

An Evaluation of #Fitspiration Viewing and Exercise Behavior in College Students

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Social media is widely used by college students, and is used for retrieving health information. “Fitspiration” (fitness and inspiration) pages are common on many popular social networking sites. Fitspiration pages have been previously associated with short term motivation for exercise and decreased body satisfaction. The purpose of this study was to explore ways in which viewing fitspiration pages may influence exercise behaviors for college students. Additionally, this study sought to explore if particular types of fitspiration pages can encourage increased exercise. This study utilized a cross-sectional survey approach and was distributed to college students at a large Midwestern university. About half of the students viewed

fitspiration pages, and students who viewed fitness pages reported exercising more than those who did not. Students who viewed fitspiration pages also reported exercising for muscle-gain, enjoyment, fitness, reduced stress, and feeling better. CrossFit pages and professional fitness organization pages were associated with increased exercise. Students did not report feeling motivated by fitspiration. Additional research is needed to explore the relationships between fitspiration page viewing and fitness goals, and identify additional reasoning for viewing these pages.

Keywords: Fitspiration, social media, exercise motivation, college health

College students spend a significant amount of time using technology each day. Many college classes have integrated online assignments and homework, and many students are doing additional work (e.g., independent research) online. Students aren’t just using the internet for homework, as many also are spending up to 100 minutes each day just on Facebook (Wang, Chen, & Liang, 2011), in addition to time spent using other social networking sites (e.g., Instagram, Snapchat, Twitter) and other platforms for entertainment purposes (e.g., Netflix, YouTube, online gaming). Today’s college students are the first to grow up online

(Wang, Niiya, Mark, Reich, & Warschauer, 2016), and social networking sites have expanded well beyond merely keeping up with friends. Social networking sites are quickly becoming a primary source of news, current events, and pop culture information for college-aged adults (Head, Wihbey, Metaxas, MacMillan, & Cohen, 2018). Beyond general news and information, many college adults have found social networking sites to be a resource for health-related information they may need (Song et al., 2016). Song and colleagues (2016) have reported 51.5% of U.S. college students sampled reported using social networking sites as a source for health information.

Health information on the topics of fitness and nutrition may take the form of “fitspiration” (i.e., pages on social networking sites intended to provide fitness inspiration) on social networking sites pages. As of January 2019, there are 18 million Instagram posts tagged with #fitspiration and 67.4 million tagged with #fitspo (a shortened version of “fitspiration”). These pages tend to include motivating pictures and phrases, and are designed to encourage and inspire positive exercise behavior in their viewers. These pages tend to build a strong connection between an ideal body image and well-being for those who view them, which can in turn influence the health behaviors of these individuals (Pilgrim & Bohnet-Joschko, 2019). While the accuracy and health value of the information presented on these pages is unknown, it is undoubtedly clear that individuals are coming across these pages online, whether intentionally or not (Tiggemann & Zaccardo, 2015).

Generally, the intent of these pages is to be positive, motivational, and encouraging, but previous research indicates there may be serious negative effects of viewing this sort of page on the internet (Boepple, Ata, Rum, & Thompson, 2016; Boepple & Thompson, 2016; Carrotte, Prichard, & Lim, 2017; Deighton-Smith & Bell, 2017; Holland & Tiggemann, 2017; Raggatt, Wright, Carrotte, Jenkinson, Mulgrew, Prichard, & Lim, 2018; Prichard, Mclachlan, Lavis, & Tiggemann, 2017; Tiggemann & Miller, 2010; Tiggemann & Zaccardo, 2015). Women who post images on fitspiration pages may experience disordered eating and exercise behaviors (Holland & Tiggemann, 2017; Raggatt et al., 2018). For those who view these pages specifically, Raggatt and colleagues (2018) reported about 40% of their sample who engage with fitspiration experience high levels of psychological distress, and about 18% were at high risk for eating disorders. These pages often objectify the person in the photo (Carrotte et al., 2017), place a strong emphasis on individual

appearance in both images and text (Boepple et al., 2016; Carrotte et al., 2017; Deighton-Smith & Bell, 2017), and make individuals more susceptible to appearance-motivated exercise behaviors (Simpson & Mazzeo, 2016; Tiggemann & Zaccardo, 2015). In a content analysis of fitspiration pages on Pinterest, the primary motivator for fitness presented was attractiveness to promote weight management (Simpson & Mazzeo, 2016). It has been previously proposed that exposure to fitspiration pages is associated with lowered body satisfaction and negative mood states (Tiggemann & Zaccardo, 2015). Additionally, viewing these pages frequently may promote a drive for thinness and substantiate the “thin ideal” body shape of popular culture (Tiggemann & Miller, 2010).

The motivating power of fitspiration is not fully documented in the literature, but previous studies have indicated at least some relation between viewing fitspiration pages and short-term motivation for exercise (Tiggemann & Zaccardo, 2015). Similarly, promotional messaging has been shown to increase exercise frequency for both men and women, but these effects returned to normal levels over time (Zhang, Brackbill, Yang, & Centola, 2015). What is not known, however, is the extent to which certain page types (e.g., personal trainers, individuals discussing fitness, professional fitness organizations) can encourage exercise, and if there are certain types of exercise or reasons for exercise that are more closely associated with those individuals who view fitspiration pages.

The purpose of this study is to explore further the ways in which viewing fitspiration pages may influence exercise behaviors for college students. Additionally, this study seeks to explore if viewing particular types of fitspiration pages can encourage increased exercise. The following research questions were explored:

1. How do fitspiration viewers differ from non-viewers on exercise frequency?
2. How do fitspiration viewers differ from non-viewers on reason for exercise?
3. Is viewing a particular type of fitspiration page associated with increased exercise frequency?
4. How did fitspiration viewer’s motivation change after viewing fitspiration pages?

METHODS

Participants

Participants were recruited from two large undergraduate classes at a large Midwestern university. These students represent an assortment of majors. Inclusion criteria for this study required that students were between the ages of 18 and 30 years old and able to read English. This study was approved by a university Institutional Review Board.

Measure

A survey measure was developed for this study and included five sections: (1) exercise, (2) social networking and fitspiration, (3) body image, (4) appearance motivation, and (5) participant demographics. Survey items were reviewed by experts with experience in survey research. Only select questions were used in study analyses.

Exercise. Exercise was defined for this study as “any planned, structured time of physical activity in which your heart is beating faster than normal.” To assess the number of days each participant exercised, they were asked for their response to the following: “In a typical week (7 days), on how many days do you exercise?” Participants were asked to choose all that apply from the following list to indicate their reason for exercising: “to lose weight,” “to gain weight,” “to maintain current weight,” “to build muscle,” “to improve my athletic ability,” “because I enjoy exercise,” “to reduce stress,” “to improve heart health,” “to feel better about myself,” “to prevent chronic disease,” and “because my friends/family want me to.”

Fitspiration. Participants were prompted to think of fitspiration pages as any “exercise-related fitness pages, which includes any individual or organization that promotes exercise or fitness in some way.” Participants were asked to indicate if they viewed these pages on social networking sites and, if so, how much time they spent viewing them. The following items were included, “Do you view/follow any exercise-related fitness pages from organizations and/or individuals on social networking sites?” (yes/no) and “If you view exercise-related fitness pages on social networking sites, about how much total time do you spend viewing them?” (options included “1-10 mins,” “11-30 mins,” “31 mins-1 hour,” “1-2 hours,” and “2+ hours”).

To assess initial motivation for exercise and any increases in exercise frequency,

participants were asked to respond to the following questions on a 1-5 Likert scale ranging from completely disagree to completely agree: “I was motivated to exercise before I started viewing exercise-related fitness pages on social networking sites” and “my exercise has increased since I began viewing exercise-related fitness pages on social networking sites.”

Demographics. Participants were asked to share their age, year in school, gender, sexual orientation, height, weight, perceived weight status, exercise goals, ethnicity, relationship status and employment status.

Procedure

Participants were recruited in two large, undergraduate courses. After providing consent, students completed the survey. The survey was administered in paper form and took students approximately 15 minutes to complete.

Data Analyses

Descriptive statistics were used to examine demographic data, exercise habits, reasons for exercise, and fitspiration viewing. An independent samples t-test was used to address differences between fitspiration viewers and non-viewers on exercise frequency. A logistic regression analysis was performed to identify whether exercise frequency could predict fitspiration viewing. A series of 2x2 Chi-square analyses were used to address differences between fitspiration viewers and non-viewers on reasons for exercise. A series of independent samples t-tests was used to address differences between types of fitspiration pages and exercise frequency. Descriptive statistics were used to examine if individuals were motivated prior to viewing fitspiration pages on social networking sites and if viewing those pages encouraged increased exercise.

RESULTS

Participants

A total of 420 participants returned completed surveys. Participants were 64% female (35% male). Additional participant demographic information can be found in Table 1.

Participants exercised an average of 3.04 ($SD=2.04$) days each week. A majority of participants ($n = 341$) indicated exercising for more than 30 minutes each exercise session. There were 23 participants (5.7%) who indicated exercising for less than 15 minutes each

session, 41 (10.1%) who exercise for 15-30 minutes, 64 (15.2%) who exercise 30-45 minutes, 131 (32.2%) who exercise 45-60 minutes, 91 (22.4%) who exercise 60-90 minutes, 46 (11.3%) who exercise 90-120 minutes and 9 (2.2%) who indicated exercising for more than two hours each time.

Table 1
Participant Demographic Information

	<i>n (%) / mean (std. dev.)*</i>
Age (years)	18.69 (1.10)*
Gender	
Male	147 (35.3)
Female	263 (64.0)
Ethnicity ^a	
White	331 (80.3)
Black / African American	36 (8.7)
Hispanic	15 (3.6)
Asian / Asian American	42 (10.2)
Native American	5 (1.2)
Other	9 (2.2)
BMI ^b	
Underweight	19 (4.7)
Normal Weight	279 (68.6)
Overweight	81 (19.3)
Obese	28 (6.9)

Note. ^a Participants were asked to “choose all that apply,” percentages may not add up to 100%. ^b Classified using classifications of the CDC.

RQ1: How do fitspiration viewers differ from non-viewers on exercise frequency?

About half ($n = 204$) of the students viewed fitspiration pages. An independent samples t-tests was used to determine differences between fitspiration viewers and non-viewers on days per week exercised and exercise duration. There was a statistically significant difference between fitspiration viewers ($M=3.59$, $SD=1.96$) and non-viewers ($M=2.49$, $SD=1.97$) for days of the week exercised ($t(409) = 5.68$, $p = <.001$).

A simple binary logistic regression was conducted to determine whether exercise frequency could predict fitspiration viewing. Exercise frequency was a statistically significant predictor for fitspiration viewing (Wald = 28.489, $df = 1$, $p < .001$). The odds ratio for exercise frequency indicates that for every one-point increase in exercise

frequency (i.e., for each one day more of exercise per week), the odds are about 1.3 times greater for viewing fitspiration. Overall, the logistic regression model accurately predicted 62% (54% for not viewing fitspiration and 70% for viewing fitspiration).

RQ2: How do fitspiration viewers differ from non-viewers on reason for exercise?

A chi-square test of independence was used to determine differences between viewers and non-viewers on reasons for exercise. Specifically, individuals who are non-viewers of fitspiration were more likely to indicate exercising for weight loss ($\chi^2(2, n = 407) = 7.96, p < .01$), while fitspiration viewers were more likely to indicate exercising for improving athletic ability ($\chi^2(2, n = 412) = 7.17, p < .01$), reducing stress ($\chi^2(2, n = 412) = 16.64, p < .001$), feeling better ($\chi^2(2, n = 412) = 30.69, p < .001$), and building muscle ($\chi^2(2, n = 412) = 13.60, p < .001$). With respect to exercise enjoyment, non-viewers did not enjoy exercise while viewers indicated exercising for enjoyment ($\chi^2(2, n = 412) = 16.32, p < .001$).

RQ3: Is viewing a particular type of fitspiration page associated with increased exercise frequency?

A series of independent samples t-tests assessed differences in exercise frequency for viewers vs non-viewers of the following page types: professional fitness models, professional fitness organizations, personal trainers, individual fitness pages, professional athletes, CrossFit athletes, organizations selling products, and individuals selling products. There were two significant differences in days exercised. Individuals who viewed pages provided by professional fitness organizations ($n = 50$) exercised more frequently ($M = 4.08$ days; $SD = 1.74$) than those who did not ($M = 3.43$ days; $SD = 2.03$; $t(229) = 2.06, p = .041$) and individuals who viewed CrossFit athletes ($n = 43$) exercised more frequently ($M = 4.16$ days, $SD = 2.12$) than those who did not ($M = 3.44$ days; $SD = 1.94$; $t(228) = 2.15, p = .032$).

RQ4: How did fitspiration viewer's motivation change after viewing fitspiration pages?

Overall, participants who viewed fitspiration pages ($n = 249$) were somewhat motivated for exercise prior to viewing ($M = 3.86, SD = 1.08$), and it does not seem participants were particularly motivated to increase their exercise after viewing fitspiration pages ($M = 2.94, SD = 1.16$). Participants who did not view fitspiration pages were removed from analysis for this research question.

DISCUSSION

Fitspiration pages intend to motivate and inspire viewers, and some are successful in encouraging increased exercise. Fitspiration viewers in this study reported exercising more days each week than non-viewers and exercising for reasons like muscle-building and enjoyment. While viewers reported a moderate amount of motivation to exercise, there were no reported gains in motivation following fitspiration page viewing.

There was a difference in the exercise frequency between those who viewed fitspiration and those who did not view fitspiration in this sample. What isn't demonstrated, however, is whether individuals who exercise more are drawn to fitspiration pages, or whether fitspiration pages draw individuals to exercise. What was shown in additional analyses was a predictive quality of exercise frequency with respect to fitspiration viewing. This initial analysis provides more information on the direction of this relationship to indicate exercising draws people to fitspiration. More assessment is needed here, but at least initially, it does appear that exercisers are more likely to seek out fitspiration.

The members of this sample who viewed fitspiration pages were more likely to exercise for improving athletic ability, reducing stress, feeling better, enjoyment, and building muscle than non-viewers, while weight loss was reported higher for the non-viewing group. These differences may be attributed to the trend in fitspiration pages portraying more muscular, yet lean, individuals. Interestingly, individuals who viewed pages put forth by professional fitness organizations and CrossFit athletes reported working out more days per week than those who did not. It is possible these pages emphasize overall fitness and muscle building, especially pages representing CrossFit athletes, more than other page types, and are therefore more popular among heavy exercisers. This finding somewhat contradicts Tiggemann and Miller's (2010) finding which stated viewing fitspiration pages can encourage a drive for thinness and reinforce the thin ideal often depicted in the media. Additional information is needed to better understand this deviation from previous findings, but, over that almost 10-year period, the images portrayed on this type of page and in the media overall has shifted from images of extra-thin models to more muscular, although still lean, individuals.

Individuals in the fitspiration viewing group started at a relatively motivated level. And despite following fitspiration pages, there was no significant increase in exercise reported. Tiggemann and Zaccardo (2015) identified slight increases in motivation following a brief exposure to fitspiration pages, but the increase in exercise is not present here. It is possible our sample was already increasing at an adequate level, and felt no need to increase their exercise. Or perhaps the sample has seen enough fitness pages on social media at this point, they may be desensitized to the images. Additional research is needed to identify if differences in feelings of motivation exist between those who intentionally seek out fitspiration and those who do not, and between those who seek out fitspiration pages merely for information and those who seek out fitspiration pages for ideal body types.

Limitations

This study collected data from a convenience sample of somewhat active students at a large university. These students may not be representative of a larger, college student population and therefore generalization of these results should be done cautiously.

The sample for this study reported low use of fitspiration pages, as most reported only viewing fitspiration for 1-10 minutes each day. It is possible that this low usage is behind the lack of increased exercise, and a sample with higher usage rates may report more motivation and increased exercise levels.

Due to the self-report nature of this study, it is possible participants under reported their time spent on social media, and particularly viewing fitspiration. Fitspiration pages are often mixed in with all other pages on social networking platforms, therefore, this sample may not fully realize how often they are interacting with fitspiration pages. Asking college students to categorize their time spent on social networking sites by the page type viewed is a challenging request, and therefore it should be understood that under reporting is a possibility with this type of research.

Recommendations for Future Research

Additional research is needed to assess the effects fitspiration viewing may have on other variables, such as body image. Also, more research on specifically those participants who initiated exercise resulting from fitspiration viewing is warranted. It is possible there are significant differences between those who are already regular exercisers and those

who are just initiating their exercise routine with respect to their fitspiration viewing and more information is required. Further, research assessing differences in motivation for fitspiration viewing for LGBT individuals, individuals of varying racial and ethnic backgrounds, and individuals who have specific weight loss or gain goals is encouraged. Future research also should address if there are images or body types that are preferred or idealized across varying demographic groups.

Conclusion

The purpose of this study was to determine the influence viewing fitspiration pages may have on exercise frequency, reason for exercise, and motivation for exercise. Viewing fitspiration pages impacted exercise frequency, but only for professional fitness organizations and CrossFit athlete pages. Exercise frequency predicted fitspiration viewing. Additionally, non-viewers indicated exercising for weight loss more than viewers, while viewers gave more reasons for exercise, such as reducing stress and building muscle. Motivation was not significantly impacted in the viewers of fitspiration pages. Individuals may benefit from viewing fitspiration pages as it may encourage increased exercise, and promote goals related to muscle-gain. Health promoters and physical educators can help to educate individuals on the potential negative psychological effects of viewing fitspiration pages, but also may be able to utilize fitspiration pages to encourage fitness goals and extrinsic reasons for exercise.

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