


Considerations when Choosing A FITNESS-TRACKING DEVICE

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Fitness trackers are very popular among Americans and have become a valuable measurement tool in physical and health education research (e.g., Baghurst, Richard, & Boolani, 2016). In fact, their worldwide use is expected to increase from an estimated 325 million in 2016 to more than 830 million in 2018 (*Statistics and facts*, 2018). Fitness trackers certainly help people to be more mindful of their fitness, but what exactly are the exercise guidelines for Americans, and what should consumers look for when selecting a fitness tracker? Also, once a fitness tracker has been purchased, how does the user know what goals (e.g., steps per day, activity levels) they should be aiming toward? These questions are important for the physical and health educator (henceforth, the two roles are referred to as physical educator), who is often saddled with limited funds for class equipment. With strapped school budgets across the nation, it is imperative that educators take the time to properly research which fitness trackers will provide the biggest bang for the buck.

The 2015 Dietary Guidelines for Americans recommended that children and adolescents should engage in 60 minutes (1 hour) or more of physical activity daily, while all adults (aged 18–64 years old) should avoid inactivity. For substantial health benefits, adults should engage in at least 150 minutes a week of moderate-intensity activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity (U.S. Department of Health and Human Services & U.S. Department of Agriculture [USDHHS & USDA], 2015). These recommendations may not seem relevant at first to physical educators. However, as physical education teachers, we are tasked with teaching our students about the long-term benefits of a lifetime wellness plan. The information and techniques we teach in physical education and health classes are those that will aid in the creation of this lifetime wellness plan, which should markedly improve students' quality of life.

Activity Tracker Features

Picking a fitness tracker certainly is not a “one-size-fits-all” approach. Consumers should consider the features available on the fitness tracker, as well as the cost, battery life and physical appearance of the tracker. For example, does the tracker only track steps, or does it track sleep and heart rate? The best trackers identified by the Best Reviews website for 2018 were: Fitbit Blaze, Lintelek, Fitbit Alta, Withings Go and the Garmin Vivofit Fitness Band. The Fitbit Blaze tracks heart rate, steps, distance, calories burned, floors climbed and active minutes. The Lintelek automatically tracks daily steps, distance, calories burned, and length and quality of sleep during the night. The Fitbit Alta tracks steps, distance, calories burned, and active minutes and monitors sleep at night. The Withings Go also tracks steps, calories burned, distance, swimming and sleep. Finally, the Garmin Vivofit Move IQ automatically detects activities such as walking, running, biking, swimming and elliptical training, and it monitors sleep.

Other features to consider when purchasing a fitness tracker include whether it can synchronize to your phone and/or computer.

The Fitbit Blaze syncs with Android, iOS and Windows devices. The Lintelek syncs with IOS7.1 and above and Android 4.4 and above, and it supports Bluetooth 4.0 smartphones, but it cannot work with an iPad or computer. The Fitbit Alta syncs with macOS X 10.6 and above, iPhone 4S and later, iPad 3 generation and later, Android 4.4 and later, and Windows 10 devices. Withings Go is compatible with iOS8+ and Android 4.3 and higher. The Garmin Vivofit is compatible with iPhone and Android, and for better tracking and monitoring, the Garmin app should be downloaded. Therefore, the basic functions of these five trackers are very similar. Dependability and reliability are tantamount to the success of a lesson or unit plan, so budget may have to be sacrificed to ensure dependability.

Cost

In terms of cost, fitness trackers can be purchased for as low as \$15 and as high as \$500. Typically, the cheaper models only offer the basics (e.g., steps). However, these models can be an effective way of incorporating physical activity tracking into your classroom. They are certainly a step up from the pedometer and are more conveniently worn on the wrist instead of the hip.

More expensive models offer large amounts of data, touch screens and Wi-fi connectivity. Some models also notify the wearer when to start exercising and typically have a built-in GPS. They are waterproof rather than just water-resistant. The Fitbit Blaze can be purchased at \$185 to \$200. The Lintelek sells for \$20 to \$23 on Amazon.com, while the Fitbit Alta retails for \$120 to \$130. The Withings Go sells for \$40 to \$50, and the Garmin Vivofit sells for \$55 to \$70. Best Reviews (2018) rated the Lintelek as the best “bang for your buck” for consumers.

It is important to balance the cost of an activity tracker against its accuracy. Cheaper models that do not have many options may not be as precise in tracking. Concern about the accuracy of fitness trackers is a continual problem. Users must balance the cost and accuracy against the importance of the fitness tracker’s reliability and validity. Yang, Shin, Newman, and Ackerman (2015) examined reviews of fitness trackers on Amazon.com and found that more than a third of the reviews that were analyzed noted concerns related to the “accuracy” of the fitness tracker purchased. Further, Dondzila (2018) examined the Fitbit Charge HR and the Mio FUSE for their accuracy and reported that although the Fitbit Charge HR was slightly more accurate, both devices substantially overestimated calorie expenditure during walking (there were only nominal differences during running). It was also determined that the Mio FUSE significantly underestimated steps in free-living conditions (daily movements that do not include exercise).

The broad range of cost is probably the biggest inhibitor for a physical education teacher. It

really requires a thorough vetting and weighing of the pros and cons of upfront budget assistance versus long-term dependability. However, it might serve as a good opportunity to make connections with other teachers or athletic teams to discuss sharing financial resources to get a more suitable product.

Battery Life

The concerns over the accuracy and cost of fitness trackers are certainly big reasons why one tracker may be considered over another, but battery life should also be examined. Having to recharge the tracker frequently can be a hassle, especially if a charging cable must be taken on trips, for example.

The battery life of fitness trackers typically falls into two categories. One type of fitness tracker requires a charge every five or so days. Examples include the Fitbit Blaze and Fitbit Alta. Other activity trackers use a cell battery that lasts about six months. For example, the Garmin Vivofit can be worn 24 hours per day, and the battery can last for longer than a year. The Withings Go advertises up to an eight-month battery life on its website, but as with all claims, this one should be taken with caution, as often battery “tests” are done in ideal conditions.

Battery life is important for an educator to consider before purchasing; after all, they are most likely going to be the individual required to perform device maintenance. Consequently, it is probably not reasonable to consider a product that will require regular battery swaps, as class sizes can generally be large and such maintenance would be overwhelming.

Other Considerations

While most consider the features, accuracy, cost and battery life of fitness trackers, there are those who are interested in the



appearance of the fitness tracker — that is, what tracker colors are available, whether the bands are interchangeable, and how large (or small) the screen is. Most fitness trackers wrap around the wrist (Fitbit Blaze and Fitbit Alta), while there are others that clip onto clothing (Fitbit Zip, Fitbit One, Runtastic Orbit, and Via Slim Komen by New Balance). Still others can be placed in the pocket (Withings Go), and others have accessories that allow the fitness tracker to be worn around the neck (Misfit Ray). Therefore, there is no “perfect” activity tracker, but there are enough options available to please almost any budget and preference.

Setup and Returns

Activity trackers need to be calibrated to the individual using them, which can be problematic for student-based activities where trackers might need to be shared. There is no obvious solution for this issue, and it can be further complicated by software that only allows one user to be registered at a time. In this situation, it is best to communicate with the developer to discuss whether the tracker can be easily recalibrated to a new user. Unfortunately, trackers have been designed for individual use rather than a school-type setting. It will require some thought and tracking on the part of the physical educator to match up preset trackers with students of similar athletic and condition levels. Flexibility can also be used here to allow students to purchase and use their own fitness-tracking devices, which will also help to improve accuracy. In general, most activity-tracking companies will replace parts at no charge. However, it may not be true if the user did not follow instructions (e.g., went swimming with a water-resistant tracker). Take into consideration the quality of the band in particular. Plastic and thinner bands will likely break if not worn carefully, which could be an issue with a student population.

Conclusion

Activity trackers have transformed how individuals monitor their physical activity and health status. However, there are many options on the market. When choosing a tracker, take into consideration what data you wish to receive from the tracker, its compatibility with your phone and/or computer, its cost, its battery life, and the size of the screen and other features (band colors, ability to change bands, wearability, etc.). This consideration is especially relevant to a physical education teacher who has many important variables to take into account before making a purchase decision. Overall, there is a concern related to the accuracy of fitness trackers, but they do serve as an estimator of daily activity that can help an individual to evaluate whether or not they are meeting the exercise guidelines as outlined in the Dietary Guidelines for Americans (USDHHS & USDA, 2015).


Activity trackers may serve as a replacement to pedometers in school settings, but trackers that are more expensive should be avoided. Although the accuracy of more expensive options is typically better, the frequent (mis)use by students may result

in repeated requests for replacements and become a frustration rather than a valuable resource.

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