

| Included Studies - Study Characteristics | | | | | | | | | | | | |
|--|----------------|------|---------|------|------------------------|------------|----------------------------|-----------------|---------------------|---------|---------|-----------|
| First Author - Last Name | Pub Year (Mth) | Type | Country | Size | Age [Mean (SD)], Other | Gender | Health / Mobility Status | Fitbit Model(s) | Body Placement | Setting | Outcome | Criterion |
| Adam Noah | 2014 (Oct) | A | USA | 23 | 26.6 (7.55) | F=10, M=13 | Healthy | Ultra, Classic | Hip | L | EE | ID |
| Alhrabi | 2016 (Feb) | A | AUS | 48 | 65.6 (6.9) | F=23, M=25 | Cardiac, Bone-joint, Resp. | Flex | Wrist | F | Steps | Accel |
| | | | | | | | | | | | TiA | Accel |
| Alinia | 2017 (Aug) | A | USA | 15 | Range 21-31 | F=7, M=8, | Healthy | Zip, One, Flex | Chest, Waist, Wrist | L | Steps | VO |
| An | 2017 (Mar) | A | USA | 35 | 31.0 (11.8) | F=18, M=17 | Healthy | Flex, Zip | Wrist, Waist | F | Steps | Ped |
| | | | | | | | | | | L | Steps | VO |
| Bai | 2016 (Jan) | A | USA | 52 | Range 18-60 | F=24, M=28 | Healthy | Flex | Wrist | L | EE | ID |
| Battenberg | 2017 (Jun) | A | USA | 30 | 25.6 (2.5) | F=12, M=18 | Healthy | One, Force | Wrist, Waist | L | Steps | VO |
| Balto | 2016 (Jan) | A | USA | 45 | 46.7 (10.0) | nr | Multiple Sclerosis | Flex, One | Wrist, Waist | L | Steps | VO |
| Beevi | 2015 (Oct) | A | DEN | 14 | 29.9 (4.93) | F=5, M=9 | Healthy | Zip | Hip | L | Steps | VO |
| Brewer | 2017 (Sep) | A | USA | 50 | 28.1 (9.12) | F=41, M=9 | Healthy | Various | Arm | F | Steps | Accel |
| | | | | | | | | | | | TiA | Accel |
| Brooke | 2017 (Apr) | A | USA | 95 | 28.5 (9.9) | F=61, M=34 | Healthy | Charge HR, Flex | Wrist | F | EE | Accel |

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|-----------|----------------|---|-----|-----|----------------|---------------|------------|----------------------------|-------------------------|---|---------------------------|-------|
| | | | | | | | | | | | Sleep | Accel |
| Chen | 2016 (May) | A | CHN | 30 | 21.5 (2.0) | F=15, M=15 | Healthy | Flex | Wrist | L | Steps | VO |
| Chowdhury | 2017 (Feb) | A | UK | 30 | 27 (6) | F=15, M=15 | Healthy | Charge HR | Wrist | L | EE | ID |
| | | | | | | | | | | F | EE | Accel |
| Chow | 2017 (Sep) | A | AUS | 31 | 24.3 (5.2) | F=12, M=19 | Healthy | One, Flex, Charge HR | Waist, Wrist | L | Steps | VO |
| Chu | 2017 (Feb) | A | USA | 104 | Med. 31.0 | F=69, M=35 | Healthy | Flex | Wrist | F | Steps | Accel |
| Cook | 2017 (Aug) | A | USA | 21 | 26.5 (4.6) | F=17, M=4 | Depression | Flex | Wrist | L | Sleep | PSG |
| Dannecker | 2013 (Nov) | A | USA | 19 | 26.9 (6.6) | F=9, M=10 | Healthy | Classic | Hip | L | EE | DD |
| Diaz | 2016 (Apr) | R | USA | 13 | 32.0 (9.2) | F=13, M=0 | Healthy | One, Flex, Charge HR | Torso, Hip, Wrist | L | Steps | VO |
| | | | | | | | | | | | EE | ID |
| Dickinson | 2017 (Nov) | A | USA | 38 | 26.05 (8.0) | F=23, M=15 | Healthy | Charge HR | Wrist | F | Sleep | Accel |
| Dominick | 2016 (Sept) | A | USA | 19 | 20.6 (nr) | F=15, M=4 | Healthy | Flex | Wrist | F | Steps | Accel |
| Doolley | 2017 (Mar) | A | USA | 62 | 22.6 (4.3) | F=36, M=26 | Healthy | Charge HR | Wrist | L | Energy Expendit ure | ID |
| Dondzila | 2016 (Jun) | A | USA | 19 | 24.6 (3.1) | F=5, M=14 | Healthy | Charge HR | Wrist | L | EE | ID |
| Farina | 2017 (Nov) | A | UK | 25 | 72.5 (4.9) | F=13, M=12 | Healthy | Charge HR | Wrist | F | Steps | Accel |
| Ferguson | 2015 (Mar) | A | AUS | 21 | 32.8 (10.2) | F=11, M=10 | Healthy | One, Zip | Hip | F | Sleep | Accel |

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|-----------|-------------|---|-----|----|-------------|---------------|-------------------|----------------------|---------------------|---|-------|-------|
| | | | | | | | | | | | EE | Accel |
| | | | | | | | | | | | Steps | Accel |
| | | | | | | | | | | | TiA | Accel |
| Floegel | 2016 (June) | A | USA | 99 | 78.9 (8.6) | F = 71, M= 29 | Variable Mobility | One, Flex, Charge HR | Hip, Wrist | L | Steps | VO |
| Fokkema | 2016 (Nov) | A | NED | 31 | 32 (12) | F=15, M=16 | Healthy | Charge HR | Wrist | L | Steps | VO |
| Fulk | 2014 (Feb) | A | USA | 50 | 52.9 (15.1) | F=16, M=34 | Post-stroke | Ultra | Hip | L | Steps | VO |
| Gomersall | 2016 (Sept) | A | AUS | 29 | 39.6 (11.0) | F=26, M=3 | Healthy | One | Waist | F | Steps | Accel |
| | | | | | | | | | | | TiA | Accel |
| Gusmer | 2014 (Apr) | A | USA | 32 | 21.2 (1.7) | F=25, M=7 | Healthy | Ultra | Hip | L | EE | ID |
| Hargens | 2017 (Jan) | A | USA | 22 | 30.8 (11.4) | F=15, M=7 | Healthy | Charge, One | Wrist, Waist | F | Steps | Accel |
| | | | | | | | | | | | EE | Accel |
| | | | | | | | | | | | TiA | Accel |
| Hui | 2017 (Oct) | A | CAN | 12 | 62.6 (9.3) | F=5, M=7 | Post-stroke | One | Ankle (non-paretic) | F | Steps | Accel |
| | | | | | | | | | | | TiA | Accel |
| Husted | 2017 (Jan) | A | USA | 12 | 20.8 (0.94) | F=11, M=1 | Healthy | Charge | Wrist | L | Steps | VO |
| Huang | 2016 (Aprl) | A | CHN | 40 | 23.9 (2.8) | F=10, M=30 | Healthy | Zip, One, Flex | Wrist, Waist | L | Steps | VO |

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|------------|----------------|---|-----|----|-----------------|---------------|---------------------------------|-------------------|------------------------------------|---|-------|-------|
| Imboden | 2017 (Apr) | A | USA | 30 | 49.2 (19.2) | F=15, M=15 | Healthy | One, Zip, Flex | Waist, Wrist | L | Steps | VO |
| | | | | | | | | | | | TiA | Accel |
| | | | | | | | | | | | EE | ID |
| Klassen | 2015 (Oct) | A | CAN | 43 | 65 (10.66) | F=13, M=30 | Post-stroke | One | Hip, Ankle (non- paretic) | L | Steps | VO |
| Kooiman | 2015 (Oct) | A | NED | 33 | 35.3 (nr) | F=17, M=16 | Healthy | Flex, Zip | Wrist, Hip | L | Steps | VO |
| | | | | | | | | | | F | Steps | Accel |
| Lee | 2014 (Sept) | A | USA | 60 | 26.4 (nr) | F=30, M=30 | Healthy | One, Zip | Hip | L | EE | IID |
| Lee | 2017 (Oct) | A | KOR | 16 | 22.8 (2.8) | F=10, M=6 | Healthy | Charge HR | Wrist | F | Sleep | Accel |
| Madigan | 2017 (Jan) | A | USA | 30 | 80.6 (7.66) | F=18, M=12 | Chronic Health Conditions | Flex | Wrist | L | Steps | VO |
| Mantua | 2016 (May) | A | USA | 40 | 22.37 (4.92) | F=19, M=21 | Healthy | Flex | Wrist | L | Sleep | PSG |
| Middlewerd | 2017 (Jun) | R | NED | 34 | 23.9 (3.9) | F=23, M=11 | Healthy | One | Hip | F | Steps | Accel |
| | | | | | | | | | | | TiA | Accel |
| Modave | 2017 (Jun) | A | USA | 60 | 49.5 (19.4) | F=36, M=24 | Healthy | Surge | Wrist | L | Steps | VO |
| Montes | 2017 (Oct) | R | USA | 49 | 23.4 (6.6) | F=23, M=26 | Healthy | Flex | Wrist | L | EE | ID |
| | | | | | | | | | | | Steps | VO |

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|-------------|------------|-------------|-----|----|--------------|------------|---------|----------------|--------------------|---|-------|---------|
| Montoye | 2017 (Oct) | A | USA | 32 | 23.5 (1.3) | F=14,M=18 | Healthy | Charge HR | Wrist | L | EE | ID |
| Montgomery | 2012 (Sep) | A | USA | 24 | 26.1 (nr) | F=10, M=14 | Healthy | Classic | Wrist | L | Sleep | PSG |
| Murakami | 2016 (May) | L to Editor | JAP | 19 | Range 21-50 | F=10, M=9 | Healthy | Flex | Wrist | L | EE | DD |
| | | | | | | | | | | F | EE | DLW |
| Nelson | 2016 (Mar) | A | USA | 30 | 48.9 (19.4) | F=15, M=15 | Healthy | One, Zip, Flex | Hip, Wrist | L | Steps | VO |
| | | | | | | | | | | | EE | ID |
| O'Connell | 2016 (May) | A | IRE | 15 | 21.1 (1.1) | F=8, M=7 | Healthy | One | Chest | L | Steps | VO |
| Park | 2014 (May) | A | USA | 40 | 38.6 (nr) | F=20, M=20 | Healthy | Ultra | Chest, Hip, Wrist | L | Steps | VO |
| Paul | 2015 (Jul) | A | AUS | 32 | 67.7 (5.7) | F=20, M=12 | Healthy | One, Zip | Hip | F | Steps | Accel |
| | | | | | | | | | | L | Steps | VO |
| Phillips | 2015 (Sep) | R | USA | 50 | 84.2 (7.1) | F=45, M=5 | Healthy | Classic | Hip | L | Steps | VO |
| Price | 2016 (Dec) | A | AUS | 14 | 23.0 (6.0) | F=3, M=11 | Healthy | One | Waist or Bra | L | EE | VO |
| Reid | 2016 (Nov) | A | CAD | 22 | 21.23 (1.63) | F=22 M=0 | Healthy | Flex, One | Wrist, Waist / Bra | F | Steps | Accel |
| | | | | | | | | | | | Time | Accel |
| Rosenberger | 2016 (Mar) | A | USA | 40 | 36, (nr) | F=21, M=19 | Healthy | One | Hip, Wrist | F | Steps | Ped |
| | | | | | | | | | | | TiA | Accel |
| | | | | | | | | | | | Sleep | Monitor |

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|--------------|-------------|---|-----|-----|----------------|------------|-----------------------------|-------------|-------------------|---|-------|-------|
| Sasaki | 2015 (Feb) | A | USA | 20 | 24.1 (4.5) | F=10, M=10 | Healthy | Classic | Hip | L | EE | ID |
| Schaffer | 2017 (Oct) | A | USA | 24 | 54 (13.4) | F=10, M=14 | Post-stroke | Zip | Waist | L | Steps | VO |
| Scherbina | 2017 (May) | A | USA | 60 | 38.5 (nr) | F=31, M=29 | Healthy | Surge | Wrist | L | EE | ID |
| Simpson | 2015 (Oct) | A | CAN | 42 | 73 (6.9) | F=31, M=11 | Healthy | One | Hip, Ankle | L | Steps | VO |
| Stackpool | 2014 (Dec) | A | USA | 20 | 22 (nr) | F=10, M=10 | Healthy | Ultra | NR | L | Steps | VO |
| | | | | | | | | | | | EE | ID |
| Sushames | 2016 (Sept) | A | AUS | 25 | 23.7 (5.8) | F=12, M=13 | Healthy | Flex | Wrist | L | Steps | VO |
| Takacs | 2014 (Sep) | A | CAN | 30 | 29.6 (5.7) | F=15, M=15 | Healthy | One | Hip | L | Steps | VO |
| | | | | | | | | | | | Dist. | Meas |
| Thorup | 2017 (Mar) | A | DEN | 44 | 53 (nr), | F=12, M=32 | Healthy and Cardiac Disease | Zip | Hip, Chest | F | Steps | Ped |
| Treacy | 2017 (May) | A | AUS | 166 | 80 (11), 26-98 | F=75, M=91 | Inpatient Rehab Patients | One, Charge | Hip, Wrist, Ankle | L | Steps | VO |
| Tully | 2014 (Dec) | R | UK | 42 | Med. 43 | F=25, M=17 | Healthy | Zip | Hip | F | EE | Accel |
| | | | | | | | | | | | Steps | Ped |
| Van Blarigan | 2017 (Jan) | A | USA | 22 | Med. 66 | F=0, M=22 | Prostate Cancer Survivor | One | Waist | F | TiA | Accel |
| | | | | | | | | | | | Steps | Accel |
| Wahl | 2017 (Sep) | A | GER | 20 | 25.2 (nr) | F=10, M=10 | Healthy | | Wrist | L | Steps | VO |

| | | | | | | | | Charge, Charge HR | | | Dist. | Meas |
|--|---------------|---|-----|----|----------------|---------------|---------|-------------------------|-------|---|-------|------|
| | | | | | | | | | | | EE | ID |
| Wallen | 2016 (May) | A | AUS | 22 | 24.9 (5.6) | F=11, M=11 | Healthy | Charge HR | Wrist | L | EE | ID |
| | | | | | | | | | | | Steps | VO |
| Wong | 2017 (Oct) | A | USA | 25 | 25.96 (7.9) | F=12, M=13 | Healthy | Ultra | Waist | L | Steps | VO |
| Type: (A)rticle, Short (R)eport, (L)etter to Editor | | | | | | | | | | | | |
| Setting: (L)aboratory, (F)ree-Living | | | | | | | | | | | | |
| Outcome: EE – Energy Expenditure, TiA – Time in Activity, Dist - Distance | | | | | | | | | | | | |
| Criterion: Accel – Accelerometer, Ped – Pedometer, ID – Indirect Calorimetry, DD – Direct Calorimetry, VO – Visual Observation, Meas – Measured, PSG – Polysomnography, DLW – Doubly Labelled Water. | | | | | | | | | | | | |