 0.0%, p = 0.662) 17.46 cluster randomized Wolf 2003 Tai Chi 0.73 (0.58, 0.91) 15.64 Merom 2016a Folk- or Ballroom Dance 1.34 (0.98, 1.83) 33.10 Subtotal (I-squared = 89.4%, p = 0.002) 0.98 (0.54, 1.78) 100.00 Overall (I-squared = 73.0%, p = 0.001) 0.69 (0.53, 0.89) NOTE: Weights are from random effects analysis 2 .2

# Assciation of dance-based mind-motor activities with rate of falls by type of randomization

# Assciation of dance-based mind-motor activities with rate of falls by duration of one class

Author	Year	Intervention	IRR (95% CI)	Favours intervention	Favours control	Weight [%]
< 60 min						
Wolf	1996	Tai Chi	0.63 (0.45, 0.89)			14.99
Subtotal (I-squ	ared = .%, p = .)		0.63 (0.45, 0.89)	$\langle \rangle$		14.99
≥ 60 min						
Wolf	2003	Tai Chi	0.73 (0.58, 0.91)			17.46
Li F.	2005	Tai Chi	0.51 (0.34, 0.75)			13.83
Voukelatos	2007	Tai Chi	0.72 (0.48, 1.10)		_	13.33
Chyu	2010	Tai Chi	0.60 (0.41, 0.89)			13.93
Trombetti	2011	Dalcroze Eurhythmics	0.46 (0.27, 0.79)			10.83
Merom	2016a	Folk- or Ballroom Dance	1.34 (0.98, 1.83)			15.64
Subtotal (I-squ	ared = 76.8%, p	= 0.001)	0.70 (0.52, 0.95)	$\Leftrightarrow$		85.01
Overall (I-squa	red = 73.0%, p =	0.001)	0.69 (0.53, 0.89)	$\diamond$		100.00
NOTE: Weights	are from random	effects analysis				
			.2	1	2	

Author	Year	Intervention	IRR (95% CI)	Favours intervention	Favours control	Weight [?
≥ 90 min						
Wolf	1996	Tai Chi	0.63 (0.45, 0.89)			14.99
Wolf	2003	Tai Chi	0.73 (0.58, 0.91)			17.46
Li F.	2005	Tai Chi	0.51 (0.34, 0.75)			13.83
Chyu	2010	Tai Chi	0.60 (0.41, 0.89)			13.93
Merom	2016a	Folk- or Ballroom Dance	1.34 (0.98, 1.83)		•	15.64
Subtotal (I-squ	ared = 79.3%,	p = 0.001)	0.73 (0.53, 1.00)			75.85
< 90 min						
Voukelatos	2007	Tai Chi	0.72 (0.48, 1.10)		-	13.33
Trombetti	2011	Dalcroze Eurhythmics	0.46 (0.27, 0.79)			10.83
Subtotal (I-squ	ared = 40.3%,	p = 0.195)	0.60 (0.39, 0.92)			24.15
Overall (I-squa	red = 73.0%, p	= 0.001)	0.69 (0.53, 0.89)	$\diamond$		100.00
NOTE: Weights	are from rando	m effects analysis				
					2	

# Assciation of dance-based mind-motor activities with rate of falls by total contact time

#### Subgroup Analysis of Secondary Outcomes

Balance (N=15)	SMD (95%CI)	I <sup>2</sup>
Full	0.62 (0.33 <i>,</i> 0.90)	90.1%
by intervention type		
Tai Chi	0.62 (0.33, 0.90)	93.0 %
Non-Tai Chi	0.86 (0.33, 1.39)	81.0 %
by intervention frequency		
< 3 times / week	0.23 (0.02, 0.48)	62.3 %
≥ 3 times / week	0.84 (0.54, 1.14)	81.4 %
by intervention duration	,	
> 24 weeks	0.23 (0.34, 0.80)	71.7 %
12 - 24 weeks	0.54 (0.21 <i>,</i> 0.87)	91.5 %
< 12 weeks	1.31 (0.12, 2.49)	87.4 %
by type of dwelling		
community dwelling	0.62 (0.314, 0.93)	90.8 %
institutionalized	0.61 0.24, 0.97)	
by type of randomization		
participants randomized	0.61 (0.28, 0.93)	91.4 %
cluster randomized	0.69 (0.40, 0.98)	0.0%
by duration of one class		
< 60 min	0.89 (0.41, 1.36)	85.6 %
≥ 60 min	0.51 (0.10, 0.92)	92.7 %
Woo et al. do not report time		
by total contact time	0.40./0.45	
< 90 min	0.49 (0.15, 0.83)	
90 -120 min	0.33 (0.02, 0.64)	76.6 %
≥ 120 min	0.96 (0.64, 1.28)	76.7 %
Woo et al. do not report duration of classes		

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%
Tai Chi						
Choi	2004	Tai Chi with music	0.61 (0.24, 0.97)		<del>- </del>	7.14
Li F.	2005	Tai Chi	1.01 (0.91, 1.12)		+	8.00
Woo	2007	Tai Chi	-0.09 (-0.59, 0.41)			6.48
Li J.	2008	Tai Chi	0.91 (0.54, 1.28)			7.11
Pereira	2008	Tai Chi	1.02 (0.55, 1.49)			6.63
Logghe	2009	Tai Chi	-0.04 (-0.27, 0.20)	-	÷	7.66
Huang	2010	Tai Chi	0.83 (0.36, 1.29)			6.65
Taylor-Piliae	2010	Tai Chi	0.26 (-0.03, 0.56)			7.44
Sun	2015	Tai Chi	-0.12 (-0.45, 0.21)		+	7.29
Subtotal (I-square	d = 93.0%	, p = 0.000)	0.49 (0.12, 0.85)		$\diamond$	64.40
Non-Tai Chi						
Hopkins	1990	low-impact Aerobic Dance	0.48 (-0.06, 1.02)			6.26
Eyigor	2007	Turkish Dance	0.61 (-0.04, 1.25)			5.72
Trombetti	2011	Dalcroze Eurythmics	0.49 (0.15, 0.83)			7.25
Alves	2013	Ballroom Dance	0.49 (-0.07, 1.04)			6.20
Serrano-Guzman	2016	Flamenco and Sevillanas	2.47 (1.76, 3.19)			5.36
Bennett	2018	Line Dancing	0.83 (0.01, 1.66)			4.83
Subtotal (I-square	d = 81.0%	<sup>b</sup> , p = 0.000)	0.86 (0.33, 1.39)		$\langle \diamond \rangle$	35.60
÷	= 90 1%	p = 0.000)	0.62 (0.33, 0.90)			100.00

## Association of dance-based mind-motor activities with balance by intervention type

## Association of dance-based mind-motor activities with balance by intervention frequency

Author	Year	Intervention	SMF (95% CI)	Favours control	Favours intervention	Weight [%]
< 3 times / week						
Logghe	2009	Tai Chi	-0.04 (-0.27, 0.20)	_		7.66
Taylor-Piliae	2010	Tai Chi	0.26 (-0.03, 0.56)	-	Γ. Ι	7.44
Trombetti Alves	2011	Dalcroze Eurythmics	0.49 (0.15, 0.83)			7.25
Sun	2013	Ballroom Dance	0.49 (-0.07, 1.04)			6.20
Bennett	2015	Tai Chi	-0.12 (-0.45, 0.21)	-		7.29
	2018	Line Dancing	0.83 (0.01, 1.66)			4.83
Subtotal <mark>(</mark> I-squared	d = 62.3%,	p = 0.021)	0.23 (-0.02, 0.48)		$\diamond$	40.66
≥ 3 times / week						
Hopkins	1990	low-impact Aerobic Dance	0.48 (-0.06, 1.02)	-		6.26
Choi	2004	Tai Chi with music	0.61 (0.24, 0.97)			7.14
Li F.	2005	Tai Chi	1.01 (0.91, 1.12)		+	8.00
Eyigor	2007	Turkish Dance	0.61 (-0.04, 1.25)			5.72
Woo	2007	Tai Chi	-0.09 (-0.59, 0.41)			6.48
Li J.	2008	Tai Chi	0.91 (0.54, 1.28)			7.11
Pereira	2008	Tai Chi	1.02 (0.55, 1.49)			6.63
Huang	2010	Tai Chi	0.83 (0.36, 1.29)		<b>.</b>	6.65
Serrano-Guzman	2016	Flamenco and Sevillanas	2.47 (1.76, 3.19)			5.36
Subtotal (I-square	d = 81.4%,	p = 0.000)	0.84 (0.54, 1.14)		$\diamond$	59.34
Overall (I-squared	= 90.1%, p	= 0.000)	0.62 (0.33, 0.90)		$\diamond$	100.00
NOTE: Weights are	e from rand	om effects analysis				

## Association of dance-based mind-motor activities with balance by intervention duration

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%
< 12 weeks						
Eyigor	2007	Turkish Dance	0.61 (-0.04, 1.25)		<u> </u>	5.72
Serrano-Guzma	n 2016	Flamenco and Sevillanas	2.47 (1.76, 3.19)			5.36
Bennett	2018	Line Dancing	0.83 (0.01, 1.66)			4.83
Subtotal (I-squ	ared = 87.4%, p	o = 0.000)	1.31 (0.12, 2.49)			15.90
12 - 24 weeks						
Hopkins	1990	low-impact Aerobic Dance	0.48 (-0.06, 1.02)			6.26
Choi	2004	Tai Chi with music	0.61 (0.24, 0.97)			7.14
Li F.	2005	Tai Chi	1.01 (0.91, 1.12)		+	8.00
Li J.	2008	Tai Chi	0.91 (0.54, 1.28)			7.11
Pereira	2008	Tai Chi	1.02 (0.55, 1.49)			6.63
Logghe	2009	Tai Chi	-0.04 (-0.27, 0.20)	-	ŧ-	7.66
Huang	2010	Tai Chi	0.83 (0.36, 1.29)			6.65
Taylor-Piliae	2010	Tai Chi	0.26 (-0.03, 0.56)			7.44
Alves	2013	Ballroom Dance	0.49 (-0.07, 1.04)			6.20
Sun	2015	Tai Chi	-0.12 (-0.45, 0.21)			7.29
Subtotal (I-squa	ared = 91.5%, p	= 0.000)	0.54 (0.21, 0.87)		$ \diamond$	70.38
> 24 weeks						
Woo	2007	Tai Chi	-0.09 (-0.59, 0.41)		<u> </u>	6.48
Trombetti	2011	Dalcroze Eurythmics	0.49 (0.15, 0.83)			7.25
Subtotal (I-squa	ared = 71.7%, p	= 0.060)	0.23 (-0.33, 0.80)	<	$ \rightarrow $	13.73
Overall (I-squar	red = 90.1%, p =	= 0.000)	0.62 (0.33, 0.90)		$\diamond$	100.00
NOTE: Weights	are from randon	n effects analysis				
NOTE: Weights	are from randon	n effects analysis	-2		0 2	

## Association of dance-based mind-motor activities with balance by type of randomization

Author	Year	Interventionen	SMD (95% CI)	Favours control	Favours intervention	Weight [%
participants rand	domized					
Hopkins	1990	low-impact Aerobic Dance	0.48 (-0.06, 1.02)			6.26
Li F.	2005	Tai Chi	1.01 (0.91, 1.12)		+	8.00
Eyigor	2007	Turkish Dance	0.61 (-0.04, 1.25)		<u> </u>	5.72
Woo	2007	Tai Chi	-0.09 (-0.59, 0.41)			6.48
Li J.	2008	Tai Chi	0.91 (0.54, 1.28)			7.11
Pereira	2008	Tai Chi	1.02 (0.55, 1.49)		•	6.63
Logghe	2009	Tai Chi	-0.04 (-0.27, 0.20)		⊨	7.66
Taylor-Piliae	2010	Tai Chi	0.26 (-0.03, 0.56)			7.44
Trombetti	2011	Dalcroze Eurythmics	0.49 (0.15, 0.83)			7.25
Alves	2013	Ballroom Dance	0.49 (-0.07, 1.04)	-		6.20
Sun	2015	Tai Chi	-0.12 (-0.45, 0.21)		<b>-</b>	7.29
Serrano-Guzman	2016	Flamenco and Sevillanas	2.47 (1.76, 3.19)			5.36
Bennett	2018	Line Dancing	0.83 (0.01, 1.66)			4.83
Subtotal (I-squa	red = 91.4%, p = 0	.000)	0.61 (0.28, 0.93)			86.21
cluster randomi	zed					
Choi	2004	Tai Chi with music	0.61 (0.24, 0.97)		<del></del>	7.14
Huang	2010	Tai Chi	0.83 (0.36, 1.29)			6.65
Subtotal (I-squa	red = 0.0%, p = 0.4	466)	0.69 (0.40, 0.98)		$\diamond$	13.79
Overall (I-square	ed = 90.1%, p = 0.0	000)	0.62 (0.33, 0.90)		$\diamond$	100.00
NOTE: Weights a	re from random ef	fects analysis				
		·	-2		0 2	

## Association of dance-based mind-motor activities with balance by duration of one class

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%
< 60 min						
Hopkins	1990	low-impact Aerobic Dance	0.48 (-0.06, 1.02)			6.26
Choi	2004	Tai Chi with music	0.61 (0.24, 0.97)		<del></del>	7.14
Pereira	2008	Tai Chi	1.02 (0.55, 1.49)			6.63
Huang	2010	Tai Chi	0.83 (0.36, 1.29)			6.65
Taylor-Piliae	2010	Tai Chi	0.26 (-0.03, 0.56)			7.44
Serrano-Guzman	2016	Flamenco and Sevillanas	2.47 (1.76, 3.19)			5.36
Subtotal (I-squared =	= 85.6%, p = 0.0	00)	0.89 (0.41, 1.36)		$\sim$	39.48
≥ 60 min						
Li F.	2005	Tai Chi	1.01 (0.91, 1.12)		+	8.00
Eyigor	2007	Turkish Dance	0.61 (-0.04, 1.25)			5.72
Li J.	2008	Tai Chi	0.91 (0.54, 1.28)			7.11
Logghe	2009	Tai Chi	-0.04 (-0.27, 0.20)	-	e	7.66
Trombetti	2011	Dalcroze Eurythmics	0.49 (0.15, 0.83)			7.25
Alves	2013	Ballroom Dance	0.49 (-0.07, 1.04)			6.20
Sun	2015	Tai Chi	-0.12 (-0.45, 0.21)		<b>⊢</b>	7.29
Bennett	2018	Line Dancing	0.83 (0.01, 1.66)			4.83
Subtotal (I-squared =	92.7%, p = 0.0	00)	0.51 (0.10, 0.92)		$\diamond$	54.05
not reported						
Woo	2007	Tai Chi	0.09 (-0.59, 0.41)		<u> </u>	6.48
Subtotal (I-squared =	.%, p = .)		-0.09 (-0.59, 0.41)	<	$\geq$	6.48
Overall (I-squared = 9	90.1%, p = 0.000	))	0.62 (0.33, 0.90)		$\diamond$	100.00
NOTE: Weights are fro	om random effec	ts analysis				
			-2			

### Association of dance-based mind-motor activities with balance by total contact time

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%
>120 min						
Hopkins	1990	low-impact Aerobic Dance	0.48 (-0.06, 1.02)			6.26
Li F.	2005	Tai Chi	1.01 (0.91, 1.12)			8.00
Eyigor	2007	Turkish Dance	0.61 (-0.04, 1.25)		<u>├──</u> *──	5.72
Li J.	2008	Tai Chi	0.91 (0.54, 1.28)			7.11
Pereira	2008	Tai Chi	1.02 (0.55, 1.49)			6.63
Alves	2013	Ballroom Dance	0.49 (-0.07, 1.04)			6.20
Serrano-Guzma	an 2016	Flamenco and Sevillanas	2.47 (1.76, 3.19)			5.36
Subtotal (I-sq	uared = 75.7%, p	= 0.000)	0.96 (0.64, 1.28)		$\diamond$	45.27
90-120 min						
Cho	2004	Tai Chi with music	0.61 (0.24, 0.97)		<del></del>	7.14
Logghe	2009	Tai Chi	-0.04 (-0.27, 0.20)		€— !	7.66
Huang	2010	Tai Chi	0.83 (0.36, 1.29)			6.65
Taylor-Piliae	2010	Tai Chi	0.26 (-0.03, 0.56)			7.44
Sun	2015	Tai Chi	-0.12 (-0.45, 0.21)		<b>⊢</b> !	7.29
Bennett	2018	Line Dancing	0.83 (0.01, 1.66)			4.83
Subtotal (I-squ	ared = 76.6%, p	= 0.001)	0.33 (0.02, 0.64)		$\diamond$	41.01
< 90 min						
Trombetti	2011	Dalcroze Eurythmics	0.49 (0.15, 0.83)			7.25
Subtotal (I-squ	ared = .%, p = .)		0.49 (0.15, 0.83)		$\diamond$	7.25
not reported						
Woo	2007	Tai Chi	-0.09 (-0.59, 0.41)		<u>   </u>	6.48
Subtotal (I-squ	uared = .%, p = .)		-0.09 (-0.59, 0.41)	<		6.48
Overall (I-squa	red = 90.1%, p =	0.000)	0.62 (0.33, 0.90)			100.00
	are from random					
NOTE. Weighte	are non random	chects analysis			ł	

Mobility (N=13)	SMD (95%CI)	ľ	
Full	-0.56 (-0.81, - 0.31)	77.1%	
by intervention type			
Tai Chi	-0.31 (0.60, -0.01)	70.3%	
Non-Tai Chi	-0.79, (-1.16, - 0.42)	72.5%	
by intervention frequency			
< 3 times / week	-0.231 (-0.46, - 0.01)	41.4%	
≥ 3 times / week	-0.762 (-1.10, 0.42)	73.1%	
by intervention duration			
> 24 weeks	-0.26 (-0.60, 0.08)		
12 - 24 weeks	-0.44 (-0.68, - 0.20)	69.7%	
< 12 weeks	-1.46 (-1.96, - 0.96)	10.4%	
by type of dwelling			
community dwelling	-0.56 (-0.81, - 0.31)	77.1%	
institutionalized			
by type of randomization			
participants randomized	-0.59 (-0.89 <i>,</i> - 0.30)	80.4%	
cluster randomized	-0.44 (-0.76, - 0.11)	12.6%	
by duration of one class			
< 60 min	-0.75 (-1.09, - 0.42)	55.0%	
≥ 60 min	-0.43 (-0.73, - 0.12)	77.9%	
by total contact time			
< 90 min	-0.26 (-0.60, 0.07)		
90-120 min > 120 min	-0.25 (-0.61, 0.10) -0.73 (-1.05, - 0.40)	68.8% 69.3%	

# Association of dance-based mind-motor activities with mobility by intervention type

Author	Year	Intervention	SMD (95% CI)	Favours intervention	Favours control	Weight [
Tai Chi						
Li F.	2005	Tai Chi	-0.53 (-0.78, -0.29)			10.11
-rye	2007	Tai Chi	-0.93 (-1.55, -0.32)			6.71
Chyu	2010	Tai Chi	0.07 (-0.46, 0.59)		•	7.50
Huang	2010	Tai Chi	-0.26 (-0.71, 0.20)	-	_	8.23
aylor	2012	Tai Chi	-0.03 (-0.21, 0.16)		<b>-</b>	10.59
loradechanunt	2017	Tai Chi	-0.31 (-1.18, 0.55)			4.79
Subtotal (I-squ	ared = 70	.3%, p = 0.005)	-0.30 (-0.60, -0.01)	$\diamond$		47.93
Non-Tai Chi						
lopkins	1990	low-impact Aerobic Dance	-0.85 (-1.40, -0.29)			7.20
łui	2009	low-impact Aerobic Dance	-0.59 (-0.99, -0.18)	<del>- •</del>		8.68
rombetti	2011	Dalcroze Eurythmics	-0.26 (-0.60, 0.07)	-	-	9.32
Alves	2013	Ballroom Dance	-0.21 (-0.76, 0.34)			7.31
Cepeda	2015	Ballroom Dance	-1.79 (-2.58, -1.01)			5.32
Cruz-Ferreira	2015	Creative Dance	-0.99 (-1.54, -0.44)			7.31
errano-Guzma	n 2016	Flamenco and Sevillanas	-1.26 (-1.85, -0.67)			6.93
ubtotal (I-squ	ared = 72	.5%, p = 0.001)	-0.79 (-1.16, -0.42)			52.07
Overall <mark>(</mark> I-squa	red = 77.1	1%, p = 0.000)	-0.56 (-0.81, -0.31)	$\diamond$		100.00
NOTE: Weights	are from	random effects analysis				
				-2 0		2

# Association of dance-based mind-motor activities with mobility by intervention frequency

-				
Author	Year Intervention	SMD (95% CI)	Favours intervention	Favours control Weight [%]
< 3 times / week				
Hui	2009low-impact Aerobic Dance	-0.59 (-0.99, -0.18)		8.68
Trombetti	2011Dalcroze Eurythmics	-0.26 (-0.60, 0.07)		9.32
Taylor	2012Tai Chi	-0.03 (-0.21, 0.16)		10.59
Alves	2013Ballroom Dance	-0.21 (-0.76, 0.34)		7.31
Noradechanunt	2017Tai Chi	-0.31 (-1.18, 0.55)		4.79
subtotal (I-squared =	41.4%, p = 0.145)	-0.23 (-0.46, -0.01)	$\diamond$	40.69
Overall (I-squared = 7	7.1%, p = 0.000)	-0.56 (-0.81, -0.31)	$\diamond$	100.00
≥ 3 times / week				
Hopkins	1990low-impact Aerobic Dance	-0.85 (-1.40, -0.29)		7.20
Li F.	2005Tai Chi	-0.53 (-0.78, -0.29)		10.11
Frye	2007Tai Chi	-0.93 (-1.55, -0.32)		6.71
Chyu	2010Tai Chi	0.07 (-0.46, 0.59)		• 7.50
Huang	2010Tai Chi	-0.26 (-0.71, 0.20)	-	8.23
Cepeda	2015Ballroom Dance	-1.79 (-2.58, -1.01)		5.32
Cruz-Ferreira	2015Creative Dance	-0.99 (-1.54, -0.44)		7.31
Serrano-Guzman	2016Flamenco and Sevillanas	-1.26 (-1.85, -0.67)		6.93
ubtotal (I-squared =	73.1%, p = 0.001)	-0.76 (-1.10, -0.42)	$\diamond$	59.31
NOTE: Weights are fro	m random effects analysis			
			-2 0	) 2

# Association of dance-based mind-motor activities with mobility by intervention duration

Author	Year	Intervention	SMD (95% CI)	Favours intervention	Favours control	Weight [9
< 12 weeks						
Cepeda	2015	Ballroom Dance	-1.79 (-2.58, -1.01)			5.32
Serrano-Guzman	2016	Flamenco and Sevillanas	-1.26 (-1.85, -0.67)	*		6.93
Subtotal (I-squar	red = 10.4	%, p = 0.291)	-1.46 (-1.96, -0.96)	$\sim$		
12 - 24 weeks						
Hopkins	1990	low-impact Aerobic Dance	-0.85 (-1.40, -0.29)			7.20
Li F.	2005	Tai Chi	-0.53 (-0.78, -0.29)			10.11
Frye	2007	Tai Chi	-0.93 (-1.55, -0.32)			6.71
Hui	2009	low-impact Aerobic Dance	-0.59 (-0.99, -0.18)			8.68
Chyu	2010	Tai Chi	0.07 (-0.46, 0.59)			7.50
Huang	2010	Tai Chi	-0.26 (-0.71, 0.20)		<u> </u>	8.23
Taylor	2012	Tai Chi	-0.03 (-0.21, 0.16)	-	•	10.59
Alves	2013	Ballroom Dance	-0.21 (-0.76, 0.34)		<u> </u>	7.31
Cruz-Ferreira	2015	Creative Dance	-0.99 (-1.54, -0.44)			7.31
Noradechanunt	2017	Tai Chi	-0.31 (-1.18, 0.55)			4.79
Subtotal (I-squar	red = 69.7	%, p = 0.000)	-0.44 (-0.68, -0.20)	$\diamond$		78.43
> 24 weeks						
Trombetti	2011	Dalcroze Eurythmics	-0.26 (-0.60, 0.07)		t	9.32
Subtotal (I-squa	red = .%,	p = .)	-0.26 (-0.60, 0.07)	$\sim$	T	12.25
Overall (I-square	d = 77.1%	ó, p = 0.000)	-0.56 (-0.81, -0.31)	$\diamond$		100.00
NOTE: Weights a	re from ra	ndom effects analysis				
				-2	0	2

# Association of dance-based mind-motor activities with mobility by type of randomization

Author	Year	Intervention	SMD (95% CI)	Favours intervention	Favours control	Weight [%
participants random	nized					
Hopkins	1990	low-impact Aerobic Dance	-0.85 (-1.40, -0.29)			7.20
Li F.	2005	Tai Chi	-0.53 (-0.78, -0.29)			10.11
Frye	2007	Tai Chi	-0.93 (-1.55, -0.32)	*		6.71
Chyu	2010	Tai Chi	0.07 (-0.46, 0.59)		•	7.50
Trombetti	2011	Dalcroze Eurythmics	-0.26 (-0.60, 0.07)		+	9.32
Taylor	2012	Tai Chi	-0.03 (-0.21, 0.16)	-	÷	10.59
Alves	2013	Ballroom Dance	-0.21 (-0.76, 0.34)		<u>+</u>	7.31
Cepeda	2015	Ballroom Dance	-1.79 (-2.58, -1.01)			5.32
Cruz-Ferreira	2015	Creative Dance	-0.99 (-1.54, -0.44)			7.31
Serrano-Guzman	2016	Flamenco and Sevillanas	-1.26 (-1.85, -0.67)			6.93
Noradechanunt	2017	Tai Chi	-0.31 (-1.18, 0.55)		<u> </u>	4.79
Subtotal (I-squared	= 80.4%, p	o = 0.000)	-0.59 (-0.89, -0.30)	$\diamond$		83.09
cluster randomized						
Hui	2009	low-impact Aerobic Dance	-0.59 (-0.99, -0.18)			8.68
Huang	2010	Tai Chi	-0.26 (-0.71, 0.20)		+-	8.23
Subtotal (I-squared	= 12.6%, p	) = 0.285)	-0.44 (-0.76, -0.11)	$\diamond$		16.91
Overall (I-squared =	77.1%, p	= 0.000)	-0.56 (-0.81, -0.31)	$\diamond$		100.00
NOTE: Weights are fi	rom randor	n effects analysis				
				-2	0	2

# Association of dance-based mind-motor activities with mobility by duration of one class

Author	Year	Intervention	SMD (95% CI)	Favours intervention	Favours control	Weight [
< 60 min						
Hopkins	1990	low-impact Aerobic Dance	-0.85 (-1.40, -0.29)			7.20
Hui	2009	low-impact Aerobic Dance	-0.59 (-0.99, -0.18)			8.68
Huang	2010	Tai Chi	-0.26 (-0.71, 0.20)		_	8.23
Cruz-Ferreira	2015	Creative Dance	-0.99 (-1.54, -0.44)			7.31
Serrano-Guzma	n 2016	Flamenco and Sevillanas	-1.26 (-1.85, -0.67)			6.93
Subtotal (I-squ	ared = 55	5.0%, p = 0.064)	-0.75 (-1.09, -0.42)	$\diamond$		38.35
≥ 60 min						
Li F.	2005	Tai Chi	-0.53 (-0.78, -0.29)			10.11
Frye	2007	Tai Chi	-0.93 (-1.55, -0.32)			6.71
Chyu	2010	Tai Chi	0.07 (-0.46, 0.59)		*	7.50
Trombetti	2011	Dalcroze Eurythmics	-0.26 (-0.60, 0.07)		-	9.32
Taylor	2012	Tai Chi	-0.03 (-0.21, 0.16)		-	10.59
Alves	2013	Ballroom Dance	-0.21 (-0.76, 0.34)			7.31
Cepeda	2015	Ballroom Dance	-1.79 (-2.58, -1.01)			5.32
Noradechanunt	2017	Tai Chi	-0.31 (-1.18, 0.55)	*		4.79
Subtotal (I-squ	ared = 77	.9%, p = 0.000)	-0.43 (-0.73, -0.12)	$\diamond$		61.65
Overall (I-squa	red = 77.1	1%, p = 0.000)	-0.56 (-0.81, -0.31)	$\diamond$		100.00
NOTE: Weights	are from	random effects analysis				
				-2 0	)	2

# Association of dance-based mind-motor activities with mobility by total contact time

Author	Year	Intervention	SMD (95% CI)	Favours intervention	Favours control	Weight [%
> 120 min						
Hopkins	1990	low-impact Aerobic Dance	-0.85 (-1.40, -0.29)			7.20
Li F.	2005	Tai Chi	-0.53 (-0.78, -0.29)			10.11
Frye	2007	Tai Chi	-0.93 (-1.55, -0.32)			6.71
Chyu	2010	Tai Chi	0.07 (-0.46, 0.59)			7.50
Alves	2013	Ballroom Dance	-0.21 (-0.76, 0.34)			7.31
Cepeda	2015	Ballroom Dance	-1.79 (-2.58, -1.01)			5.32
Cruz-Ferreira	2015	Creative Dance	-0.99 (-1.54, -0.44)			7.31
Serrano-Guzmar	12016	Flamenco and Sevillanas	-1.26 (-1.85, -0.67)			6.93
Voradechanunt	2017	Tai Chi	-0.31 (-1.18, 0.55)			4.79
Subtotal (I-squa	ared = 69.	3%, p = 0.001)	-0.73 (-1.05, -0.40)	$\diamond$		63.17
0-120 min						
Hui	2009	low-impact Aerobic Dance	-0.59 (-0.99, -0.18)			8.68
luang	2010	Tai Chi	-0.26 (-0.71, 0.20)		-	8.23
aylor	2012	Tai Chi	-0.03 (-0.21, 0.16)		-	10.59
Subtotal (I-squa	ared = 68.	8%, p = 0.041)	-0.25 (-0.61, 0.10)	$\sim$	•	27.51
< 90 min						
rombetti	2011	Dalcroze Eurythmics	-0.26 (-0.60, 0.07)		•	9.32
Subtotal (I-squ	ared = .%	o, p = .)	-0.26 (-0.60, 0.07)	$\square$	•	9.32
Overall (I-squar	ed = 77.1	%, p = 0.000)	-0.56 (-0.81, -0.31)	$\diamond$		100.00
NOTE: Weights	are from r	andom effects analysis				
				-2 0		2

Strength (lower body) (N=13)	SMD (95%CI)	ľ
Full	0.57 (0.23, 0.91)	88.5%
by intervention type		
Tai Chi	0.13 (-0.09, 0.34)	25.3%
Non-Tai Chi	0.86 (0.25, 1.47)	92.8%
by intervention frequency		
< 3 times / week	0.19 (-0.09, 0.46)	75.6%
≥ 3 times / week	1.04 (0.31, 1.77)	88.1%
by intervention duration		
> 24 weeks	-0.17 (0.33, -0.01)	0.0%
12 - 24 weeks	0.61 (0.13, 1.09)	88.8%
< 12 weeks	1.15 (0.73, 1.57)	0.0%
by type of dwelling		
community dwelling	0.66 (0.27, 1.05)	86.9%
institutionalized	-0.18 (-0.35, - 0.01)	
by type of randomization	,	
participants randomized	0.66 (0.23, 1.08)	87.4%
cluster randomized	0.25 (0.63, 1.13	93.6%
by duration of one class		
< 60 min	1.13 (0.46, 1.81)	87.7%
≥ 60 min	0.16 (-0.10, 0.41)	68.7%
by total contact time		
90 - 120 min	0.27 (-0.06, 0.61)	85.7%
> 120 min	0.86 (0.21, 1.51)	85.3%

## Association of dance-based mind-motor activities with LBS by intervention type

Author Y	/ear	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%]
Classic dance	e styles					
Hopkins	1990	low-impact Aerobic Dance	2.81 (2.05, 3.56)			6.53
Eyigor	2007	Turkish Folklore Dance	1.27 (0.58, 1.96)			6.89
McKinley	2008	Tango Dance Program	0.75 (-0.04, 1.54)	ł		6.33
Hui	2009	Low-impact Dance routine	0.72 (0.31, 1.13)			8.50
Janyacharoen	2013	Thai Dance	1.34 (0.64, 2.03)			6.90
Cruz-Ferreira	2015	Creative Dance	0.64 (0.11, 1.16)			7.84
Merom (a)	2016	Folk- or Ballroom Dancing	-0.18 (-0.35, -0.01)	-		9.47
Merom (b)	2016	Social Dancing	-0.13 (-0.57, 0.30)		-	8.34
Subtotal (I-sq	uared = 92	2.8%, p = 0.000)	0.86 (0.25, 1.46)		$\langle \rangle$	60.80
Tai Chi						
Frye	2007	Tai Chi	0.32 (-0.27, 0.90)			7.52
Chyu	2010	Tai Chi	0.04 (-0.48, 0.57)			7.86
Taylor-Piliae	2010	Tai Chi	0.43 (0.01, 0.85)	•		8.46
Taylor	2012	Tai Chi	-0.04 (-0.23, 0.14)		-	9.43
Noradechanun	nt 2017	Tai Chi	0.31 (-0.55, 1.18)			5.93
Subtotal (I-sq	uared = 25	5.3%, p = 0.253)	0.13 (-0.09, 0.34)	4	>	39.20
Overall (I-squ	ared = 88.	5%, p = 0.000)	0.57 (0.23, 0.91)		$\diamond$	100.00
NOTE: Weight	ts are from	random effects analysis				
				.2 0	) 2	

## Association of dance-based mind-motor activities with LBS by intervention frequency

Author	Year	Intervention	SMD (95% CI)	Favours control	Fayours intervention	Weight
≥ 3 times / week						
Hopkins	1990	Low-impact Aerobic Dance	2.81 (2.05, 3.56)			6.53
Eyigor	2007	Turkish Folklore Dance	1.27 (0.58, 1.96)			6.89
Frye	2007	Tai Chi	0.32 (-0.27, 0.90)	_	-	7.52
Chyu	2010	Tai Chi	0.04 (-0.48, 0.57)			7.86
Janyacharoen	2013	Thai Dance	1.34 (0.64, 2.03)			6.90
Cruz-Ferreira	2015	Creative Dance	0.64 (0.11, 1.16)			7.84
Subtotal (I-squa	red = 88.1	%, p = 0.000)	1.04 (0.31, 1.77)			43.53
< 3 times / week						
McKinley	2008	Tango Dance Program	0.75 (-0.04, 1.54)			6.33
Hui	2009	Low-impact Aerobic Dance	0.72 (0.31, 1.13)			8.50
Taylor-Piliae	2010	Tai Chi	0.43 (0.01, 0.85)			8.46
Taylor	2012	Tai Chi	-0.04 (-0.23, 0.14)	-	⊨	9.43
Merom (a)	2016	Folk- or Ballroom Dancing	-0.18 (-0.35, -0.01)	-		9.47
Merom (b)	2016	Social Dancing	-0.13 (-0.57, 0.30)			8.34
Noradechanunt	2017	Tai Chi	0.31 (-0.55, 1.18)			5.93
Subtotal (I-squa	red = 75.6°	%, p = 0.000)	0.19 (-0.08, 0.45)		$\diamond$	56.47
Overall (I-square	ed = 88.5%	, p = 0.000)	0.57 (0.23, 0.91)		$\diamond$	100.00
NOTE: Weights a	ire from rar	ndom effects analysis				
		in the second		2		

## Association of dance-based mind-motor activities with LBS by intervention duration

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%
< 12 weeks						
Eyigor	2007	Turkish Folklore Dance	1.27 (0.58, 1.96)			6.89
McKinley	2008	Tango Dance Program	0.75 (-0.04, 1.54)		<u> </u>	6.33
Janyacharoen	2013	Thai Dance	1.34 (0.64, 2.03)			6.90
Subtotal (I-squa	ared = 0.0%	o, p = 0.503)	1.15 (0.73, 1.57)			20.12
12 - 24 weeks						
Hopkins	1990	Low-impact Aerobic Dance	2.81 (2.05, 3.56)			6.53
Frye	2007	Tai Chi	0.32 (-0.27, 0.90)	_		7.52
Hui	2009	Low-impact Aerobic Dance	0.72 (0.31, 1.13)		<del>_ ∎_</del>	8.50
Chyu	2010	Tai Chi	0.04 (-0.48, 0.57)		<del>∲  </del>	7.86
Taylor-Piliae	2010	Tai Chi	0.43 (0.01, 0.85)			8.46
Taylor	2012	Tai Chi	-0.04 (-0.23, 0.14)		<b>€</b> -	9.43
Cruz-Ferreira	2015	Creative Dance	0.64 (0.11, 1.16)			7.84
Noradechanunt	2017	Tai Chi	0.31 (-0.55, 1.18)		• • · · · · · · · · · · · · · · · · · ·	5.93
Subtotal (I-squa	ared = 88.8	%, p = 0.000)	0.61 (0.13, 1.09)			62.07
> 24 weeks						
Merom (a)	2016	Folk- or Ballroom Dance	-0.18 (-0.35, -0.01)		4	9.47
Merom (b)	2016	Social Dancing	-0.13 (-0.57, 0.30)		<b>₩</b> —	8.34
Subtotal (I-squa	ared = 0.0%	, p = 0.859)	-0.17 (-0.33, -0.01)	<b>\$</b>		17.81
Overall (I-squar	ed = 88.5%	o, p = 0.000)	0.57 (0.23, 0.91)		$\diamond$	100.00
NOTE: Weights	are from ra	ndom effects analysis				
				2		

## Association of dance-based mind-motor activities with LBS by type of dwelling

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%
community						
Hopkins	1990	Low-impact Aerobic Dance	2.81 (2.05, 3.56)			6.53
Eyigor	2007	Turkish Folklore Dance	1.27 (0.58, 1.96)			6.89
Frye	2007	Tai Chi	0.32 (-0.27, 0.90)			7.52
McKinley	2008	Tango Dance Program	0.75 (-0.04, 1.54)			6.33
Hui	2009	Low-impact Aerobic Dance	0.72 (0.31, 1.13)			8.50
Chyu	2010	Tai Chi	0.04 (-0.48, 0.57)		•	7.86
Taylor-Piliae	2010	Tai Chi	0.43 (0.01, 0.85)		* <u></u>	8.46
Taylor	2012	Tai Chi	-0.04 (-0.23, 0.14)	-	÷ .	9.43
Janyacharoen	2013	Thai Dance	1.34 (0.64, 2.03)			6.90
Cruz-Ferreira	2015	Creative Dance	0.64 (0.11, 1.16)			7.84
Merom (b)	2016	Social Dancing	-0.13 (-0.57, 0.30)			8.34
Noradechanunt	2017	Tai Chi	0.31 (-0.55, 1.18)			5.93
Subtotal (I-squar	red = 86.9	%, p = 0.000)	0.66 (0.27, 1.05)		$\diamond$	90.53
iving facilites						
Merom (a)	2016	Folk- or Ballroom Dancing	-0.18 (-0.35, -0.01)			9.47
Subtotal (I-squar	red = .%,	p = .)	-0.18 (-0.35, -0.01)	$\diamond$		9.47
Overall (I-square	d = 88.5%	( n = 0.000)	0.57 (0.23, 0.91)		$\diamond$	100.00
overall (Paquare	u 30.07	o, p 0.000/	(			100.00
NOTE: Weights a	re from ra	ndom effects analysis				

## Association of dance-based mind-motor activities with LBS by type of randomization

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%
participants rand	omized					
Hopkins	1990	Low-impact Aerobic Dance	2.81 (2.05, 3.56)			6.53
Eyigor	2007	Turkish Folklore Dance	1.27 (0.58, 1.96)			6.89
Frye	2007	Tai Chi	0.32 (-0.27, 0.90)	-		7.52
McKinley	2008	Tango Dance Program	0.75 (-0.04, 1.54)			6.33
Chyu	2010	Tai Chi	0.04 (-0.48, 0.57)		-	7.86
Taylor-Piliae	2010	Tai Chi	0.43 (0.01, 0.85)			8.46
Taylor	2012	Tai Chi	-0.04 (-0.23, 0.14)	-	<del>.</del>	9.43
Janyacharoen	2013	Thai Dance	1.34 (0.64, 2.03)			6.90
Cruz-Ferreira	2015	Creative Dance	0.64 (0.11, 1.16)			7.84
Merom (b)	2016	Social Dancing	-0.13 (-0.57, 0.30)		+ i	8.34
Noradechanunt	2017	Tai Chi	0.31 (-0.55, <b>1</b> .18)			5.93
Subtotal (I-squa	red = 87.4	%, p = 0.000)	0.66 (0.23, 1.08)		$ \diamond$	82.03
cluster randomize	ed					
Hui	2009	Low-impact Aerobic Dance	0.72 (0.31, 1.13)			8.50
Merom (a)	2016	Folk- or Ballroom Dance	-0.18 (-0.35, -0.01)		4	9.47
Subtotal (I-squa	red = 93.6	%, p = 0.000)	0.25 (-0.62, 1.13)	<		17.97
Overall (I-square	ed = 88.5%	ó, p = 0.000)	0.57 (0.23, 0.91)		$\diamond$	100.00
NOTE: Weights a	re from ra	ndom effects analysis				
				-2	0 2	

## Association of dance-based mind-motor activities with LBS by duration of one class

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [
< 60 min						
Hopkins	1990	Low-impact Aerobic Dance	2.81 (2.05, 3.56)			6.53
Hui	2009	Low-impact Aerobic Dance	0.72 (0.31, 1.13)			8.50
Taylor-Piliae	2010	Tai Chi	0.43 (0.01, 0.85)		-	8.46
Janyacharoen	2013	Thai Dance	1.34 (0.64, 2.03)		*	6.90
Cruz-Ferreira	2015	Creative Dance	0.64 (0.11, 1.16)			7.84
Subtotal (I-squ	ared = 8	7.7%, p = 0.000)	1.13 (0.46, 1.81)		$\sim$	38.23
≥ <mark>60 min</mark>						
Eyigor	2007	Turkish Folklore Dance	1.27 (0.58, 1.96)			6.89
Frye	2007	Tai Chi	0.32 (-0.27, 0.90)		•	7.52
McKinley	2008	Tango Dance Program	0.75 (-0.04, 1.54)			6.33
Chyu	2010	Tai Chi	0.04 (-0.48, 0.57)		<u>•</u>	7.86
Taylor	2012	Tai Chi	-0.04 (-0.23, 0.14)	-	<b>⊢</b>	9.43
Merom (a)	2016	Folk- or Ballroom Dance	-0.18 (-0.35, -0.01)			9.47
Merom (b)	2016	Social Dancing	-0.13 (-0.57, 0.30)		<b>├</b> ──	8.34
Noradechanunt	2017	Tai Chi	0.31 (-0.55, 1.18)			5.93
Subtotal (I-squ	ared = 6	68.7%, p = 0.002)	0.16 (-0.10, 0.41)	•	$\diamond$	61.77
Overall (I-squa	red = 88	.5%, p = 0.000)	0.57 (0.23, 0.91)		$\diamond$	100.00
NOTE: Weights	are fron	n random effects analysis				

## Association of dance-based mind-motor activities with LBS by total contact time

Author	Year	Intervention	SMD (95% CI)	Favours control	Favours intervention	Weight [%
> 120 min						
Hopkins	1990	Low-impact Aerobic Dance	2.81 (2.05, 3.56)			6.53
Eyigor	2007	Turkish Folklore Dance	1.27 (0.58, 1.96)			6.89
Frye	2007	Tai Chi	0.32 (-0.27, 0.90)			7.52
McKinley	2008	Tango Dance Program	0.75 (-0.04, 1.54)	-		6.33
Chyu	2010	Tai Chi	0.04 (-0.48, 0.57)			7.86
Cruz-Ferreira	2015	Creative Dance	0.64 (0.11, 1.16)			7.84
Noradechanunt	2017	Tai Chi	0.31 (-0.55, 1.18)		*	5.93
Subtotal (I-squa	ared = 85	.3%, p = 0.000)	0.86 (0.21, 1.51)		$\Leftrightarrow$	48.90
9 <b>0-120 min</b> Hui	2009	Low-impact Aerobic Dance	0.72 (0.31, 1.13)			8.50
Taylor-Piliae	2010	Tai Chi	0.43 (0.01, 0.85)		-	8.46
Taylor	2012	Tai Chi	-0.04 (-0.23, 0.14)		-	9.43
Janyacharoen	2013	Thai Dance	1.34 (0.64, 2.03)			6.90
Merom (a)	2016	Folk- or Ballroom Dancing	-0.18 (-0.35, -0.01)			9.47
Merom (b)	2016	Social Dancing	-0.13 (-0.57, 0.30)		-	8.34
Subtotal (I-squa	ared = 85	.7%, p = 0.000)	0.27 (-0.06, 0.61)		$\diamond$	51.10
Overall (I-squar	ed = 88.5	5%, p = 0.000)	0.57 (0.23, 0.91)		$\diamond$	100.00
NOTE: Weights	are from	random effects analysis				
				-2 (	2	

#### Sensitivity Analyses Secondary Outcomes

#### Association of dance-based mind-motor activities with balance Sensitivity analysis 1: without Hopkins et al.

Author	Year	Intervention	SMD (95% CI)	Favours Control	Favours Intervention	Weight [%]
Choi	2004	Tai Chi with music	0.61 (0.24, 0.97)			7.61
Li F.	2005	Tai Chi	1.01 (0.91, 1.12)		-	8.49
Eyigor	2007	Turkish Dance	0.61 (-0.04, 1.25)			6.13
Woo	2007	Tai Chi	-0.09 (-0.59, 0.41)		<u> </u>	6.92
Li J.	2008	Tai Chi	0.91 (0.54, 1.28)			7.58
Pereira	2008	Tai Chi	1.02 (0.55, 1.49)			7.08
Logghe	2009	Tai Chi	-0.04 (-0.27, 0.20)	-	-	8.14
Huang	2010	Tai Chi	0.83 (0.36, 1.29)			7.09
Taylor-Piliae	2010	Tai Chi	0.26 (-0.03, 0.56)	·	-	7.92
Trombetti	2011	Dalcroze Eurythmics	0.49 (0.15, 0.83)			7.72
Alves	2013	Ballroom Dance	0.49 (-0.07, 1.04)	-		6.63
Sun	2015	Tai Chi	-0.12 (-0.45, 0.21)		-	7.76
Serrano-Guzman	2016	Flamenco and Sevillanas	2.47 (1.76, 3.19)			5.75
Bennett	2018	Line Dancing	0.83 (0.01, 1.66)			5. <mark>1</mark> 9
Overall (I-square	d = 90.7%	, p = 0.000)	0.63 (0.33, 0.93)			100.00
NOTE: Weights are from ra	andom effe	ects analysis	-2		0 2	

Weights are from random effects analysis

Total sample size by pooling 14 studies, n = 1423

Included assessments are Berg Balance Scale (BBS), One Leg Stand (OLS), and Functional Reach (FR)

Effect sizes are Hedges' g standardized mean differences (SMD)

#### Association of dance-based mind-motor activities with balance Sensitivity analysis 2: without Serrano-Guzmann et al.

Author	Year	Intervention	SMD (95% CI)	Favours Control	Favours Intervention	Weight [%]
Hopkins	1990	low-impact Aerobic Dance	0.48 (-0.06, 1.02)			6.52
Choi	2004	Tai Chi with music	0.61 (0.24, 0.97)			7.60
Li F.	2005	Tai Chi	1.01 (0.91, 1.12)		-	8.68
Eyigor	2007	Turkish Dance	0.61 (-0.04, 1.25)			5.88
Woo	2007	Tai Chi	-0.09 (-0.59, 0.41)			6.78
Li J.	2008	Tai Chi	0.91 (0.54, 1.28)			7.56
Pereira	2008	Tai Chi	1.02 (0.55, 1.49)			6.97
Logghe	2009	Tai Chi	-0.04 (-0.27, 0.20)		┥──	8.24
Huang	2010	Tai Chi	0.83 (0.36, 1.29)			6.99
Taylor-Piliae	2010	Tai Chi	0.26 (-0.03, 0.56)		-	7.97
Trombetti	2011	Dalcroze Eurythmics	0.49 (0.15, 0.83)			7.72
Alves	2013	Ballroom Dance	0.49 (-0.07, 1.04)			6.45
Sun	2015	Tai Chi	-0.12 (-0.45, 0.21)			7.78
Bennett	2018	Line Dancing	0.83 (0.01, 1.66)			4.87
Overall (I-squa	ared = 88.99	%, p = 0.000)	0.51 (0.24, 0.78)			100.00
		,	-2		•	

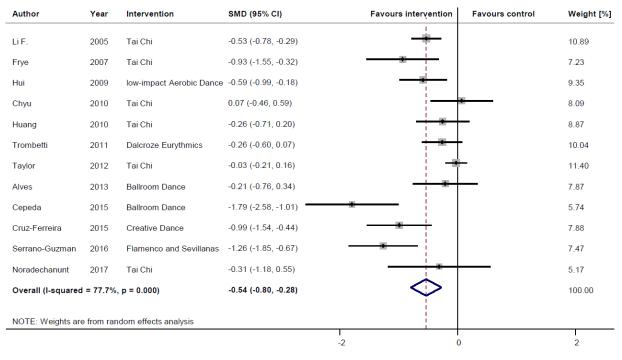
Weights are from random effects analysis

Total sample size by pooling 14 studies, n = 1424

Included assessments are Berg Balance Scale (BBS), One Leg Stand (OLS), and Functional Reach (FR)

Effect sizes are Hedges' g standardized mean differences (SMD)

# Association of dance-based mind-motor activities with mobility Sensitivity analysis 1: without Hopkins et al.



# Association of dance-based mind-motor activities with mobility Sensitivity analysis 2: without Cepeda et al.

Author	Year	Intervention	SMD (95% CI)	Favours intervention	Favours control	Weight [%]
Hopkins	1990	low-impact Aerobic Dance	ə -0.85 (-1.40, -0.29)			7.36
Li F.	2005	Tai Chi	-0.53 (-0.78, -0.29)			11.32
Frye	2007	Tai Chi	-0.93 (-1.55, -0.32)			6.77
Hui	2009	low-impact Aerobic Dance	e -0.59 (-0.99, -0.18)			9.29
Huang	2010	Tai Chi	-0.26 (-0.71, 0.20)		<b>—</b>	8.69
Chyu	2010	Tai Chi	0.07 (-0.46, 0.59)	 	•	7.75
Trombetti	2011	Dalcroze Eurythmics	-0.26 (-0.60, 0.07)		-	10.17
Taylor	2012	Tai Chi	-0.03 (-0.21, 0.16)			12.05
Alves	2013	Ballroom Dance	-0.21 (-0.76, 0.34)			7.50
Cruz-Ferreira	2015	Creative Dance	-0.99 (-1.54, -0.44)	*		7.50
Serrano-Guzma	n 2016	Flamenco and Sevillanas	-1.26 (-1.85, -0.67)			7.03
Noradechanunt	2017	Tai Chi	-0.31 (-1.18, 0.55)			4.57
Overall (I-squar	red = 72.2	%, p = 0.000)	-0.48 (-0.71, -0.25)	$\Leftrightarrow$		100.00
NOTE: Weights	are from r	andom effects analysis				
		-	l -2		0	2

#### Association of dance-based mind-motor activities with LBS Sensitivity analysis 1: without Hopkins et al.

Author	Year	Intervention	SMD (95% CI)	Favours Control Favours Intervent	ion Weight [%]
Eyigor	2007	Turkish Folklore Dance	1.27 (0.58, 1.96)		6.68
Frye	2007	Tai Chi	0.32 (-0.27, 0.90)		7.69
McKinley	2008	Adapted Tango	0.75 (-0.04, 1.54)		5.88
Hui	2009	Aerobic Dance	0.72 (0.31, 1.13)		9.48
Chyu	2010	Tai Chi	0.04 (-0.48, 0.57)		8.27
Taylor-Piliae	2010	Tai Chi	0.43 (0.01, 0.85)		9.40
Taylor	2012	Tai Chi	-0.04 (-0.23, 0.14)		11.53
Janyacharoen	2013	Thai Dance	1.34 (0.64, 2.03)		6.70
Cruz-Ferreira	2015	Creative Dance	0.64 (0.11, 1.16)		8.24
Merom (a)	2016	Social Dancing	-0.18 (-0.35, -0.01)	-	11.61
Merom (b)	2016	Ballroom Dancing	-0.13 (-0.57, 0.30)		9.18
Noradechanunt		Tai Chi	0.31 (-0.55, 1.18)		5.34
Overall (I-squared = 80.1%, p = 0.000)			0.39 (0.12, 0.65)	$\Diamond$	100.00
DTE: eights are from random effects analysis			-2	0	2

Veights are from random effects analysis -2 LBS = Lower Body Strength; Total sample size by pooling 12 studies, n = 1560

Included assessments are Sit to Stand Tests (STS): 5x STS assesses time needed to complete 5 stands, 30sec STS assesses how many stands can be competed within 30 sec Effect sizes or EHedges' g standardized mean differences (SMD) Effect sizes of 5x STS were multiplied by (-1) to achieve same direction signaling improvement as effect sizes of 30sec STS