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Examining the Relationship Between Self-Efficacy and Health Behaviors Among College Students

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by

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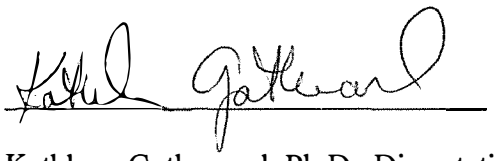
Improving First-Year College Students' Self-Efficacy:

A Experimental Design

by

Brent D. Fisk

Signatures of Examining Committee



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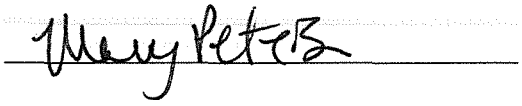

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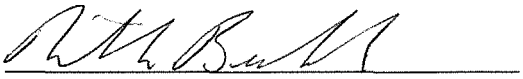

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Abstract

Adolescents' transition into adulthood often coincides with significant developmental change processes. Behavioral patterns established during this period can determine risk and quality of life trajectories (Ben-Shlomo & Kuh, 2002, Halfon & Hochstein, 2002). Social support facilitates health behavior change and college students have ready access to peers with shared goals. In addition to social support, self-efficacy has also been associated with student health as a protective and predictive factor of healthy behaviors (Von Ah, Ebert, Ngamvitroj, Park, & Kang, 2004). Research indicates a strong relationship between self-efficacy and health behaviors; however, the direction of causality is unclear and there is little understanding of how self-efficacy changes. The current experiment examined the effects of observational learning/modeling and social support created through course-related, small groups or Accountability Teams (ATs) on individual self-efficacy and physical activity. The primary

hypothesis was that individual health self-efficacy of students would interact with types of ATs, affecting students' general self-efficacy, perception of health, and physical activity.

Participants in this experiment were undergraduate students enrolled in a lifelong fitness health course. Self-report measures of health self-efficacy (HSE), general self-efficacy, quality of life, and general health were distributed and completed by participants. Additionally, students submitted measurements of body fat percentage and physical activity (e.g., number of steps taken). Participants were assigned to support groups called "Accountability Teams" within their respective health class. Teams were assigned based on students' HSE; each group consisted of either matched HSE (i.e., all students were low or high HSE) or mixed health self-efficacy (i.e., students in the AT were a mix of low and high HSE). The results indicate interactions in which students of Hi/Lo HSE respond differently in ATs. Overall, results suggest that LoHSE students placed in matched (homogenous) HSE groups had the best outcomes on multiple dimensions of health and health behaviors, followed by HiHSE students in mixed HSE groups. HiHSE students in matched groups has poor outcomes. The poorest outcomes were for LoHSE students in the mixed AT condition. These results are discussed within a self-efficacy frame and implications for behavioral health courses and therapy are discussed.

Keywords: college students, self-efficacy, health behaviors, interactions, health education

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Chapter 1

Introduction

This experiment sought to explore interactions of individual health self-efficacy within groups and how these interactions influence health-promoting behaviors among first-year college students enrolled in a lifelong health/wellness course. A wealth of research has sought to understand separate and combined influences of social cognitive theory constructs on the development of sustainable health-promoting behaviors. Though clear relationships have been identified, the direction of causality remains unclear, and fewer researchers have examined the dynamic interactions of these constructs and their influence on health behavior change among traditional undergraduate students. The present experiment hypothesizes that individual health self-efficacy (HSE) and interactions of high and low individual HSE within groups of students will impact general self-efficacy (GSE) and health outcomes over the course of an academic semester, including changes in health perception and health behaviors.

The transition from adolescence to early adulthood often coincides with significant and distinct developmental change processes across physiological and psychosocial domains. During this transformational stage, adolescents learn and organize skills necessary for acclimation to their emerging adult roles and responsibilities (Steinberg, 2009). This is especially true for traditional college students transitioning from high school, who must adapt to newfound independence in unfamiliar social and academic environments as they move into college. The

adjustment process can be complex, and outcomes differ based on interactions between individual and environmental variables (Terenzini et al., 1994).

Successful adjustment for first-year college students is multifaceted, requiring cognitive, behavioral, and emotional flexibility. According to the Higher Education Research Institute (HERI, 2014), 37% of freshmen surveyed experienced difficulties adjusting to academic demands, while 47% reported problems with basic time management. Further, students tend to overestimate their academic and social adjustment competency, and even strong academic performers report struggling with autonomy and independence in their new surroundings (Gerdes & Mallinckrodt, 1994). Emotional adjustment is also an area of concern for this population. Recent surveys revealed that entering students rate their emotional health at all-time lows, with 9.5% endorsing frequent feelings of depression (Egan et al., 2015). Combined and compressed experiences of multiple phase-of-life stressors can be overwhelming, manifesting as physical and psychological stress symptoms, including emotional and health behavior dysregulation (Welle & Graf, 2011). It is understandable, then, if the costs of negotiating academic, social, and emotional demands results in deficits of physical health and wellbeing.

Health and behavioral risk factors related to adjustment in adolescence have repercussions beyond undergraduate years. The life course health development framework (LCHD) suggests that behavioral patterns established during this sensitive period can determine risk and quality of life trajectories in adulthood (Ben-Shlomo & Kuh, 2002, Halfon & Hochstein, 2002). This is particularly true of adolescents' health behaviors. Previous research has shown that physical inactivity, inadequate sleep, diet, and obesity in childhood/adolescence affect risk for chronic disease and other health problems (Alamian & Paradis, 2012; Dietz, 1998, Reilly &

Kelly, 2011; Tremblay & Willms, 2003). Despite first-year students' vulnerability to stress and their proneness to developing maladaptive coping strategies and health behaviors, the cognitive transition into adulthood can increase their capacity for individuation and responsible decision-making (Arnett, 1998). Even under duress, maturation of what Steinberg (2008) refers to as adolescents' "cognitive control network" can moderate risk-taking behaviors, resourcing the individual's developing capacity for self-regulatory cognitive processing. Therefore, the auspiciousness of this transitional stage can help facilitate development of healthy behaviors, like nutritious eating and exercise, as college students explore their autonomy and independence away from home.

According to the American College Health Association (ACHA, 2014), undergraduate students perceive themselves as being in good general health; 91.0% of 66,887 surveyed students rate their health as *good, very good* or *excellent*; 57.9% rate their health as falling in the *very good* or *excellent* categories (p. 3). However, many college students engage in risky health behaviors or fail to meet recommendations for BMI, exercise, and nutrition. For example, among all students surveyed, 38% report unhealthy weight levels and only 22% meet national guidelines for engaging in substantially beneficial physical activity (Institute of Medicine [IOM], 2011). Additionally, among the US general population, less than 10% of adults age 19-30 consume recommended daily amounts of vegetables, and less than 20% consume recommended daily amounts of fruit (US Department of Agriculture, 2015).

In an effort to address health disparities between recommended guidelines and actual behaviors, the Committee on Leading Health Indicators for Healthy People 2020 has proposed 10-year goals and objectives to direct national health and disease prevention agendas (IOM,

2011). A few shared objectives for both adolescents and adults include reducing rates of obesity, reducing consumption of calories from solid fats and added sugars, and increasing adherence to physical activity guidelines.

Previous research suggests a wide range of psychosocial factors that influence individual health behaviors (Gordon-Larsen, McMurry & Popkin, 1999; Nelson & Gordon-Larsen, 2006; Von Ah, Ebert, Ngamvitroj, Park, & Kang, 2004). A broad aim of the current research experiment is to examine these variables with focal attention on the roles of social support and self-efficacy among college freshman. It is a part of a larger demonstration project directed at improving students' overall nutrition and wellness behaviors. Understanding that first-year college students arrive on campus with both healthy and unhealthy behavior patterns, the project goals address two concerns. First, for those who have already established a healthy lifestyle, the goal is to maintain healthy behaviors that carry over to adulthood. Second, for the group who have not grown up with healthy patterns, the goal is to help modify existing patterns to establish healthier developmental trajectories.

Researchers use various health models, theories, and psychological controls in attempt to explain complex psychosocial processes that predict health behavior outcomes (Rosenstock, Strecher, & Becker, 1988). Using Bandura's (1971) social learning theory is one such example, which explains how humans use control and reinforcement to maintain long-term, goal-oriented behavior. Social learning theory, later termed social cognitive theory (SCT), defines learning as a cognitive process occurring in social contexts by direct instruction or by observing others' behavior (Bandura, 1971). A clear example can be found in the use of behavioral modeling to facilitate learning. Jessor, Turbin, and Costa (1998) found that parental modeling of health-

enhancing behaviors, as well as peer modeling, are protective factors for adolescent health behaviors. Social support and social norms have also been linked to both positive and negative health outcomes for adolescents (Gruber, 2008). In a 2003 study, Baker, Little, and Brownell concluded that perceptions of family and friends' low interest in adolescents' eating and activity negatively affected their attitudes towards these behaviors. For new college students, there is concern that their transition may limit access to previously established support systems, which may increase their risk of engaging in unhealthy behaviors when they are stressed (Steptoe, Wardle, Pollard & Canaan, 1996).

Another construct of social cognitive theory that has drawn considerable attention in health psychology research is self-efficacy (French, 2013). Self-efficacy refers to a person's perception of their own capability to exercise control over behavior, motivation, and aspects of their environment in effort to achieve goals (Bandura & Locke, 2003). According to Bandura, Caprara, Barbaranelli, Gerbino and Pastorelli, 2003, "Perceived self-efficacy plays a pivotal role in this process of self-management because it affects actions not only directly but also through its impact on cognitive, motivational, decisional, and affective determinants" (p. 769). Self-efficacy has increasingly been associated with student health as a protective and predictive factor of academic adjustment and healthy behaviors (Lent, Taveira, Sheu, & Singley, 2009; Von Ah et al., 2004). Self-efficacy also significantly influences motivation for engaging in health-promoting lifestyles among college students (Jackson, Tucker & Herman 2007). While many studies suggest a causal relationship between self-efficacy and health behaviors, the direction of causality remains largely unknown (French, 2013). However, findings support both physical activity and self-efficacy as being important factors for improving overall health-related quality

of life, with self-efficacy appearing to be more important and, thus, a better target when intervening to affect health behavior change and quality of life trajectory. (Motl, McAuley, Wynn, Sandroff, & Suh, 2013).

SCT constructs such as self-efficacy can differentiate unhealthy from healthy aspects of student health behaviors (Petosa, Suminski, & Hortz, 2003). Self-efficacy may also determine whether or not students can follow health models presented through peer interactions or educational programming to deal with wellness and illness situations. Prior studies have identified one's perception or beliefs regarding their ability to manage health conditions as health self-efficacy (Lee, Hwang, Hawkins & Pingree, 2008). However, given the wealth of research relating to self-efficacy's influence on health management, there appears to be little understanding of how self-efficacy changes. A meta-analysis of health intervention studies, aimed at increasing self-efficacy related to physical activity, begins to answer this question. Ashford, Edmunds, and French (2010) found that interventions using vicarious experience and performance feedback significantly improved levels of self-efficacy related to physical activity. This analysis also discovered that use of graded mastery techniques produced less change, and, further, a negative relationship was observed between verbal persuasion and self-efficacy. Ashford et al. noted that 89% of intervention groups analyzed used verbal persuasion as a strategy. These results seem particularly relevant for college educators designing curriculum for the traditional classroom with the intent of modifying student health trajectories. While previous research has shown the positive impact of lifetime wellness curriculum on physical self-efficacy and health behavior change, methods used to achieve short-term results in the classroom may

prove detrimental to students' adoption of healthy behaviors in adulthood (French 2013; Lockwood & Wohl, 2012).

The current experiment was designed to improve individual self-efficacy and health-promoting behaviors of first-year university students by using SCT constructs of observational learning/modeling and social support. Students enrolled in health education classes were required to complete specific types and amounts physical exercise as well as track and report daily activity levels and diet. Students were assigned to small affinity groups within the class based on their level of health self-efficacy (HSE), resulting in groups of matched HSE (e.g., all members having either low or high HSE) and groups of mixed HSE (e.g., some members having low HSE, some having high HSE). It was hypothesized that members belonging to groups with "matched" HSE would retain the general self-efficacy (GSE) level with which they entered the group, while members belonging to groups with "mixed" self-efficacy would show increases in GSE. It was also hypothesized that group members would report changes in perceived health, health outcomes, and health behaviors as follows: when comparing students of high and low health self-efficacy (Hi/Lo HSE), HiHSE students would show improvement across variables, while LoHSE students would show no change or a decrease; groups with matched HSE would show little or no change across variables; mixed HSE groups would influence positive change for LoHSE students and no change for HiHSE students; an interaction of individual HSE and type of group would be observed.

Chapter 2

Methods

Participants

Participants were a sample of undergraduate students at George Fox University, a private, Christian university located in Newberg, Oregon. All the participants were enrolled in nine sections of the university's Lifelong Fitness classes, and within the context of the course joined a small group of 4-5 students from their own section of the course. There were 55 small groups across all the sections of the course.

Of the 293 students enrolled in the course, 111 completed all of the assessments, participated in small groups, and were considered participants in this study. The final sample constitutes 38% of all the students enrolled. The average age within the sample was 18.9 years (*SD* = 1.03). Most of the participants in the sample were female (60.6%), and most were European Americans (69.9%).

Participants were divided into two groups based on a median split of individual health self-efficacy (HSE), and low HSE (LoHSE) and high HSE (HiHSE) students were randomly assigned to accountability teams (AT) composed of either students of matched HSE or mixed HSE. Thus, four groups were created: A, B, C, D (A = matched LoHSE, B = matched HiHSE, C = mixed LoHSE, D = mixed HiHSE). The four groups did not differ by age ($F(3) = .60$, $p = .62$) or gender ($X2(3) = 5.54$, $p = .14$) or ethnicity ($X2(3) = 2.32$, $p = .53$).

Measures

General Self-Efficacy (GSE). Perceived GSE was measured using a 9-item self-report instrument designed for this experiment. Items were constructed to measure each participant's GSE. A copy of this GSE measure appears in Appendix A. Each item is followed by a 4-point Likert scale with anchors of *not at all true* and *exactly true*. Internal consistency for GSE within this sample (i.e., Cronbach's alpha) was .86 in the pre-test and .86 in the post-test.

Health Self-Efficacy (HSE). Perceived HSE was measured using The Self Rated Abilities for Health Practices Scale (SRAHP), "a 28-item, 5-point scale to measure self-perceived ability to implement health-promoting behaviors" (Becker, Stuifbergen, Oh, & Hall, 1993, np). The internal consistency of the SRAHP within the present sample was high (Cronbach's alpha = .94) and is equal to the internal consistency found by the test authors in other samples of undergraduate students (Becker et al., 1993). To establish the validity of their measure, the original authors correlated the SRAHP with other health promotion scales, such as Health-promoting Lifestyle Profile and the Barriers to Health Promoting Behaviors Among Persons with Disabilities Scale. The scale had a correlation of .69 with the Health-promoting Lifestyle Profile and, as expected, a negative correlation of -.55 with Barriers to Health Promoting Activities scale.

Fitness Tracker Report. Participants were required to use Jawbone UP devices for the purpose of tracking daily activities, i.e., the number of steps taken. The activity data was uploaded and submitted monthly by participants. The Jawbone UP internal consistency coefficient is high (Cronbach's alpha = .75 - .90) and it also demonstrated high validity (Free-living study: r = 0.94; 95% confidence interval: r = 0.90-0.97; Kooiman et al., 2015).

Body Composition. Body composition, a measurement of percent body fat (% BF) and percent lean muscle mass, was measured using BOD POD ®, which determines body density using air-displacement plethysmography. Compared to other methods that measure % BF (e.g., hydrostatic weighing), BOD POD overestimates % BF, but, BOD POD reliability within the same day and between days is high; specifically, same-day estimates of %BF were within 1.7% of each other (Heyward, 2001).

Quality of Life Report. Perceived Quality of Life was measured using a single-item. Participants responded to the prompt, "Overall, my quality of life is good." A copy of the survey including this item appears in Appendix A. Each item is followed by a 7-point Likert scale with anchors of *strongly disagree* and *strongly agree*.

Change in General Health. Perceived General Health was measured using a single-item. Participants responded to the prompt, "Overall, my general health is very good." A copy of the survey including this item appears in Appendix A. Each item is followed by a 7-point Likert scale with anchors of *strongly disagree* and *strongly agree*.

Demographics. Participants reported their demographic information. The information included was sex, age, year in school, and ethnicity.

Procedures

Participants were enrolled in a Lifelong Fitness course. Demographics and pretest measures were completed in the first two weeks of the 16-week semester (Fall, 2015). Participants completed post-test measures in the 15th week of the term. All pretest and posttest measures were required as part of the course.

As a part of the course, participants joined small groups of 4-5 students from their section of the course within the first two weeks of the semester. For the purpose of this study, students in two randomly-selected sections of the course were not assigned to groups. In the other six sections of the course, students were assigned to groups based upon their health self-efficacy pretest scores. Participants were split into high and low health self-efficacy groups, based on a median split in each course section, and then half of each group was randomly assigned to either a matched self-efficacy group or a mixed self-efficacy group. This resulted in three types of groups; (a) mixed groups, (b) high self-efficacy groups, and (c) low self-efficacy groups. On average, two groups of each type were located in each section (any additional groups in a section were mixed self-efficacy groups). The purpose of the groups is to create a context within which to examine motivations for health behavior choices (e.g., past models, what makes it easy or difficult to make good choices, etc.). The groups were not required to meet outside of class sessions.

A post-test battery of surveys was administered in the 15th week of the course. The battery included general self-efficacy, quality of life, and general health. Body fat percentage and percent changes in physical activity (e.g., steps) was also measured in the 15th week of the course.

Chapter 3

Results

Fidelity Check.

The mean number of Accountability Team (AT) meetings, as reported at the end of the semester, are shown in Table 1. Notice that none of the AT groups met very often, however. HiHSE matched students reported meeting least often while those in the HiHSE mixed met most often.

Table 1

The Number of Accountability Team (AT) Meetings as a Function of HSE and Group Type

	Number of Accountability Team (AT) meetings	
Group Type	Mean	*SD*
LoHSE matched	2.67	2.47
HiHSE matched	1.68	1.17
LoHSE mixed	2.22	1.76
HiHSE mixed	2.78	2.24

A 2x2 ANOVA was used to explore the effects of HSE and group type on the number of AT group meetings. There is no main effect of HSE, $F(1, 107) = .33$, $p = .57$. There also is no

main effect of mix/matched group, F (1, 107) = .78, p = .38. There is a significant interaction of HSE and type of group (i.e., mix/matched) F (1, 107) = 4.31, p = .04.

Figure 1 shows the nature of the interaction. The interaction indicates that students with high and low HSE respond differently to mixed and matched AT groups. Follow-up independent t-tests demonstrate that LoHSE students in mixed and matched groups (comparison A) do not differ significantly in the number of AT meetings, t (55) = .77, p = .44, d' = 0.21. HiHSE students in mixed and matched groups did differ significantly in number of AT meetings (comparison B), t (52) = -2.36, p = .02), d' = 0.62. HiHSE and LoHSE students who attended the same mixed HSE groups did not differ significantly in their estimates of the number of AT group meetings (comparison C), t (48) = -.99, p = .33, d' = (0.28). However, HiHSE and LoHSE students who attended groups matched on HSE reported meeting with their groups a significantly different number of times (comparison D), t (59) = 2.01, p = 0.049, d' = (0.51). Figure 1 highlights these comparisons.

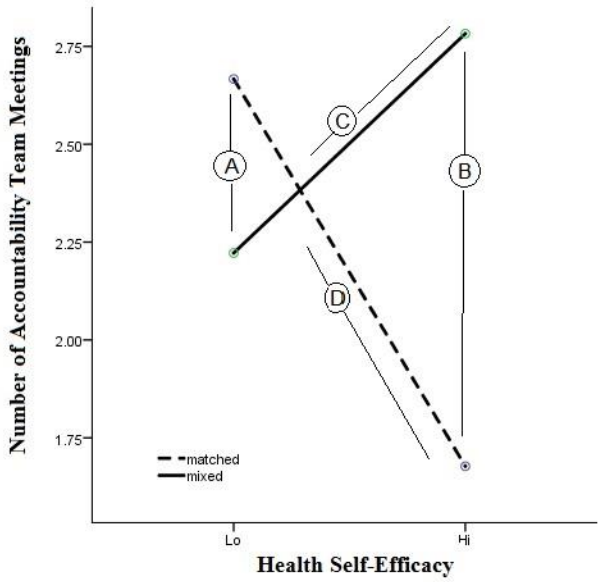

Figure 1. The number of Accountability Team (AT) meetings.

Summary of the Fisher Procedure

Using Fisher's procedure, a MANOVA was conducted to examine the effects of HSE and AT group type on five health outcomes, i.e., (a) Change in General Self Efficacy; (b) Percent Change in Steps; (c) Percent change in Body Fat; (d) Change in Quality of Life, and (e) Change in Perception of General Health. The assumptions of the MANOVA were tested. The assumption of equal variances was not met, $F(45, 38494.53) = 3.50$, $p < .01$, therefore the Pillai's Trace measure of MANOVA was employed. Pillai's Trace criterion indicates no main effect of HSE (Lo, Hi), Pillai's Trace $(5, 34) = 1.05$, $p = .40$. There was also no main effect of AT group type (mixed, matched), Pillai's Trace $(5, 34) = 1.86$, $p = .13$. There was, however a significant interaction of HSE and AT group type, Pillai's Trace $(5, 34) = 2.60$, $p = .04$. Because the MANOVA showed that some significant differences existed, the MANOVA was followed by an ANOVA for each of the five dependent variables. When significant differences emerged in these two-way ANOVAs, the effects were investigated further using independent-samples *t*-tests.

General Self-Efficacy

The mean change in GSE scores were calculated by taking end of semester General Self-Efficacy minus beginning of semester General Self-Efficacy. Higher numbers indicate more positive change in General Self Efficacy. The mean change in GSE scores are shown in Table 2.

A 2x2 ANOVA was used to explore the effects of HSE and group type on individual General Self-Efficacy. There is no main effect of HSE, $F(1, 133) = 1.73$, $p = .19$. There also is no main effect of mix/matched group, $F(1, 133) = .02$, $p = .88$. Although there is not a significant interaction of HSE and type of group (i.e., mix/matched), $F(1, 133) = 1.12$, $p = .29$, Figure 2 shows the pattern of interaction is the same as the interaction for the number of AT

Table 2

The Mean General Self-Efficacy Scores (GSE) as a Function of HSE and Group Type

	General Self-Efficacy Scores (GSE)	
Group Type	Mean Change	*SD*
LoHSE matched	2.12	3.40
HiHSE matched	0.43	4.05
LoHSE mixed	1.48	4.10
HiHSE mixed	1.29	5.04

meetings. Specifically, students with high and low HSE respond differently to mixed and matched AT groups.

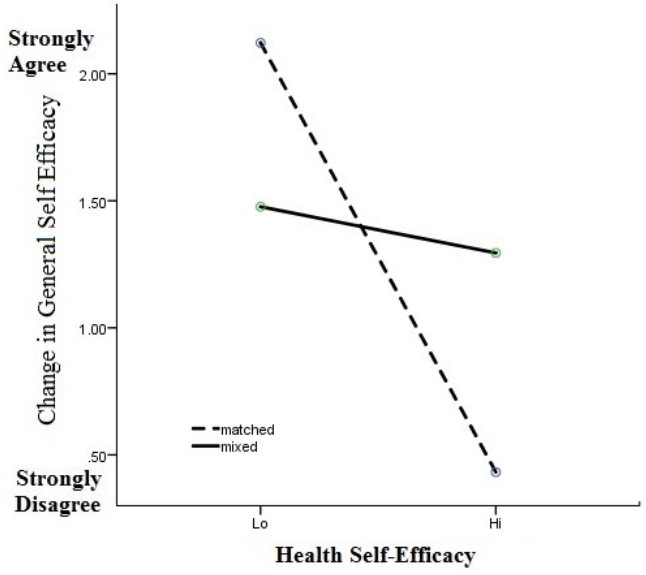

Figure 2. Change in general self-efficacy as a function of HSE and group type.

Because none of the results of the ANOVA were significant, Fisher's procedure would recommend that no follow-up independent *t*-tests should be conducted. However, it is interesting to note that of the four comparisons, comparison D (i.e., HiHSE and LoHSE students who attended matched groups) reported GSE scores that, although not statistically significantly different, were close to being different, $t\ (76) = 1.98$, $p = 0.05$.

Percent Change in Steps

The mean number change in steps was calculated by taking November daily step averages divided by the September daily step averages. Numbers closer to 1.00 indicate less fall-off of steps in November relative to September. The mean number change in steps is shown in Table 3.

Table 3

The Mean Change in Steps as a Function of HSE and Group Type

	Mean change in steps	
Group Type	Mean	*SD*
LoHSE matched	- 671.92	2819.43
HiHSE matched	-1942.63	2715.52
LoHSE mixed	-1428.91	2849.58
HiHSE mixed	-2777.82	4200.09

A 2x2 ANOVA was used to explore the effects of HSE and group type on individual percent change in steps. There is a significant main effect of HSE, F (1, 132) = 5.85, p = .02. There is no main effect of mix/matched group, F (1, 132) = 2.16, p = .14. There is no significant interaction of HSE and type of group (i.e., mix/matched) F (1, 132) = 0.01, p = .94. This pattern of results (see Figure 3) demonstrate that the number of daily steps dropped significantly less over the course of the semester for LoHSE participants than for HiHSE participants.

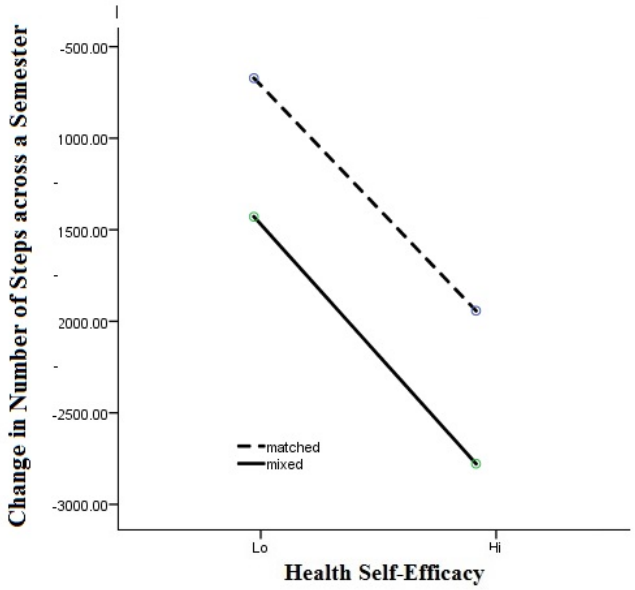

Figure 3. Change in steps across a semester as a function of HSE and group type.

Percent Change in Body Fat

The mean percent change in body fat was calculated by taking end of semester percent body fat minus beginning of semester percent body fat. Negative values indicate mean fat loss while positive values indicate fat gain. The mean percent change in body fat values are shown in Table 4.

Table 4

The mean percent change in body fat as a function of HSE and group type

	Percent change in body fat	
Group Type	Mean	*SD*
LoHSE matched	-0.09	2.42
HiHSE matched	2.03	3.00
LoHSE mixed	1.20	2.70
HiHSE mixed	-2.17	2.53

A 2x2 ANOVA was used to explore the effects of HSE and group type on individual percent change in body fat. There is no main effect of HSE, $F(1, 70) = .24$, $p = .63$. There also is no main effect of mix/matched group, $F(1, 70) = .43$, $p = .51$. There is a significant interaction of HSE and type of group (i.e., mix/matched) $F(1, 70) = 5.98$, $p = .02$. Figure 4 shows the nature of the interaction.

The pattern of interaction for mean percent change in body fat is the same as the interaction for the number of AT meetings and change in GSE; specifically, students with high and low HSE respond differently to mixed and matched AT groups. Follow-up independent t-tests demonstrate that LoHSE students in mixed and matched groups (comparison A) differ significantly in percent change in body fat, $t(68) = -3.06$, $p = .003$. HiHSE students in mixed and matched differed significantly in percent change in body fat (comparison B), $t(66) = 3.55$, $p = .001$). HiHSE and LoHSE students, who attended the same mixed HSE groups, differed significantly in percent change in body fat (comparison C), $t(58) = 2.50$, $p = .02$. HiHSE and

LoHSE students who attended groups matched on HSE differed significantly in percent change in body fat (comparison D), t (76) = -4.22, $p < .01$.

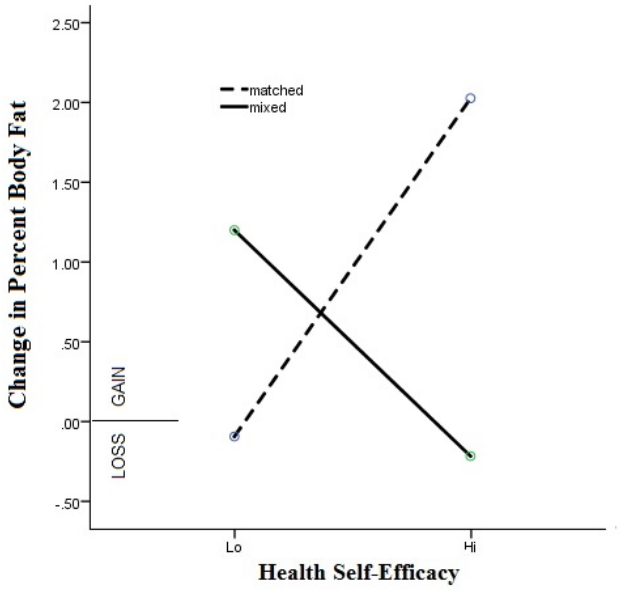

Figure 4. The mean percent change in body fat as a function of HSE and group type.

Change in Quality of Life

The mean change in quality of life was calculated by taking end of semester QOL (1 = *very poor*; 5 = *very good*) minus beginning of semester QOL. Negative values indicate QOL decline and positive values indicate improvement. The mean change in quality of life scores are shown in Table 5.

A 2x2 ANOVA was used to explore the effects of HSE and group type on individual change in quality of life There is no main effect of HSE, F (1, 63) = .33, p = .57. There also is no main effect of mix/matched group, F (1, 63) = 1.89, p = .17. Although there is a not a significant

interaction of HSE and type of group, F (1, 63) = 3.92, p = .052, the pattern of interaction is the same as the interactions for the number of AT meetings, change in GSE, and change in percent body fat. Figure 5 shows the interaction in which students with high and low HSE respond differently to mixed and matched AT groups. Because none of the results of the ANOVA were significant, Fisher's procedure would recommend that no follow-up independent t-tests should be conducted.

Table 5

The Mean Change in Quality of Life as Function of HSE and Group Type

	Quality of life	
Group Type	Mean	*SD*
LoHSE matched	.50	1.99
HiHSE matched	.00	.65
LoHSE mixed	-.69	1.75
HiHSE mixed	.21	.80

Change in General Health

The mean change in general health was calculated by taking end of semester General Health estimates (1 = *very poor*; 5 = *very good*) minus beginning of semester General Health estimates. Negative values indicate perceived decline in General Health while positive values indicate improved General Health. The mean percent change in general health scores are shown in Table 6.

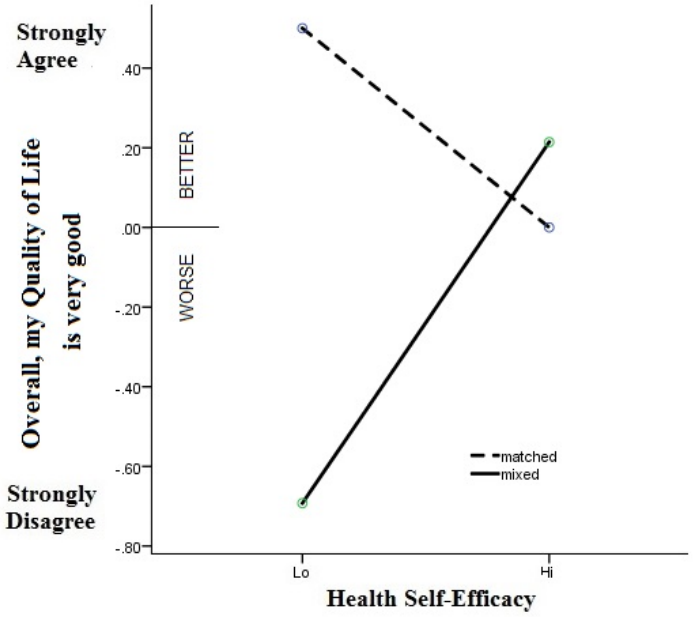

Figure 5. The mean change in quality of life as a function of HSE and group type.

Table 6

The Mean Percent Change in General Health as a Function of HSE and Group Type

	Change in General Health	
Group Type	Mean	*SD*
LoHSE matched	.40	1.39
HiHSE matched	0.00	.79
LoHSE mixed	-.31	1.25
HiHSE mixed	.21	.89

A 2x2 ANOVA was used to explore the effects of HSE and group type on individual change in general health. There is no main effect of HSE, F (1, 63) = .79, p = .33. There is no main effect of mix/matched group, F (1, 63) = .05, p = .83. Although there is no significant

interaction of HSE and type of group, F (1, 63) = 2.77, p = .10, Figure 6 shows the pattern of interaction is the same as the number of AT meetings, change in GSE, change in percent body fat, and change in quality of life such that students with high and low HSE respond differently to mixed and matched AT groups. Because none of the results of the ANOVA were significant, Fisher's procedure would recommend that no follow-up independent t-tests should be conducted.

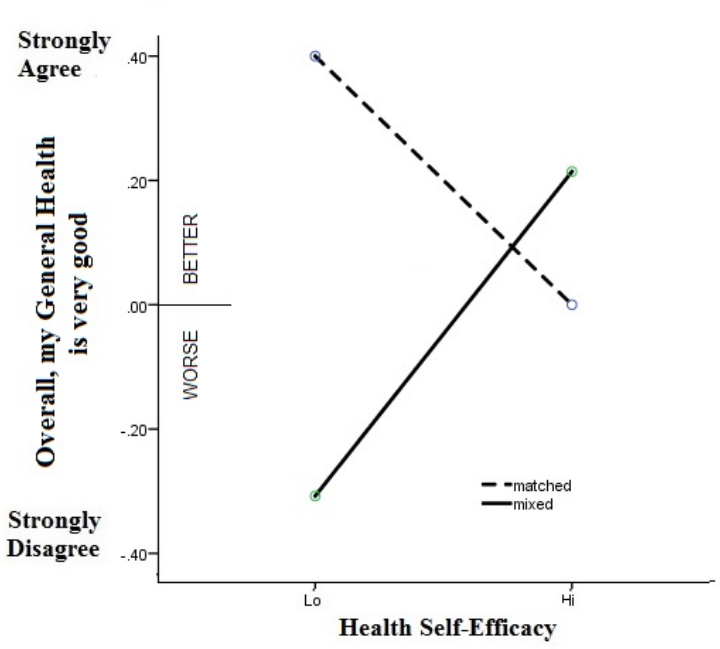

Figure 6. The mean change in general health as a function of HSE and group type.

Summary of Effect Sizes

A summary of effect sizes, shown in Table 7, for each of the four comparisons is used to explore the interaction effect. By examining the mean effect sizes for each of the dependent variables (i.e., the far right column), the differential sensitivity can be examined. The most sensitive of the variables is percent change in body fat (Cohen's d' = 1.02). The least sensitive

variable is GSE (Cohen's d' = .21). Across all dependent variables, the mean effect size for the four comparisons is shown in the bottom row of Table 7. What can be seen is that all four comparisons show small-to-moderate effect sizes.

Table 7

Effect Sizes for all dependent variables for Comparisons A, B, C, and D

	A 1v3	B 2v4	C 3v4	D 1v2	Means
AT meetings	0.21	0.62	0.28	0.51	0.40
GSE	0.17	0.19	0.04	0.45	0.21
steps	0.27	0.24	0.38	0.46	0.34
body fat	0.50	1.51	1.29	0.78	1.02
QOL	0.64	0.29	0.66	0.34	0.48
Gen Health	0.53	0.25	0.48	0.35	0.40
Means	0.37	0.52	0.52	0.48	

Chapter 4

Discussion

The purpose of this experiment was to improve individual self-efficacy and health behaviors of college students over the course of a single academic semester. Specifically, this experiment used social cognitive theory (SCT) constructs of observational learning/modeling and social support to examine whether interactions of individual health self-efficacy and a group context (AT) would affect general self-efficacy, health-promoting behaviors, and perceived health and wellness. While there were no main effects for Hi/Lo HSE or mixed/matched groups, the results indicate a consistent pattern of interactions in which LoHSE students placed in matched (homogenous) groups had the best outcomes on multiple dimensions of health and health behaviors, followed by HiHSE students in mixed HSE groups. Surprisingly, health outcomes of high self-efficacy students in a matched group declined during the semester and LoHSE students placed in mixed (heterogeneous) groups had the worst outcomes.

The results of the present experiment supplement existing research examining the effects of health education, SCT constructs, and self-efficacy on health behavior change. Health courses have been shown to positively impact physical self-efficacy, fitness, and nutrition among college students, and social modeling/support of health-promoting behaviors are consistently linked with health outcomes (Gruber, 2008; Jessor et al., 1998; Lockwood & Wohl, 2012). Additionally, previous research has observed the interaction effects of individual self-efficacy and collective-efficacy on task performance (Khong, Liem, & Klassen, 2017). While the direction of causality

between self-efficacy and health behaviors remains unclear (French, 2013), this experiment illuminates the dynamic and sensitive nature of individual self-efficacy development in a context of interaction with the social environment; it may be the first to examine how interactions of individual self-efficacy within groups affect health outcomes.

Implications for Practice

Because of previous research findings and the statistically significant interactions that were identified in the present study, colleges hoping to affect student health outcomes may benefit from implementing a model of health education that promotes student interaction and interdependence, while also considering how interactions of individual and group efficacy may impact target behaviors and performance. For example, perceived high task interdependence within groups has been found to influence emerging collective-efficacy, which positively impacts team performance; however, under conditions of perceived low task interdependence, only self-efficacy seems to affect team member's performance (Katz-Navon & Erez, 2005). Further, Khong et al. (2017) found that while collective-efficacy was a stronger predictor of group performance than self-efficacy, individual self-efficacy appeared to moderate the positive effects of collective-efficacy. Although the present study did not measure students' perception of task interdependence or collective-efficacy, the results suggest that health education may have the most significant impact on students who have low health self-efficacy when they are matched in groups of similar peers; LoHSE matched groups were the students who appeared to benefit the most from the structured activity intervention. Given that college is an optimal time to instill lifelong health behaviors, simply identifying students' level of health self-efficacy may provide educator's insight regarding the potential effectiveness of curriculum and structured class

activities. This research suggests that matching students of low health self-efficacy in interdependent groups appears to be a simple and effective intervention for maximizing the impact of education on health outcomes. Curriculum requiring high task interdependent group activities may enhance the benefits of these structured groups.

The results of this experiment may also broaden understanding of self-efficacy interactions among students and service providers in a variety of educational settings (e.g., classmates, instructors, advisors). While the current experiment did not measure students' perception of group members' self-efficacy, it is assumed that the observed sensitivity of the interaction could present in other contexts, affecting quality of outcomes post-intervention. For example, interactions of academic self-efficacy in study groups may affect students' private study behaviors. Or, interactions of perceived self-efficacy between a student and instructor may impact the student's engagement with coursework and academic planning processes. Students with lower self-efficacy may benefit from more structured interventions that involve peers of similar self-efficacy.

Lastly, interventions targeting interactions of self-efficacy may benefit students when engaging in medical and mental health care services. Similar to academic contexts, individual sensitivity to these interactions may impact students' health behaviors, treatment compliance, and perceived treatment benefit. For example, based on this experiment's results, facilitators of group therapy programs or support groups for chronic disease management may see more significant, positive treatment outcomes for students with low self-efficacy who are matched with similar peers. These findings may also inform clinicians' awareness of interactions at a one-to-one level between students and individual members of their care teams (e.g., counselors,

physicians, nurses). These interactions in various contexts may mediate differences between treatment model, application, and outcome.

Limitations of the Experiment

The present experiment was conducted at a small, private, Christian university in the northwest region of the United States. The institution's size, location, religious affiliation, and cost of attendance may not accurately represent the socio-economic, religious, racial, and ethnic diversity of the broader region or country. These factors should be considered when interpreting the experiment's results; colleges with larger and more diverse student populations may yield different results in the measures and self-reports.

The experiment's intervention design was a significant limitation due to the researcher's inability to oversee student engagement outside of scheduled classroom instruction. Students were strongly encouraged to meet regularly with their AT groups throughout the semester in effort to increase peer support and influence health-promoting behaviors. Because AT group meetings were elective activities, students' peer/group interaction frequency was inconsistent and below expectations, which may lead to underestimation of the effect of group type on health behaviors. Future research and replication may benefit from providing more structured and interdependent group activities, as well as more expansive oversight or facilitation of participants' group activities and dialogue. For example, requiring and verifying more group interactions outside of scheduled class time may strengthen or weaken the effects of self-efficacy interactions within group differences over time. Designing group activities of high task interdependence with specific objectives and outcomes may improve group cohesion and frequency of participation in elective activities, which may moderate interactions of self-efficacy

and health outcomes. This would allow for broader qualitative and quantitative data collection regarding participant engagement, outcomes, and the effects of self-efficacy interactions within groups.

Suggestions for Future Research

Colleges may benefit from conducting further research to explore student health outcomes and the interactions of self-efficacy in both peer and service provider relationships. For example, future researchers may wish to examine self-efficacy interactions within health-specific support groups or psychotherapy groups, with focal attention on intervention among students navigating complex transition processes in their first year of traditional undergraduate education. Also, researchers may wish to examine interactions of self-efficacy between medical and mental health providers and students to identify possible challenges to collaborative health management or opportunities for effective group-based interventions for students of low self-efficacy. The scope of this research could be broadened to examine interactions of self-efficacy in other contexts, such as academic behaviors. Examining interactions of academic self-efficacy could yield valuable insight regarding curriculum design and implementation of group-based tasks or projects. Further, these interactions may inform design of ancillary academic supports, like peer-based group tutoring or group advising sessions specifically for students of low self-efficacy.

Future researchers should note this experiment's results and its implications for differential sensitivity among variables; in this case, considering the sensitivity and effectiveness of targeting changes in body fat percentage. In future research on the effectiveness of health education and interactions of self-efficacy, focal attention should be given to the most sensitive variables (e.g., body fat percentage) and not the least sensitive (e.g., GSE or QoL). Alternatively,

when replicating this study, if quality of life were a primary target of change, measurement of body fat percentage change should be considered due to the significance of change observed in this study.

If this experiment is replicated, future researchers may benefit from altering some aspects of experiment design, including increasing oversight of AT meetings to ensure participant engagement. While results of the present experiment indicate statistically significant effects of individual HSE and group type on health behavior outcomes, future researchers may benefit from examining other constructs, such as participants' "other-efficacy" – one's belief in his or her partner's capability to perform certain behavior(s) (Lent & Lopez, 2002). While participants in this experiment were not made aware of their AT member's HSE, it is assumed they perceived it at some level. Previous research suggests that manipulated other-efficacy can positively impact task completion performance within cooperative relationships, and it appears not to interact with self-efficacy (Dunlop, Beatty, & Beauchamp, 2011). Additionally, researchers may wish to further examine the role of peer influence in the various stages of forming relationships.

As college faculty and staff become more aware of factors influencing student health outcomes, they can better address the complex needs of diverse student populations. Given the inherent developmental and social challenges faced by incoming freshmen, early successful adjustment to a healthy lifestyle is paramount to establishing lifelong patterns of health-promoting behaviors. System-wide integration of multiple health perspectives can benefit both students and the teams that serve them, and the present research may help college administrators develop new strategies to help support staff engage students who may lack confidence in their own ability to navigate complex academic, social, and health systems.

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Appendix A

General Self Efficacy Measure

Life Long Fitness Pretest Spr2015

Self-Efficacy

40. Please respond to each question below on the 1-4 scale provided

	Not True at all	Hardly true	Moderately true	Exactly true
If someone opposes me, I can find the means and ways to get what I want.	○	○	○	○
It is easy for me to stick to my aims an accomplish my goals.	○	○	○	○
I am confident that I could deal efficiently with unexpected events.	○	○	○	○
Thanks to my resourcefulness, I know how to handle unforeseen situations.	○	○	○	○
I can solve most problems if I invest the necessary effort.	○	○	○	○
I can remain calm when facing difficulties because I can rely on my coping abilities.	○	○	○	○
When I am confronted with a problem, I can usually find several solutions.	○	○	○	○
If I am in trouble, I can usually think of a solution.	○	○	○	○
I can usually handle whatever comes my way.	○	○	○	○

Prev Next

Appendix B

Health Behaviors Measure

17. How many servings of fruits and vegetables do you eat in a typical day?

18. How many 8-ounce glasses of water do you drink in a typical day?

19. How many minutes per week do you currently spend in moderate to vigorous physical activity?

20. How many times do you participate in moderate to vigorous physical activity in one week?

21. How many hours per week do you spend on Facebook?

22. How many hours have you slept in a typical night this week?

23. How many high caffeine drinks (e.g. coffee, espresso shots, energy drinks, etc.) do you consume in a typical day?

24. How many times in the last week have you eaten beyond the feeling of fullness?

Lifestyle Questions

33. Respond to each of the questions below on the 1-7 scale.

	Strongly Disagree	Disagree	weak disagreement	Neutral	weak agreement	Agree	Strongly Agree
My faith is very important to me	○	○	○	○	○	○	○
I have consistently made healthy food choices in the past month	○	○	○	○	○	○	○
My current nutrition will impact my health 10 years from now	○	○	○	○	○	○	○
The nutrition of a female college student impacts the health of the children she will have in the future	○	○	○	○	○	○	○
I consistently track or monitor my fitness activities	○	○	○	○	○	○	○
I consistently track or monitor my nutritional intake	○	○	○	○	○	○	○
The information I learned in Life Lon Fitness improved my nutritional choices	○	○	○	○	○	○	○
The information I learned in Life Lon Fitness improved my fitness activity choices	○	○	○	○	○	○	○
Overall, my General Health is very good	○	○	○	○	○	○	○
Overall, my Quality of Life is very good	○	○	○	○	○	○	○

Appendix C

Health Self-Efficacy Measure

Appendix C continues on the next page.

SELF RATED ABILITIES FOR HEALTH PRACTICES SCALE (SRAHP)

Scale and Scoring: The following scale asks whether you are able to perform various health practices within the context of your lifestyle and any disabilities you may have. This includes any assistance you have available to you, such as an attendant to help with stretching exercises, for example. Read each statement and use the following scale to indicate how well you are able to do each of the health practices, **not** how often you actually do it.

Self Rated Abilities for Health Practices Scale

0 = Not at all 1 = A little 2 = Somewhat 3 = Mostly 4 = Completely

	I AM ABLE TO:	
1.	Find healthy foods that are within my budget	1 2 3 4
2.	Eat a balanced diet	1 2 3 4
3.	Figure out how much I should weight to be healthy	1 2 3 4
4.	Brush my teeth regularly	1 2 3 4
5.	Tell which foods are high in fiber content	1 2 3 4
6.	Figure out from labels what foods are good for me	1 2 3 4
7.	Drink as much water as I need to drink every day	1 2 3 4
8.	Figure out things I can do to help me relax	1 2 3 4
9.	Keep myself from feeling lonely	1 2 3 4
10.	Do things that make me feel good about myself	1 2 3 4
11.	Avoid being bored	1 2 3 4
12.	Talk to friend and family about the thingsthat are bothering me	1 2 3 4
13.	Figure out how I respond to stress	1 2 3 4
14.	Change things in my life to reduce my stress	1 2 3 4
15.	Do exercises that are good for me	1 2 3 4
16.	Fit exercise into my regular routine	1 2 3 4
17.	Find ways to exercise that I enjoy	1 2 3 4
18.	Find accessible places for me to exercise in the community	1 2 3 4
19.	Know when to quit exercising	1 2 3 4
20.	Do stretching exercises	1 2 3 4
21.	Keep from getting hurt when I exercise	1 2 3 4
22.	Figure out where to get information on how to take care of my health	1 2 3 4
23.	Watch for negative changes in my body's condition (pressure sores, breathing problems)	1 2 3 4
24.	Recognize what symptoms should be reported to a doctor or nurse	1 2 3 4
25.	Use medication correctly.	1 2 3 4
26.	Find a doctor or nurse who gives me good advice about how to stay healthy	1 2 3 4
27.	Know my rights and stand up for myself effectively	1 2 3 4
28.	Get help from others when I need it	1 2 3 4

Appendix D

Curriculum Vitae

Brent D. Fisk

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EDUCATION

Present **Doctoral Candidate, Clinical Psychology (2018)** George Fox University – Newberg, OR
Dissertation: Examining the Relationship Between Self-Efficacy and Health Behaviors Among College Students

2015 **Master of Arts, Clinical Psychology** George Fox University – Newberg, OR

2007 **Master of Arts, Leadership Ed.** Mid-America Christian University – Oklahoma City, OK

SUPERVISED CLINICAL EXPERIENCE

8/2017 – Present **Behavioral Health Provider: Primary Care, Specialty, Hospital**
Pre-Doctoral Internship: George Fox University, Providence St. Joseph Health

Summary: Working in primary care, specialty care, and a general medical center providing inpatient/outpatient behavioral health services for interprofessional medical teams, patients, families. Leading program development and expansion of hospital/perioperative behavioral health consultation services and research initiatives. Supervised by Kristie Knows His Gun, Psy.D.; Jeri Turgesen, Psy.D.

Populations: Diverse population, all ages with various physical/mental health problems. Perioperative consultation with older adult and geriatric patients presenting with chronic synovial joint pain and pain-related psychological distress. Medical-surgical unit consultation for diverse populations with acute physical/mental health problems.

Responsibilities: Primary Care

- Consultation with multi-disciplinary teams: MD, PA, PharmD, RN, LCSW
- Provide evidence-based intervention for medical/mental health presentations
- Provide brief individual therapy within CBT, ACT, and interpersonal modalities
- Provide client/physician consultation for diagnosis, treatment, assessment
- Conduct comprehensive psychodiagnostic and neurocognitive assessments
- Lead patient support groups for health behaviors (e.g., diabetes, pain mgmt)

Responsibilities: Specialty, Perioperative, Hospital

- Consult with psychiatry, hospitalists, orthopedic, oncology, L&D, ENT, OT/PT
- Perioperative assessment: risk factors for joint replacement surgery and pain
- Cognitive-Behavioral intervention for chronic pain, pre/post-operative health
- Teach joint replacement class, emphasis on pre/post-op pain coping strategies
- Inpatient assessment for differential diagnosis, factors impacting engagement
- Assessment of behavioral functioning, capacity (cognitive impairment/ADL)
- Program evaluation and research of perioperative intervention and outcome

6/2015 – 7/2017 **Behavioral Health Provider: Orthopedics, Perioperative, Medical-Surgical, ICU**
Supplemental Practicum II & Pre-Internship: Providence Newberg Medical Center

Summary: Worked in a general medical center providing inpatient/outpatient behavioral health consultation for interprofessional medical teams, patients, and families. Perioperative program development led to expansion of BHI services and additional hospital-based consultation. Supervised by Jeri Turgesen, Psy.D.

Behavioral Health Provider: Primary Care
Practicum II: Providence Medical Group, Newberg and Sherwood, OR

Summary: Worked in integrated internal medicine, family, and pediatric primary care settings providing individual behavioral health consultation to patients and medical providers via warm handoffs, same day visits, curbside consults, and scheduled appointments. Supervised by Jeri Turgesen, Psy.D.

2/2015 – 6/2017 **Behavioral Health Crisis Consultant: Yamhill County, Oregon**
Supplemental: Providence Newberg Med Ctr, Willamette Valley Med Ctr

Summary: Worked in rural and suburban hospital emergency departments providing on-call risk assessment consultation to physician's regarding suicidal/homicidal behaviors, active psychosis, substance abuse, and competency. Diverse populations, all ages with wide range of presenting problems. Supervised by Mary Peterson, Ph.D.; Bill Buhrow, Psy.D.; Joel Gregor, Psy.D.

Responsibilities:

- Assess risk of self-harm, suicide/homicide, need for psychiatric hospitalization
- Facilitate psychiatric hospitalization or follow-up mental health care
- Interprofessional collaboration with physicians, police, community partners
- Patient/family consultation to identify supports and crisis stabilization plans
- Write comprehensive reports with care recommendations in medical chart

3/2016 – 5/2016 **Interim Behaviorist: Community Health**
Supplemental Practicum: Yamhill County Community Care Organization

Summary: Worked in a Coordinated Care Organization (CCO) providing behavioral health consultation and psychoeducation regarding persistent pain. Diverse adult population, low SES Oregon Health Plan members in Yamhill county presenting with chronic pain and opioid use. Supervised by Mary Peterson, Ph.D.; Jeri Turgesen, Psy.D.

Responsibilities:
- Lead 8-week "pain school" for CCO members referred by PCP's for pain mgmt
- Taught CBT pain conceptualization, pain theory, coping, communication skills
- Weekly assessment of risk, mood, pain intensity, and pain perception
- EMR charting and management

8/2014 – 5/2015 **Mental Health Counselor: Student Health**
Practicum I: George Fox University Health & Counseling Center

Summary: Worked in a university counseling center setting providing weekly individual counseling to undergraduate students with academic and psychosocial difficulties. Adolescent and young adult population presenting with anxiety, depression, stress, trauma, ADHD, and feeding/eating disorders. Supervised by Bill Buhrow, Psy.D.; Luann Foster, Psy.D.

Responsibilities:
- Provide solution-focused CBT, ACT and interpersonal therapy interventions
- Conduct intake interviews, develop treatment plans, write assessment reports
- Review sessions and treatment plans in individual and group supervision

8/2013 – 6/2014 **Graduate Intern: Career Services & Counseling**
Supplemental Practicum: George Fox University Idea Center

Summary: Worked in a university student services setting, providing career counseling, coaching, and guidance for undergraduate and graduate students. Young adult population presenting with depression and anxiety regarding academic and career goals. Supervised by Carlos Taloyo, Ph.D.; Bill Buhrow, Psy.D.; Jessica Modrell, M.A.

Responsibilities:
- Counseling/MI to facilitate discussion of personality and career interests
- Assisted students in developing/submitting employment application materials
- Coached individuals/groups in developing interpersonal and interview skills
- Researched majors, career paths, market data, industry trends, qualifications

RESEARCH EXPERIENCE

Dissertation

Fisk, B., M., Gathercoal, K. A., Peterson, M. A., & Buhrow, W. Improving College Students' Self-Efficacy and Health Behaviors: An Experimental Design

Presentations

Fisk, B., Adams-Shirley, M., Gathercoal, K. A., Peterson, M. A., & Buhrow, W. (August, 2016). Effects of Health Self-Efficacy and Observational Learning on Health Behaviors. A poster presented at the annual meeting of the American Psychological Association, Denver, CO.

Adams Shirley, M., **Fisk, B.,** Gathercoal, K., Peterson, B., Buhrow, B. (May, 2016). Health self-efficacy varies as a function of attachment styles. A Poster presented at the annual meeting of the Oregon Psychological Association, Portland, Oregon.

Peterson, M., Fisk, L., & **Fisk, B**. (October 2016). Integrated Care: Results for small practice implementation. A poster presented at the annual meeting of Collaborative Family Healthcare Association, Washington DC.

Positions

Research Assistant: George Fox University Nutrition Matters Initiative
Wellness education program funded by Bob and Charlene Moore Foundation

TEACHING EXPERIENCE

1/2013 – 5/2013

Instructor, Health Performance Ed: *George Fox University – Newberg, OR*

- **HHPE 364 – Psychosocial Intervention & Referral (3 cr.):** Examines the knowledge, skills, and values that the entry-level certified athletic trainer must possess to recognize, intervene, and refer to a recognized professional; the socio-cultural, mental, emotional, and physical behaviors of athletes.

6/2012 – 6/2014

Instructor, College Guidance: *Portland Community College – Portland, OR*

- **CG 111 – College Study Skills (3 cr.):** Provides information, techniques, and strategies helpful in becoming more efficient in studying, note-taking, textbook reading, and taking exams. Identify preferred learning style and develop skills in scheduling study time, library research, memory strategies, and critical thinking.

- **CG 100 – College Survival/Success (1 - 3 cr.):** Provides information and techniques for time, money, and self-management, including motivation, goal setting, and accepting personal responsibility for college success. Includes developing skills for navigating a culturally diverse learning environment and utilizing resources and services across a multi-campus system.

SUPERVISION EXPERIENCE

8/2017 – Present **Pre-Doctoral Internship, Practicum I & II Student Supervision**
- Provide weekly 1-hour supervision session with 2nd/3rd year graduate students
- Provide additional supervision needed for patient crises and ethical concerns
- Receiving weekly supervision to guide oversight of training experience.

9/2016 – 6/2017 **Pre-intern, Practicum I Student Oversite**
- Provide weekly oversight to Practicum I student
- Paired with weekly academic course in supervision

PROFESSIONAL TRAININGS

8/2016 **Cognitive Behavioral Therapy in Integrated Care: Toward a Holistic CBT**
APA Convention, Denver, CO
Arthur Nezu, Ph. D.; Richard J. Seime, Ph.D.

3/2016 **Evolution of the Science of Pain: Gate Theory, Central Sensitization Syndrome**
Southern Oregon Pain Conference, Medford, Oregon
Andrew Kolodny, M.D.

ACT & Behavioral Medicine for Chronic Pain
Southern Oregon Pain Conference, Medford, Oregon
Kevin Vowles, Ph.D.

3/2016 **Managing with Diverse Clients**
George Fox University, Newberg, Oregon
Sandra Jenkins, Ph.D.

10/2015 **The ACE Study: Linking Childhood Trauma to Health & Social Consequences**
Collaborative Family Healthcare Association Annual Conference
Vincent J. Felitti, M.D.

Integrated & Collaborative Care Practices for Teaching Pain Mgmt Treatment
Collaborative Family Healthcare Association Annual Conference
Emilee J. Delbridge, Dan S. Felis, Derrick Hasenour, Ankush Goyal

10/2014 **Economics, Delivery System Reform, and Behavioral Health Integration**
Collaborative Family Healthcare Association Annual Conference
Richard G. Frank, Ph.D., Assistant Secretary for Planning/Evaluation, USDHHS

Mental Health Promotion and Prevention in Primary Care
Collaborative Family Healthcare Association Annual Conference
William R. Beardslee, M.D.

Transforming Primary Care Practices in Pursuit of the Triple Aim
Collaborative Family Healthcare Association Conference
Marci Nielsen, Ph.D., MPH

3/2014 **Evidence-Based Treatments for PTSD in Veteran Populations**
George Fox University, Newberg, Oregon
David Beil-Adaskin, Psy.D.

2/2014 **Acceptance & Commitment Therapy (ACT) Bootcamp**
Praxis Continuing Education, Reno, NV
Steven Hayes, Ph.D.

11/2013 **African American History, Culture and Additions and Mental Health**
George Fox University, Newberg, Oregon
Danette C. Haynes, LCSW; Marcus Sharpe, Psy.D.

9/2013 **Primary Care Behavioral Health**
George Fox University, Newberg, Oregon
Brian E. Sandoval, Psy.D.; Juliette Cutts, Psy.D.

PROFESSIONAL EXPERIENCE

2003 – 2006 **Promotions/Creative Services Manager:** *Nexstar Media Group – Shreveport, LA*
Recruited to manage promotions and commercial production for six television stations across Louisiana, Texas and Arkansas.

2006 – 2008 **Affiliate Marketing Manager:** *FOX Entertainment Television – Los Angeles, CA*
Recruited to develop national marketing campaigns and collaborative relationships with FOX TV affiliates, media partners, and vendors.

2008 – 2010 **Marketing Manager:** *Southern California Public Radio – Los Angeles, CA*
Recruited to lead SCPR's 1st Marketing department and develop broadcast and online brand. Position yielded invaluable experience, deepening understanding of media as public service.

2011 **Employment Development:** *Easter Seals Disability Services – Portland, OR*
Grant-funded. Recruited for program/business development, community outreach and client skills training. Served adults with disabilities and local employers.

2011 – 2017 **Academic Advisor:** *Portland Community College: – Portland, OR*