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Current literature suggests that physical educators play a critical role in creating a classroom environment that intrinsically motivates learners to be physically active. According to Self-Determination Theory (SDT), this can be achieved through meeting learners' basic psychological needs (BPNs; i.e., autonomy, competency, and relatedness). As these needs are met, it is more likely learners will intrinsically regulate their desire to be physically active. SDT psychological needs, constructs, associated pedagogical practices, and their relations to motivational regulations have been studied extensively in primary and secondary physical education (PE) settings. However, minimal research has been conducted to analyze these relationships in university settings. Therefore, the purpose of this study was to describe university basic instruction program (BIP) instructors' planning and teaching practices associated with student BPNs in their lessons. Specifically, the research questions were (a) What are university students' perceptions of autonomy, competency, and relatedness at the beginning and end of a BIP course and (b) What teaching practices appear to facilitate BPNs for these university students?

This study utilized a mixed methods design to describe students' BPNs and motivational regulations (e.g., amotivation, extrinsic, and intrinsic motivation) as they participated in two BIP courses. Participants for this research were two BIP instructors and their students in a conditioning and beginning swimming course, respectively, taught during a summer session at a major university in the Southeastern United States.

Motivational regulations were assessed using a modified version of the Perceived Locus of Causality Scale and BPNs using a modified Basic Psychological Needs Scale. Additionally, teaching strategies consistent with enhancing self-determined motivation were examined using field observation and instructor and student interviews. Quantitative data were analyzed using means and standard deviations and qualitative data using inductive analysis and constant comparison. Qualitative data analysis revealed several themes surrounding student BPNs: these included integrating BPNs, linking self-determined motivation and constructivism, intentional interaction, and the desire to be valued. Instructional implications and future researcher recommendations were detailed.

FACILITATING SELF-DETERMINED MOTIVATION IN UNIVERSITY BASIC INSTRUCTION STUDENTS

by

Mary Elizabeth Stoffa

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Approved by

_____
Committee Chair

APPROVAL PAGE

This thesis written by Mary Elizabeth Stoffa has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

Committee Chair_____
Catherine D. Ennis

Committee Members_____
Ang Chen

_____
Jennifer Etnier

_____
Date of Acceptance by Committee

_____
Date of Final Oral Examination

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CHAPTER I

INTRODUCTION

Obesity and its related health consequences are a serious concern across the American population. According to Ogden and colleagues (2014), more than a third of adults and about 17% of adolescents in the United States are considered obese. While it is encouraging that these numbers have not significantly increased between 2003 and 2010, they have not decreased either. It is widely known that obesity is associated with a number of serious health consequences including type two diabetes, hypertension, stroke, and heart disease. One of many strategies to circumvent obesity is regular physical activity (PA).

Beginning in childhood, an outlet that can inform students of appropriate PA practices and motivate them to be lifelong participants is structured physical education (PE). Sollerhed and Ejlertsson (2008) found that expanding a PE program increased children's physical capacity and prevented excessive weight gain among healthy and obese students. While structured PE is common among K-12 schools, requirements at the university level are not as prevalent. PE courses at the university level are part of what is referred to as basic instruction programs (BIPs). Cardinal et al. (2012) reported that PE requirements at the college/university level have dramatically decreased from about 97% in the 1930s to about 40% in 2010. University BIPs are unique because the courses they offer are likely an undergraduate student's final opportunity for structured PE.

Structured PE is critical for undergraduate students specifically because those who are not regular PA participants likely need structured PE the most from a motivational and competency standpoint (Sibley et al., 2013). Additionally, unmotivated PA participants will ideally increase their intrinsic motivation towards PA as a result of BIPs because students are more likely engaged in purposeful and appropriate practices. It is critical that the university population is reached so that students who are not regular PA participants will internally value PA and be physically literate as they enter into adulthood (Haerens et al., 2010). BIPs can potentially provide these services to the university population (Mellinger & Cheek, 2014).

Theoretical Framework

The theoretical framework used in this study was self-determination theory (SDT). SDT postulates that a learner possesses three basic psychological needs (i.e., autonomy, competency, and relatedness) (Deci & Ryan, 1985). When each of these needs is met, a learner will likely transition to a more intrinsically-oriented state from an extrinsically-oriented state (Perlman, 2011). As it relates to PE and BIP courses, it is critical that BIP instructors meet students' basic psychological needs (BPNs) so that they will be more likely to internally value PA (Perlman, 2011). SDT is a commonly-used and largely supported framework across both the PE and sport and exercise psychology literature.

Supporting Research

Little is known about university students and their motivation however PE's motivational effects toward PA have been studied extensively in K-12 populations. For

instance, Perlman (2013) assessed the effects of a highly autonomous PE learning environment versus a controlling PE learning environment on secondary students' motivational regulations, affect, and overall enjoyment. Perlman found that overall self-determination index scores significantly improved from pre- to post-assessment among the autonomy supportive group compared to the controlling group. This study is significant because it supports autonomy's effects on learner motivation in the secondary setting, a population that in some ways is similar to university students. These findings are consistent across the literature in that an autonomy-supportive learning environment is conducive to facilitating SDM.

Additionally, it is essential to understand learner motivation's effects on PA levels within PE. For example, Lonsdale and colleagues (2009) assessed relationships between high and low intrinsic motivation and PA levels in structured versus unstructured PE. The researchers found that overall PA levels were higher for the high motivation group compared to the low motivation group. Thus, the literature supports positive relationships between higher motivation levels and PA levels in PE when unsupervised, however these findings have only been examined in the K-12 population. These findings are critical in that students who were more self-determined exhibited higher PA levels voluntarily compared to low self-determined students. It would then be beneficial to assess these claims in university level BIP courses.

Specifically targeting university students and BPNs, Wang (2014)'s study is one of the only studies that assesses the effects of a motivational construct (i.e., competency) on leisure-time physical activity (LTPA) preferences among university students.

Particularly, the purpose of his study was to determine the relationship between PA, perceived competence, and LTPA preferences. Wang found that compared to a variety of activities (i.e., basketball, golf, and tennis), perceived competence scores in bicycling, swimming, and weight training were the highest. The results indicated positive correlates between competency and preferred PA opportunities. The significance of this study is that it partially supports a motivational construct's relationship with increased PA preferences among university students. However, it does not support a BIP course's direct effects in supporting BPNs or influencing learner motivation toward PA. More research is needed to describe students' motivation within university BIPs and teaching practices in BIPs that support BPNs and SDM.

Purpose and Research Questions

The purpose of this study was to describe university BIP instructors' planning and teaching practices associated with student-perceived BPNs in their lessons. Specifically, the research questions were (a) What are university students' perceptions of autonomy, competency, and relatedness at the beginning and end of a BIP course and (b) What teaching practices appear to cultivate BPNs for these university students?

Significance

This study is significant because it contributes to the literature surrounding SDM and the university PE population. It may contribute to our understanding of theoretically-grounded motivational constructs related to university PE and BIP's role in fostering student SDM towards PA. It may also provide insight into BIP-related pedagogical practices that can contribute to increasing university students' SDM.

Empirically, little is known about university BIP courses' effects on student SDM. Although Wang (2014)'s work detailed the SDM's competency construct associated with LTPA preferences in university's student populations, more research is needed to assess other motivational implications. Specifically, this study will contribute empirical research to better understand BIP's role in student SDM toward PA. Additionally, this research will assess all SDM constructs (i.e., autonomy, competency, and relatedness) as they relate to university students' internal motivation toward PA.

Further, this study will describe pedagogical methods that may contribute to increasing learner SDM among the university BIP population. Prior studies provide a great deal of research concerning pedagogical methods for increasing learner SDM. However, this body of research was conducted in the general K-12 classroom (Reeve et al., 2004) and PE environment (Cheon et al., 2012; Perlman & Webster, 2011; Tessier et al., 2008), not university BIPs. More research is needed to understand pedagogical methods for increasing SDM among the university population specifically.

Lastly, this study will incorporate a qualitative mixed methods design to gain a deeper understanding of pedagogical practices that may impact SDM among university students. In prior research, studies have implemented quantitative measures without taking into consideration the in-depth perspectives of teacher and student participants. Patton (2015) claimed that combining qualitative and quantitative data addresses both fixed choice and open-ended questions, which will aid in a richer understanding of participant perspectives. The utilization of qualitative methodologies (e.g., interviews) in conjunction with quantitative questionnaires is helpful in gaining a deep understanding of

student BPN perceptions. Similarly, instructor interviews and field observation are helpful in describing BPN-supportive teaching strategies and gaining an understanding of the rationale behind these strategies.

Limitations

There are three primary limitations to this study. These are the department-mandated BIP requirement for all kinesiology majors, the variety of course types represented in the sample, and the courses' duration.

Within the university's kinesiology department, all undergraduate students are required to complete a minimum of six activity courses: one aquatics, one conditioning, and one weight training course and three other activity courses of their choosing (e.g., basketball, tennis, soccer). Students in other majors across campus complete them as electives. This can potentially affect the students' motivation for participation in BIP courses. It is possible that some kinesiology students are only participating in these courses because they are required, not because they are motivated. Because of the large population of kinesiology students and the relatively limited availability of BIP courses, it is likely that most students in BIPs are kinesiology students.

Further, the variety of courses represented in the university's summer course offerings selected for the study's sample is diminutive (i.e., one conditioning and one beginning swimming course). This can potentially affect the applicability of the findings to other activities in a BIP. Additionally, a similar characteristic of both courses is they are typically individual activities. Teaching strategies and course curricula could differ for individual activities compared to sport-related activities such as basketball.

Lastly, another potential limitation of this study is the courses' duration. The courses selected for this study were offered over a summer session, not a regular fall or spring semester. Each course met four times a week for five weeks. Because of the courses' accelerated meeting times, the number of class periods (n=20) to collect observation data was limited in comparison to a full, 16-week semester (n=32). This potentially affected the study's results because I was not able to describe the instructors' teaching in as much detail and the data may not have been fully saturated (Patton, 2015).

Definition of Terms

***Amotivation*:** An absence of extrinsic or intrinsic motivation. Learners do not value an activity or believe they cannot attain desirable outcomes (Ntoumanis, 2002).

***Autonomy*:** The degree to which an individual perceives him/herself as source of behavior and as being responsible for the initiation of the behavior (Deci & Ryan, 2002).

***BIP*:** A college or university-affiliated program that offers a series of courses (typically one semester credit hour) in the area of PE. These courses are designed to improve a student's overall well-being by providing them with skill- and fitness-related activity opportunities (Sage, 1984).

***Basic Psychological Needs*:** Three human needs, consisting of autonomy, competency, and relatedness, which encompass SDM (Deci & Ryan, 1985).

***Competency*:** One's perception that he or she is a proficient performer when engaging in activities (Deci & Ryan, 1985).

***Contextual Motivation*:** The degree of motivation while engaging in a particular context (e.g., physical education) (Vallerand, 1997).

***Cooperative Learning Model*:** A PE instructional model that emphasizes an inclusive and comprehensive approach to learning that positions teachers and students as co-learners (Dyson & Casey, 2012).

***Ego-Goal Orientation*:** An achievement goal theory construct used to explain student motivational responses to learning (e.g., enjoyment and effort). Students with an ego goal orientation typically choose to demonstrate their ability to perform easy tasks while avoiding difficult tasks to demonstrate superiority over peers. They attribute success or failure to normative ability (Wallhead & Ntoumanis, 2004).

***External Regulation*:** Engaging in an activity only to avoid punishment or attain a reward (e.g., good grades) (Sas-Nowosielski, 2008).

***Global Motivation*:** A learner's general motivational orientation toward an environment (Blanchard et al., 2007).

***Identified Regulation*:** The voluntary undertaking of an activity by an individual identifying with the values of the activity to the extent that it becomes autonomous (e.g., health, fitness, or a desired body shape) (Sas-Nowosielski, 2008).

***Instructional Strategies*:** A variety of methods used in teaching to engage students with course material and facilitate mastery of learning objectives.

***Intrinsic Motivation*:** Reflects a learner's desire to engage in an activity to learn new things, experience fun, or develop competencies. One performs an activity out of pure enjoyment (Ntoumanis, 2002).

***Introjected Regulation*:** Engaging in an activity solely to avoid feelings of guilt, remorse, or shame, or to please a person in authority (e.g., a teacher) (Sas-Nowosielski, 2008, p. 135).

***Leisure-Time Physical Activity*:** Voluntary participation in light, moderate, or vigorous PA for enjoyment purposes.

***Physical Activity*:** Any body movement produced by skeletal muscles that requires more energy than resting (National Heart, Lung, and Blood Institute, 2015).

***PE*:** A core subject in K-12 academics designed to promote physical activity that will improve health-related fitness, sport-related skill, promote movement skills that add to the enjoyment in physical activity, and encourage positive socialization (Sallis et al., 1999).

***Relatedness*:** The extent to which an individual feels connected to others or perceives a sense of belonging to a particular environment (Deci et al., 2001).

***Self-Determination Theory*:** A human motivation theory focusing on the nurturing of basic psychological needs (i.e., autonomy, competency, and relatedness) for the self-development of internal motivation (Ryan & Deci, 2000).

***Situational Motivation*:** Motivation that a learner experiences related to a specific task (Vallerand, 1997).

***Sport Education Model*:** An instructional model developed by Daryl Siedentop in 1984 for PE programs. The model simulates an athletic season while providing students with authentic sport experiences. The goals of the model are for students to become more competent, enthusiastic, and literate players (Siedentop, 1994).

***Task Goal Orientation*:** An achievement goal theory construct used to explain motivation responses to learning. A learner with a task goal orientation aims to master a task and develop competency that is void of competition and comparison to others (Wallhead & Ntoumanis, 2004).

CHAPTER II

REVIEW OF LITERATURE

In this chapter, I will provide a review of current literature regarding secondary physical education (PE) and university basic instruction programs (BIPs), their impact on students' self-determined motivation (SDM), and these effects on students' intentions for future physical activity (PA) participation. I will conceptualize the study's theoretical framework, self-determination theory (SDT), elucidating motivational reasoning for participation in PA. I will define the behavioral regulations along the self-determination continuum (i.e., amotivation, external regulation, introjected regulation, identified regulation, and intrinsic motivation), the three basic psychological needs (BPNs) that comprise SDT (i.e., autonomy, competency, and relatedness), and Vallerand's (1997) hierarchy of generality (i.e., global, contextual, and situational motivation). I will follow this section by reviewing instruments measuring SDT constructs in PE, relationships between SDT and in-class PA levels, and future PA intentions as a result of PE interventions at the secondary and university levels. I will conclude with a review of pedagogical best practices found to enhance motivation to participate in PA and an analysis of validity and reliability of selected SDM instruments.

Self-Determination Theory

SDT is a key psychological theory of motivation used to explain learners' motivation to engage in educational tasks and participate in PA. Developed by Deci

and Ryan (1985), SDT postulates a continuum in which one is developed from an externally-regulated and sustained motivational state to an intrinsically motivated state. Initially developed in general psychology as a theory to explain behavior (Deci & Ryan, 1985), SDT was examined and utilized successfully in education to study learners' motivational initiatives (Sas-Nowosielski, 2008) and has been more recently studied by PE scholars.

Motivational Regulations

According to Perlman (2011), motivation can be classified into three primary categories: amotivation, extrinsic, and intrinsic motivation (see Table 1). Amotivation is the lowest form of SDM and refers to the absence of desire to obtain specific outcomes (Ntoumanis, 2002). Extrinsic motivation refers to the completion of activities due to external factors (Perlman, 2011). Intrinsic motivation is the highest level of SDM and refers to the internal value of completing activities (Ntoumanis, 2002). There are four types of regulations associated with extrinsic motivation: external, introjected, identified, and integrated regulation (Jaakkola et al., 2012). Self-determination theorists postulate that as the BPNs for autonomy, competency, and relatedness are met, learners' intrinsic motivation to participate in activities gradually increases (Sun & Chen, 2010). Therefore, a learner who is more internally regulated is more self-determined.

Table 1

Self-Determination Table

Amotivation	Extrinsic Motivation				Intrinsic Motivation
Non-Regulation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Regulation
Non Self-Determined					Self-Determined

Modified from Perlman, 2011

Basic Psychological Needs

Educators ideally progress a learner towards internalization and intrinsic motivation by cultivating three BPNs: autonomy, competency, and relatedness. According to SDT, these needs are critical for ongoing psychological integrity, well-being, and growth (Deci & Ryan, 1985). Autonomy is defined as the degree to which learners regard themselves as initiators of behavior and assume responsibility for their learning (Deci & Ryan, 2002). Competency refers to a learner's proficiency in activities. Deci and Ryan (1985) suggested the more competent individuals perceive themselves to be, the more intrinsically motivated they will be to participate in an activity. Lastly, relatedness refers to students' perceptions of connectedness and belonging in the learning community or environment (Deci et al., 2001).

Hierarchy of Generality

Vallerand (1997) argued that motivation exists within a hierarchy related to three levels of generality. This top down approach exists at a global, contextual, and situational level. Motivation at the global level refers to learners' general motivational orientation

toward the environment (Blanchard et al., 2007). The second level of generality is contextual motivation defined as motivation toward a particular life setting or situation (e.g., PE), while situational motivation is defined as learner motivation related to a specific task (e.g., dribbling task in PE).

Measures of SDT Constructs in PE

Although SDM has not been studied extensively within the university context, it has been studied comprehensively in K-12 PE. In the following section, I will review the relationships between increased teacher BPN support (autonomy, competency, and relatedness) and intrinsically-regulated learner motivation at the situational and contextual levels. In current literature, autonomy is most commonly assessed within this relationship.

Autonomy

Research has shown that autonomy can positively affect SDM in the PE context. For example, Prusak and colleagues (2004) investigated the effects of autonomy on motivation in the PE setting as well as the repetitive motivational effects from the situational to the contextual level. Participants included 1,110 female 7th and 8th grade students. Forty-two intact classes from five junior high schools were randomly assigned to choice classes (n=21) or no-choice classes (n=21). All classes completed identical walking activities across the intervention, however only the choice groups were permitted to choose which day they completed certain activities and with which classmate(s). The researchers hypothesized that students in the choice condition would experience levels of higher situational self-determination than those in the no-choice condition. Additionally,

recursive effects in the experimental condition would be apparent in increased contextual SDM as a result of increased student autonomy. The researchers measured intrinsic motivation, extrinsic motivation, and amotivation at the contextual level in a pre-/post-test design. Additionally, they assessed situational intrinsic motivation every three days during the intervention. Both hypotheses were moderately supported. The researchers discovered significant differences in situational motivation among students in the choice classes with these students demonstrating higher identified regulation levels and lesser amounts of external control and amotivation compared to students in the control condition. The authors also noted small differences in contextual motivation, indicating PE students transitioned away from amotivation toward intrinsic motivation. Thus, they suggested that when teachers provide students with autonomous choice in selecting learning activities, students are more likely to be motivated to participate.

Teacher autonomy support has been shown to be associated with various outcomes in the PE context. For instance, Shen and his colleagues (2009) examined the effects of student autonomous motivation and perceptions of teacher autonomy support on learning in PE, changes in BPN levels, and cardiorespiratory fitness. The researchers assessed 253 adolescents ages 14 to 16 in three Midwestern middle schools. They measured student perceptions of teacher autonomy support (i.e., choice and rationale for PE), motivational regulations (i.e., self-determination index (SDI)), changes in perceived competence and relatedness, learning achievement (i.e., personal conditioning unit knowledge test), and cardiorespiratory fitness. The researchers found that teacher autonomy support was positively associated with changes in student competency and

relatedness and resulted in learning achievement on the knowledge tests. However, the effects of teacher autonomy support on cardiorespiratory fitness were not significant. Findings from the study suggest that autonomy-supported learning environments in PE may enhance learning and increases in BPNs.

In addition to SDM, autonomy-support can improve student affect. For example, Perlman (2013) compared the effects of a highly autonomous and a highly controlling learning environment on the affect and motivation of 79, 9th grade students. Perlman randomly assigned two intact PE classes to each learning context (i.e., controlling or autonomous) where they participated in a 16-lesson unit of basketball. The researcher assessed BPN support, motivational regulations (i.e., SDI), affect, and overall enjoyment using questionnaires in a pre-/post-test fashion. Perlman found that mean student SDI scores significantly improved from pre- to post-test in the autonomy-supportive group (+1.49) while the controlling group's mean SDI decreased (-0.68). Additionally, mean overall enjoyment levels moderately increased among the autonomy-supportive group pre- to post-test (0.80) while the controlling group's mean SDI score increased by 0.30. BPN support variables did not improve among the autonomy-supportive groups. However, each mean BPN score decreased in the controlling-group with the exception of relatedness (+0.06). Findings from the research imply that autonomy-supportive learning environments can positively alter students' motivation and enjoyment in the PE context.

Similarly, varying levels of autonomy support can affect student perceptions of a range of outcomes in and outside the PE setting. For instance, Chatzisarantis and Hagger (2009) examined the effectiveness of two interventions (i.e., high or low autonomy

support) in changing student perceptions of motivational orientations, autonomy support, PA intentions, and self-reported PA participation. The researchers hypothesized that teachers who provide more autonomy support will facilitate student perceptions of an autonomous motivational climate and autonomy support compared to teachers who provide less autonomy support. Participants included 215 British students enrolled in 10 schools (M = 14.84 years, SD= 0.48). The researchers randomly assigned students to either an autonomy-supportive condition in which the teachers provided rationale, feedback, and considered difficulties related to PE, or to a less autonomy-supportive condition in which the teachers provided feedback and rationale only. Chatzisarantis and Hagger measured perceived teacher autonomy support, motivational regulations, relative autonomy indexes (i.e., designated the level of student autonomous motivational environment perceptions), and intentions to participate in future PA. The researchers indicated that students taught by autonomy-supportive teachers self-reported a stronger intention to participate in leisure-time exercise and actually participated more often in LTPA in comparison to the control group. Thus, findings from this study support positive relationships between teacher-supported autonomy in PE contexts and LTPA behavior.

Competency

Research has shown that improved student competency levels can positively affect PA participation in and outside of PE. For instance, Taylor et al. (2010) examined the effects of SDT constructs on mean changes in student effort in PE and two non-PE-based outcomes (i.e., reported LTPA and future LTPA intentions). The researchers hypothesized that the three outcome variables would be positively predicted by BPNs and

intrinsic forms of motivation and negatively predicted by external forms of motivation and amotivation. Additionally, the researchers predicted that between-student levels of BPNs and motivational regulations would predict changes in the three outcome variables. Participants included 178 students ages 11 to 16 (69%=male) at one rural southeast British school. Taylor and colleagues measured BPN satisfaction, motivational regulations, effort, future LTPA intentions, and LTPA. For all measures, students completed each questionnaire at the beginning, middle, and end of a trimester. The researchers found that students' motivational regulations (i.e., intrinsic motivation and identified regulation) and perceived competence were consistent indicators of effort, future LTPA intentions, and LTPA. The authors noted implications for the PE classroom, suggesting that interventions that target change in PE students' activity behavior and cognition should concentrate primarily on competency. According to this research, if students perceive themselves to be competent, they will be more motivated to participate in activity outside of PE.

From this examination of SDM, autonomy-support appears to have positive effects on a number of motivational outcomes. Specifically related to autonomy, 'choice' and 'provided rationale' positively affect PE enjoyment at the situational and contextual levels, affect, effort, and need for competence. Additionally, competency perceptions may affect motives to participate in PA outside of PE.

SDM and Physical Activity Levels

Student Perceptions of Usefulness

Researchers have examined the relationship between SDM and student perceptions of PE usefulness at the contextual level. For example, Murcia, Coll, and Perez (2009) analyzed the relationship between SDM levels of 440 urban Spanish students (ages 14 to 16) and their perception of PE usefulness (i.e., importance). They hypothesized that higher levels of SDM would positively relate to students' ability to recognize the importance of PE. They additionally hypothesized that BPNs would help support this relationship. The researchers measured the relationship of contextual SDM and PE importance (PEI) mediated by BPNs. The researchers found that PEI was significantly and positively correlated with SDM. Namely, fulfilling each BPN, intrinsic motivation, and extrinsic motivation were positively correlated with PEI. A strong correlation was found between higher levels of intrinsic motivation, identified regulation, and introjected regulation, while amotivation was negatively related to PEI. The authors concluded that students perceive PE usefulness when teachers satisfy their psychological needs, ultimately supporting SDM.

Effort and Physical Activity Levels

Additionally, researchers have investigated the relationship between motivational regulation levels and effort and PA levels (i.e., step counts, METs, and MVPA) within and outside of PE. For instance, Mayorga-Vega and Viciana (2014) used SDM profiles to evaluate differences in 102 Spanish high school students' (ages 11 - 16) perceived effort and activity levels in PE, recess, and extracurricular organized sport. The researchers

hypothesized that higher self-determined students would report greater levels of perceived effort and PA in every context. The researchers assessed motivational regulations (i.e., intrinsic motivation to know, accomplish, and experience stimulation), PA levels, anthropometrics (i.e., body mass index and height), and perceived effort in each activity context. Cluster analyses revealed two motivational profiles: moderate and high motivation toward PE profile. As predicted, students in the high motivation toward PE profile exhibited higher PA levels and perceived effort in each context with the exception of MET's and MVPA in extra-curricular-sport. Findings from this study further support the positive associations of a self-determined motivational state for higher PA levels within PE and LTPA.

Lonsdale and colleagues (2009) further suggested that learners with higher SDM levels are more active when unsupervised in PE compared to learners with lower SDM levels. They examined student relationships between SDM and PA behavior in two conditions: free-choice and structured PE. They expected that highly self-determined students would exhibit greater PA levels across both conditions compared to students with lower levels of self-determination. Likewise, they hypothesized that an interaction effect would occur. Specifically, they argued that the PA magnitude differences between low and high self-determined students would be greater in the free-choice condition compared to the structured lesson. The researchers assessed 528 Chinese students in four, grade 10-equivalent PE classes across Hong Kong. They collected data during one class period in which 20 minutes was devoted to a structured basketball shooting lesson and 20 minutes to an optional, free-choice period. They measured motivational regulations (i.e.,

SDIs) and PA levels (i.e., step frequencies). ANOVAs revealed support for both hypotheses. Overall step frequencies were significantly higher for the high motivation group (*M*=61.53, SD= 18.16) than the low motivation group (*M*=51.15, SD=18.88). Additionally, mean differences between high and low SDT groups' steps were small in the structured basketball lesson (6.51) compared to the free choice condition (14.52). Therefore, students who were more self-determined exhibited higher PA levels voluntarily when unsupervised (free choice condition) compared to students with low SDM, further supporting the SDM/activity levels relationship.

BPNs

Specifically focusing on relationships between BPN constructs and SDM and PA levels, Sas-Nowosielski (2008) investigated whether perceived BPNs were associated with motivational regulations in SDT. Additionally, the author examined the relationship between these regulations and student intentions to engage fully in PE and their relationship with boredom. Sas-Nowosielski hypothesized that BPNs are positively associated with SDT motivational regulations and negatively associated with extrinsic motivation. Secondly, the researcher hypothesized that increases in a learner's self-determined regulations are associated with stronger intentions to actively engage in PE and levels of boredom. Sas-Nowosielski sampled 293 Polish middle school students, measuring their motivational regulations, BPNs, and consequences (intentions to actively engage in PE and boredom levels). Analyses indicated that competency and relatedness were the only significant psychological predictors of behavioral regulations. Perceived competence served as the strongest predictor of intrinsic motivation (positive) and

amotivation (negative). Further, intrinsic motivation negatively predicted boredom while amotivation positively predicted boredom. Additionally, PE activity participation intentions were positively predicted by intrinsic motivation and negatively predicted by amotivation. Therefore, this research shows that learners' intrinsic motivation is associated with reducing boredom in class while increasing their intentions for PA participation.

Similarly, researchers have found that perceived competency can affect preferences for LTPA among university students. For example, Wang (2014) examined relationships among college students' PA levels, perceptions of competence in lifelong activity, and their preferences for lifelong activity. This is one of only a few studies examining the efficacy of an SDT construct (i.e., competency) on lifelong activity in the university/college setting. The researcher sampled 152 university students, measuring their current PA levels (outside of PE), perceived competence in lifelong activity, and lifelong PA preferences. Wang reported that perceived competence in cycling was highest followed by weight lifting and swimming. Preferences for lifelong activity also included (in order) cycling, swimming, and weight lifting. Correlations showed that PA was significantly related to perceived competence in weight lifting. Finally, perceived competences were significantly associated with preferences for lifelong activities. Correlation values ranged from .44 to .67 for each activity assessed in the study (i.e., weight lifting, swimming, biking, tennis, golf, and basketball). Researchers suggested that perceived motor competencies account heavily for preference for lifelong activities, and thus, teachers should cultivate skillfulness in the classroom.

Social Context

Researchers have shown that particular social contexts can affect PA levels in the classroom. Particularly, Perlman (2013) examined the impact of social context on students' in-class PA. The researcher randomly assigned 84, 11th and 12th grade students to either an autonomy-supportive, controlling, or balanced group. She measured perceived autonomy (i.e., composite scores), motivational regulations, and teacher instruction (i.e., autonomy-support, control, or neutral contexts) via pre-/post-tests. Perlman found significant differences for the autonomy-supportive group compared to the controlling and balanced groups. At the post-test, students in the autonomy-supportive group exhibited higher levels of MVPA, perceptions of autonomy-support, and motivation compared to the controlling and neutral groups. This suggests that autonomy can contribute to higher PA levels in the PE context.

Examining determinants of motivation for PA based on classroom environments, Ntoumanis (2002) studied clusters of two PE classes in the UK. The researcher hypothesized that a self-determined profile and a controlling/amotivation profile would emerge. Participants included 428 students aged 14-16. He assessed two aspects of motivational climate (performance and mastery climates), motivational regulations, and consequences (i.e., effort, enjoyment, and boredom). Cluster analyses revealed three motivational profiles presented in Table 2. The profiles and characteristics were consistent across both schools. Findings from this research highlighted the significance of fostering students' self-determination in PE as it is associated with producing desirable outcomes both behaviorally (effort) and affectively (enjoyment).

Table 2

Motivational Profiles and Characteristics Represented in Ntoumanis (2002)

Motivational Profile	**Characteristics**
High Self-Determined	High levels of SDM, cooperative learning, effort, and enjoyment. Low levels of controlling motivation, unequal recognition, amotivation, and boredom.
Moderate	Moderate levels of each variable.
Controlling Motivation	High levels of controlling motivation, boredom, amotivation, and unequal recognition. Low SDM, enjoyment, and effort.

Situational and Contextual Motivation

Assessing SDM at the situational and contextual levels can offer further insight into PA participation in PE. For example, Owen and colleagues (2013) examined observed variations in MVPA levels (i.e., leisure-time MVPA and PE MVPA) among 61, 9th grade adolescent males. Owen et al. examined to what degree these levels were attributed to individual- or class-level motivation (i.e., contextual motivation). The researchers hypothesized that individual levels of SDM would account for LT MVPA while class-level SDM would account for PE MVPA (p.420-421). The researchers measured MVPA levels within the class context and motivational regulations toward PE and LTPA. Results moderately supported both hypotheses. SDM related to the PE context, moderately predicting levels of MVPA during PE lessons (R^2=.31), while LTPA positively related to MVPA during LT (R^2=.08). Findings suggest that MVPA levels within the PE context can be affected at the contextual level, however it is unclear, according to this research, if or how this level of motivation transfers to the LT context.

Similarly, Jaakkola and colleagues (2008) examined the relationship between PA intensity (i.e. heart rate) and situational and contextual levels of motivation. The authors hypothesized that higher PA levels would be positively associated with students' perceptions of situational and contextual motivation. Further, they predicted student SDM perceptions at the situational level would be responsible for higher variances in their PA intensity levels when compared with student contextual SDM. The researchers measured heart rates and motivational regulations at the situational and contextual levels among 139 Finnish, 9th grade students in nine schools. Intensity of exercise was divided into four groups: heavy (>160 bpm), vigorous (140-160 bpm), moderate (120-140 bpm), and light (<120 bpm). Data were collected during a single, one-hour class. The researchers found that situational SDM negatively predicted light and moderate exercise more so than contextual SDM. Additionally, variations in contextual or situational motivation did not positively explain heavy exercise. Finally, high situational self-determined levels were responsible for significant variances in overall average heart rates. Therefore, the researchers concluded that motivation at the situational level was related to heart rate intensity more so than contextual motivation, raising questions about the PE class' effects on improving motivational levels. Further research is needed to clarify and confirm these relationships.

Research findings suggest that cultivating autonomy and competency in the PE context may have important implications for increased PA levels. There appear to be positive correlations between teachers who meet students' BPNs and the improvement of students' effort, enjoyment, and overall activity levels and negative correlations between

boredom. Specifically within the BIP context, competency appears to be the central construct to enhancing PA participation based on the associations discussed. However, more research is needed in the university/college setting to support this conclusion. It is relevant, then, to explore the relationship between SDM and its effects on student intentions of leading a physically active lifestyle.

SDM and Future Exercise Intentions

The literature supports positive associations between SDM and an increased likelihood of future intentional PA participation and exercise and actual PA participation. Because researchers have not studied these relationships extensively in the university/college setting, I will address this relationship in a similar population, secondary students. I will examine (a) outside-school PA participation on SDM within PE, (b) SDM and its effects on completing elective PE courses, (c) SDM's effects on future PA participation outside of the PE context, and (d) SDM and fitness levels among university students outside of PE. I will conclude this section with a research summary examining effects of SDM in PE on perceived preparedness to lead a physically active lifestyle.

Outside-School Physical Activity Participation

Physical activity participation outside of PE can offer insight into motivational levels within PE. Specifically, Shen (2014) examined relationships between outside-school PA and self-determination processes in PE. He hypothesized that organized outside participation in PA programs would be positively associated with the self-determination process in PE. Additionally, Shen expected that interrelations among the

SDT variables would vary between students who did and did not participate in outside PA. Participants included 9th grade students (ages 14-16) in the Midwestern United States who were enrolled in required PE classes. The researcher measured perceived teachers' autonomy support, BPN satisfactions, motivational regulations, motivational outcomes (i.e., in-class engagement and intentions for enrolling in future PE courses), and outside PA participation. Analyses revealed that those who participated in after school PA programs displayed higher SDM overall. This research reinforces positive relationships between SDM and PA participation outside of the PE context.

SDM and Elective PE Participation

In secondary schools, PE is typically required only for freshman or first year students. Ntoumanis (2005) examined students' motivation for elective PE participation by studying multiple antecedents of SDM and their predictive effects on optional PE participation and cognitive experiences. He hypothesized that SDM levels would be predicted by student needs satisfaction. Additionally, he expected SDM would predict negative affect and positively predict levels of concentration, effort, and future optional PE intentions. Lastly, Ntoumanis anticipated that behavioral intentions would positively predict actual choices to participate in optional PE. Ntoumanis assessed 400, 11th grade British students' perceptions of teacher-provided autonomy support, a task- involving motivational climate, student perceptions of the three BPNs, motivational regulations, negative affect in PE, intentions to participate in optional or elective PE, and the PE teachers' rating of individual student effort. Students completed questionnaires in late spring and early summer to assess these variables. During the fall of that same year, the

schools were asked to provide information regarding whether the students had voluntarily enrolled in an optional 12th grade PE program. Ntoumanis found that teacher-provided needs support was positively associated with students' need satisfaction, predicting levels of SDM. Levels of self-determination predicted future participation in elective PE. Additionally, those who chose to participate in the optional PE program (n=171) self-reported more motivational experiences in their grade 11 school year compared to those who did not choose the optional PE program (n=131). These findings indicated that BPNs positively affect SDM levels among students which, in turn, may positively relate to optional PE participation.

Future Physical Activity Intentions

Exploring the role of PE in motivating students to be lifelong PA participants, researchers have shown positive relationships between SDM constructs and future PA participation intentions. For instance, Lim and Wang (2009) examined associations among perceived autonomy support, behavioral regulations, and PA intentions outside of the school context. The researchers hypothesized that autonomy-support would positively predict identified regulation and intrinsic motivation and negatively predict introjected regulation, external regulation, and amotivation. Secondly, the researchers hypothesized that identified regulation and intrinsic motivation would positively predict PA intentions, and external regulation and amotivation would negatively predict PA intentions. The researchers sampled 701, 13-17 yr. old students in secondary schools from Singapore. They measured perceived autonomy support in PE, motivational regulations, and future PA intentions. Lim and Wang indicated that perceived autonomy-support cultivated more

forms of self-determined regulations, thus, enhancing more forms of autonomous PA intentions. Paradoxically to prior research, amotivation positively predicted student intentions to be active outside of school. Despite the negative case, this research still highlights the importance of autonomy support in the PE context as it was shown to be positively associated with future PA intentions.

Similarly, Erdvik and colleagues (2014) studied whether high school students' current SDM levels, mediated by perceived activity identity and competency, predicted PA intentions post-graduation. Data were collected from 1,650 11th grade students (ages 16) in 10 Norwegian high schools. The researchers assessed PA intentions post-graduation, motivational regulations, PA identity, perceived physical competence, and PA levels outside of PE. The researchers found that SDM positively affected student PA intentions post-graduation. This effect was attributed to the strengthening of perceived competence and PA identity. Additionally, perceived competence effects on PA intentions was significant only in males, while identity significantly mediated PA intentions in both genders. The researchers concluded that methodologies aimed at improving PA intentions could increase perceived competence and PA identity, thus emphasizing the importance of the relationship between competency and PA participation at the secondary level.

Fitness Levels

Research has shown that improved SDM levels may positively affect fitness levels. Sibley and colleagues (2013) used tenets of SDT to examine relations between exercise motivation and participation motives using measures of physical fitness levels.

Participants included 194 undergraduate students enrolled in university fitness-based classes. The researchers hypothesized that those who were more intrinsically motivated (i.e., displaying intrinsic and identified regulations) would be more physically fit. The researchers assessed reasoning for PA participation (i.e., enjoyment, competence/challenge, social, fitness, and appearance), motivational regulations, aerobic fitness levels, and students' percent body fat. They found that stronger fitness motives and perceived competency predicted better fitness while stronger appearance motives predicted lower fitness levels. Additionally, the researchers found that higher intrinsic motivation predicted better aerobic fitness while stronger introjected regulations predicted higher percent body fat. Findings from this study support positive health implications for those with higher levels of SDM. It is interesting to note that in this research, competency largely affected SDM levels.

Physical Activity Participation Preparation

Researchers hypothesize that studying students' primary and secondary school preparedness for future PA participation may provide insight into future PA participation. Haerens et al. (2010) examined the degree to which undergraduate students perceived PE experiences during primary/secondary school prepared them to be PA participants in early adulthood. Participants included 2,617 20 yr. old Ghent University undergraduates. The researchers assessed motivational regulations, total PA levels, weekly minutes spent in MVPA, and active transportation and sports participation in secondary school. Analyses revealed that students with more autonomous profiles reported higher transfer levels and were more active during secondary school and in early adulthood compared to

those with a controlling motivational profile. The authors suggested that cultivating SDM in PE can result in more students engaging in a physically active lifestyle.

As supported in the literature, cultivating BPNs and SDM in the PE context is positively related to increased PA intentions and actual PA behavior outside the school context. Specific constructs of SDT, namely autonomy, appear to be the strongest influence on intentions and behavior for high school students, while competency is most effective for university-aged students. As discussed in this section, SDT constructs are effective in improving intrinsic motivation toward activity in the classroom, future PA intentions, and actual PA participation outside of PE. Because research shows from a psychological standpoint that nurturing these constructs are effective in improving SDM levels, it is important to explore pedagogical best practices that are effective in cultivating these constructs in the classroom.

Instructional Strategies to Enhance Psychological Needs Constructs

Research has shown that cultivating a learning environment that addresses BPN constructs increase intrinsic motivation. Thus, it is critical to examine the pedagogical-best practices that meet students' BPN needs. It appears that only competency and autonomy have been explored extensively in the literature with autonomy examined most commonly. Emphasizing the necessity of enhancing autonomy to cultivate intrinsic motivation, Niemiec and Ryan (2009) provided a brief overview of teaching methodologies to meet this psychological need. In their summary, the authors expressed overwhelming concern about teachers' use of external control and pressure to "make

learning occur" (p. 134) instead of cultivating students' internal desire to learn. More research is needed to examine practices to enhance competency and relatedness.

Autonomy

Perlman and Webster (2011) articulated a clear conceptualization of autonomy in the control-normed school environment, emphasizing that "autonomy does not have to be synonymous with independence…the key is communication that reassures students that their volition as learners can be exercised to achieve class objectives" (p. 47). A promising body of literature provides strategies for fostering learner autonomy. Ntoumanis and Standage (2009) provided a systematic review highlighting intervention studies investigating the efficiency of SDM-fostering teaching methodologies in PE. From these studies, the authors generalized three methods to cultivate an autonomous learning environment: provide rationale behind tasks, acknowledge student perspectives/feelings about activities, and use choice language as opposed to controlling language (e.g., 'you may want to', versus 'you have to'). Ntoumanis and Standage (2009) also emphasized the importance of educating teachers about how to satisfy students' BPNs.

Teacher perceptions of autonomy-support. Teacher SDM perceptions can influence their delivery of autonomy-supportive instruction and changes in students' SDM. For example, Taylor and Ntoumanis (2007) examined relationships between structure, autonomy support, and involvement and their effects on student SDM. Participants included 787 British students ages 11 to 16 in 13 schools in England. Using questionnaires, Taylor and Ntoumanis measured teacher perceptions of structure,

autonomy support, and involvement, and student perceptions of structure, teacher autonomy support and involvement, teacher levels of SDM to teach, teacher perceptions of each individual student's SDM levels, student perceptions of BPN support, and student self-reported levels of SDM. The researchers found that teacher self-perceptions predicted their implementation of motivational strategies. Teachers' actual levels of SDM mediated this relationship. Secondly, they found that student perceptions of teacher involvement, autonomy support, and structure positively affected their SDM levels with mediation effects from their self-reported BPN satisfaction. Lastly, they found no relationship between teacher and student SDM. Therefore, findings from this research suggests that personal perceptions can influence the implementation of motivational strategies evident through the supporting effects of SDT. This finding further emphasizes the necessity of a clear conceptualization of pedagogical practices that influence student SDM.

Continuous professional development (CPD). CPD, or in-service teacher training, to assist teachers to adopt a more autonomy-supportive teaching style can positively affect student outcomes. Using a longitudinal design, Cheon and colleagues (2012) measured the effects of teachers' motivational styles on course-related student outcomes (i.e., class engagement, perceived skill development, future PA intentions, and academic achievement) at the beginning, middle, and end of a semester. Teacher participants were assigned to either a three-part intervention (experimental group) or teacher training following data collection (control group). Participants included 19 veteran Korean middle school PE teachers and 1,025 of their students. The curriculum

focused on sport-based activities (e.g., swimming, basketball, and badminton). The Autonomy-Supportive Intervention Program (ASIP) consisted of three parts. Part one was a three-hour workshop in which workshop leaders provided teachers with two teaching scenarios depicting an autonomy-supportive and controlling environment. Teaching strategies pertaining to the enhancement of an autonomy-supportive environment, and potential obstacles, and feasibility were discussed. Six weeks later, part two of the ASIP occurred in their lessons and which teachers communicated autonomy-supportive behaviors they had implemented thus far in their lessons and shared obstacles and critiqued instructional methodologies. Part three occurred six weeks later in which the teachers discussed autonomy-supportive methodologies. Throughout the semester, trained observers blinded to teacher condition rated all teachers in both conditions using a rating sheet implemented in prior studies. Autonomy-supportive behaviors included nurturing inner motivational resources (i.e., "creates opportunities for choice, initiative"), using informational language (i.e., 'You may' or 'You might' want to…), providing explanatory rationales (i.e., 'Because', 'The reason is…'), and acknowledging and accepting negative affect (i.e., "Communicates that complaints are okay."). Additionally, the researchers measured student perception of autonomy-supportive and controlling teaching, BPNs, class engagement, perceived skill development and future PA intentions and academic achievement. Objective ratings of autonomy-supportive teacher behavior in the experimental groups were higher than the control group. Additionally, the rationale for ASIP's successful impact on the experimental group performance was attributed to enhancing students' needs satisfaction through the ASIP design. According to this

research, continued training of autonomous-supportive teaching strategies combined with teacher networking throughout the semester can enhance the effectiveness of delivering autonomy-supportive PE.

Autonomy-supportive CPD also can be beneficial for classroom teachers. For instance, Reeve and colleagues (2004) examined whether 20 veteran secondary classroom teachers (i.e., math, English, science, and economics) could improve and increase their in-class autonomy-supportive behaviors as a result of a brief workshop. Autonomy-supportive behaviors aligning with those examined by Jang et al. (2010) and Cheon et al. (2012) were taught during the workshop. These included nurturing "inner motivational resources, relying on informational, non-controlling language, promoting value in uninteresting activities, and acknowledging students' expressions of negative affect" (Reeve et al., 2004, p.151). The intervention was examined to assess whether teacher training affected students' engagement in class. The researchers expected that teachers who participated in the workshop (experimental group) would exhibit more autonomy-supportive behaviors in their teaching compared to those who did not (delayed treatment control group). As a result, the researchers hypothesized that students would respond with immediate engagement. Trained raters blind to the study observed each teacher three times for the following behaviors: teachers' autonomy support, provision of structure, provision of involvement, and two measures of student engagement (i.e., task involvement and influence attempts). The researchers found support for both hypotheses: the experimental group displayed significantly stronger autonomy-supportive behaviors compared to the control group. Student engagement in both measures increased as

teachers implemented more of these behaviors. Findings from this study reinforced the effectiveness of autonomy-support CPD in the delivery of teacher autonomy-supportive behavior.

Similarly, Tessier and colleagues (2008) investigated the effects of an autonomy-support CPD for physical educators on overt teaching strategies. Two French secondary PE teachers at different schools were taught the benefits of autonomy-support in the classroom in addition to receiving individualized guidance while planning and teaching eight gymnastic lessons. The study took place across two schools in grades 8 through 12. Prior to data collection, the experimental group attended a seminar in which they learned the characteristics and consequences of autonomy-support in the classroom (i.e., motivational regulations and teacher interpersonal styles). Additionally, they discussed characteristics of a teacher who cultivates autonomy-support (i.e., caring, offering clear advice, responsive, choice, and initiative taking). Group activities took place to aid the teacher in applying these strategies to their teaching. Throughout data collection, individualized programs for each teacher were implemented to help analyze teacher instruction and improve their autonomy-support.

Throughout the program, the researchers observed and rated behaviors of the trained group that were controlling, neutral, and autonomy supportive. They compared these behaviors to three teachers who received no training. The researchers expected teachers in the trained group to implement more self-determined behaviors in their teaching and fewer controlling behaviors compared to the untrained teachers. The researchers assessed student motivational regulations (at the start of the teaching cycle)

and autonomous, overt teacher behaviors. They found that the trained group demonstrated more neutral and autonomy supportive behaviors compared to their untrained counterparts. However, there were no differences pertaining to controlling behaviors. Ultimately, CPD in autonomy-supportive instruction has shown to be critical to cultivating this component of SDT, however more research is needed to explore methodologies for reducing controlling behaviors.

Student engagement. Autonomy support (or a lack thereof) can provide insight into levels of student engagement. For example, Jang, Reeve, and Deci (2010) examined whether autonomy support (versus controlled environments) and structure (versus classroom chaos) were correlated positively or negatively with student engagement, associated linearly or in a curvilinear fashion, or were independent. The researchers also examined how these teaching aspects predicted student engagement. They hypothesized that both aspects would contribute positively to student engagement. Participants included 133 teachers and 2,523 students (9^{th}-11^{th} grades) in nine Midwestern high schools. Five raters (blinded to the study purpose and hypotheses) rated teachers' facility of structure, autonomy support, and student engagement using a rating sheet. Three autonomy-supportive behaviors were included (i.e., "acknowledges and accepts students' negative affect, relies on informational language, and nurtures inner motivational resources" p.592). The raters assessed structure inherent in three instructional behaviors: strong guidance during lessons, explicit directions, and constructive feedback. They also assessed student engagement using six aspects: persistence, effort, attention, participation, voice, and positive emotion. Jang and colleagues found that autonomy-

support and structure were complimentary and positively correlated. Additionally, both were indicative of student engagement, however only autonomy support was indicative of perceived student engagement. Drawing from these findings, Jang et al. suggested that providing autonomy support and structure can foster student engagement in class.

Leisure-time physical activity. Autonomy support has been shown to predict LTPA intentions and participation. Specifically, Hagger et al. (2005) evaluated the reliability and invariance of cross-cultural relationships of a trans-contextual motivation model across four cultural samples (i.e., Great Britain, Greece, Poland, and Singapore) (p.387). The model hypothesizes that student-perceived autonomy support is indicative of LTPA, intentions of LTPA, and autonomous motivation. Participants included 295 British, 183 Greek, 120 Polish, and 217 Singaporean secondary students. The researchers measured perceived autonomy support (PAS), perceived locus of causality in PE (i.e., motivational regulations), perceived locus of causality in the LTPA context, intentions of LTPA, and prior PA behavior. Overall, the researchers found support for the main hypothesis in the Greek, Singaporean, and British groups only (PAS in the PE context significantly influenced LT autonomous motives). Additionally, LT autonomous motives on PA behaviors and intentions mediated by theory of planned behavior constructs were evident in all samples. Stemming from these findings concerning PE PAS in enhancing LTPA participation, the researchers offered autonomous motivational strategies: providing choice in PE tasks, cultivating a mastery-involved climate, avoiding competition, and delivering competence-related feedback (p.388). As previously

indicated, autonomy-support can support the development of an internally-regulated PA participant.

Competency and Relatedness

Unlike autonomy, researchers have not validated pedagogical strategies for bolstering student relatedness or competency as determined by SDT alone.

Research has identified pedagogical best practices effective in enhancing BPNs, particularly autonomy, which can ultimately affect the internalization of learner motivation. Demonstrated in the literature, teacher perceptions can affect their actual implementation of autonomy-supportive behaviors, thus supporting the need for teacher training to improve these behaviors. As shown, this can affect student enjoyment, LTPA intentions, and LTPA participation. More research is needed regarding practices that foster learner relatedness and competency to fully encapsulate SDM pedagogy and provide insight into effective methodologies for implementing SDM strategies.

Curricular Models to Enhance SDM

According to Gurvitch and Metzler (2010), there are, at minimum, eight core teaching models utilized in PE content delivery: sport education, direct instruction, personalized system for instruction, cooperative learning, inquiry, tactical games, peer teaching, and teaching for personal and social responsibility. Arguing that there is no one best way to teach, the authors stressed the importance of using more than one teaching model (Models-Based Instruction) as this can benefit learners in various ways based on the nuances of each model. In fostering SDM, specific teaching models may target the tenets of SDT and provide further insight into pedagogical-best practices that enhance

SDM. Sport Education Model (SEM) specifically targets learner autonomy as many teachers report more of a facilitative role versus a controlling role where students are solely dependent on the teacher (Perlman, 2012).

Teacher Autonomy Support

Focusing on preservice teacher preparation, Perlman (2012) examined SEM's effects on the autonomous instruction of pre-service teachers. Perlman questioned the influence of SEM on preservice teachers' autonomy-supportive instruction and whether or not various phases in SEM could facilitate differing amounts of autonomy-supportive instruction. Participants included 50 preservice teachers enrolled in a secondary methods course engaged in a hybrid lecture/field experience. Perlman randomly assigned the teachers to teach a four-week unit implementing either the SEM (treatment group) or a skill-drill-game approach (SDG). The researcher assessed the teachers' implementation of autonomous instruction observationally using a rating sheet developed by Sarrazin et al. (2006) (see p.497 for descriptors), student perceptions of PST autonomy support, and SDM. Perlman indicated that those teachers who implemented the SEM demonstrated higher autonomy-supportive behaviors during the skill/tactical development and game play phases. Consequently, participating students who were taught under the SEM reported higher perceptions of teacher autonomy support. This research provides further support for SEM's positive effects on improving student autonomy.

Effort and enjoyment. Research shows that the SEM can positively influence effort and enjoyment of PE. For example, Wallhead and Ntoumanis (2004) examined effects stemming from two teaching models, SEM and a traditional teacher-led approach

(TRAD), on teaching a game-based activity unit in PE. The researchers hypothesized that there would be greater increases in perceived effort, enjoyment, and competence in the SEM group compared to the TRAD group. Additionally, they hypothesized that increases in these variables in the SEM group would be accompanied by changes in perceived task goal orientation, task-involving climate, and perceived autonomy. The researchers assigned two teachers from a high school in northern England to teach a basketball unit using either the SEM or the TRAD. A total of 51 male students from 13-15 years of age participated in the study. Using a series of questionnaires, the researchers measured four underlying variables associated with intrinsic motivation (i.e., pressure/tension, effort/importance, perceived competence, and enjoyment interest), dispositional achievement goal orientations (required students to reflect on times in PE when they felt most successful), perceived autonomy, and student perceptions of a task- or ego-involving motivational climate. They also assessed teacher behavior, which examined differences in teacher verbal interactions with students, via videotape. All variables were measured pre- and post-intervention. The researchers found significant gains in perceived effort and student enjoyment only for the SEM group. Increases in task-involving climates and perceived autonomy accounted for significant amounts of variance in the SEM students' post-intervention perceived effort and competence and enjoyment responses. Findings suggest SEMs can effectively cultivate changes in important motivational indices, namely enjoyment of PA in the PE context through increased student autonomy and a task-involving motivational climate.

Similarly, the SEM has been show to improve amotivated student outcomes in PE. For example, Perlman (2010) examined the effects of the SEM on amotivated students' needs satisfaction and enjoyment across a two-year span. The researcher randomly assigned 78 students enrolled in 9th PE classes to either an SEM or TRAD group by intact classes. Perlman measured motivational regulations (i.e., intrinsic motivation, identified regulation, and amotivation), enjoyment, and student BPNs. She then calculated subscale scores for each construct by averaging the responses to each item within the subscale. Perlman measured student levels of BPNs and enjoyment in a pre-/post-test manner. She discovered moderate increases in student perceptions of relatedness and enjoyment within the SEM compared to the TRAD group. Autonomy and competence satisfaction slightly decreased across both groups and interestingly were not supported by the SEM to a large degree. These findings suggest that when compared to a TRAD approach, the SEM supports a more enjoyable learning environment where students feel safe and connected to the learning process.

In relating effort to participation, Wallhead, Garn, Vidoni, and Youngberg (2013) examined participation rates in game play situations (i.e., overall active participation, ball engagements, and ball success rates) within a SEM season among motivational profiles (i.e., amotivated, moderate, and high-autonomy). The researchers expected that the SEM would balance participation rates among each motivational profile. Participants included 395 high school students in the Midwest (*Mean age* = 15.49, *SD* = 0.67). The researchers used several questionnaires to measure student autonomous motivation, BPNs, effort and enjoyment, in addition to SEM fidelity (measured in 10-minute video segments and

coded). They found that students in the high motivation profile demonstrated significantly higher levels of overall autonomous motivation and active game participation. Moderately-autonomous students demonstrated higher autonomous motivation than the amotivation profile, yet not as high as the highly autonomous profile. However, there were no differences in success rates and on-the-ball engagement and mean scores of each BPN across all profiles, although mean scores for effort or enjoyment were different. This research indicates that teachers who implement the SEM can successfully cultivate learner motivation and promote the equality of inclusive participation across all student motivational levels in PE.

Research has shown that the SEM can influence effort and enjoyment within the PE context, but the model may additionally affect LTPA intentions and participation. For example, Wallhead and colleagues (2014) conducted a longitudinal study, which examined the effects of SEM on perceived effort and enjoyment in PE, LTPA, and PA intentions compared to a multi-activity approach. The authors also examined the relationships between these affective outcomes on changes in each BPN and SDM. Participants included 568 students (*Mean age* = 14.75, *SD* = 0.48) across two Midwestern high schools. One school implemented SEM and the other implemented multi-activity (MA). Wallhead and his colleagues measured autonomous motivation, BPNs, perceived effort and enjoyment, PA time (outside of school), and LTPA intentions via questionnaires in a pre-/post-test fashion. They found greater increases in perceived enjoyment (predicted by each BPN and autonomous motivation) and effort (predicted by competency and relatedness) for students engaged in the SEM. However, there was

limited support for SEM's direct transfer of autonomous motivation from the PE context to LTPA. Findings from this study further support the teaching model's effect on cultivating student autonomous motivation and affect, however little can be said about its transferability of motivation to be active outside of school.

Future physical activity participation intentions. Research directly examining SEM's effect on future PA intentions is relatively novel. For instance, Mellinger and Cheek (2014) examined two teaching models, SEM (n=59) and a TRAD approach (n=166), and their relationship to BPN satisfaction and future PA intentions among university students. The researchers hypothesized that student BPNs would be higher in the SEM courses compared to the TRAD courses. The researchers assessed BPNs and future PA intentions via questionnaires in a pre-/post-test fashion. Results supported the hypothesis. The researchers found that SEM students reported higher levels (more than two times greater) of relatedness and autonomy compared to TRAD students in addition to stronger intentions to participate in future PA. However, there were no significant differences in competency between groups. Findings from this study further support SEM's effectiveness in cultivating student autonomy and relatedness. According to this research, improving student relatedness and autonomy appear to affect future PA participation among university students.

As discussed, the SEM particularly can foster aspects of the BPNs and SDM. Sport education can positively affect pre-service teachers' autonomy support, effort and enjoyment within the PE context, and LTPA intentions and participation. Future research

is needed to explore, in depth, facets of other teaching models that can positively influence BPN constructs and SDM.

Self-Determination Climate Characteristics

Extracurricular Athletics

Studying athletes may complement research that provides an understanding of the relationship between a mastery/task climate and SDM in PE. For instance, Kipp and Amarose (2008) studied relationships among a perceived motivational climate, BPNs, and SDM in female high school athletes. The researchers expected that each BPN would positively predict an athlete's SDM, the three task-involving characteristics would positively relate to BPNs, and the BPNs would mediate the relationship between a task-involving climate and SDM. Participants included 200 female high school athletes (M=15.84, SD= 1.31) who participated in a variety of sports. The researchers utilized questionnaires to measure perceived BPNs, self-determined motivational orientations, and perceived motivational climate. The researchers discovered that each BPN and SDM was positively associated with a mastery-involving motivational climate while an ego-involving climate was negatively associated with SDM and BPNs. Additionally, the researchers found that punishment for mistakes negatively predicted SDM. These findings support the positive relationship between a mastery-involving climate and SDM, which is relatable and essential to internally regulating a learner in PE.

Perceptions of Motivational Climates

Understanding characteristics of a highly self-determined motivational climate in PE is central to developing effective pedagogical practices to enhancing PA satisfaction.

For example, Baena-Extremera et al. (2015) investigated the effects of student perceived motivational climates in PE predicting satisfaction (i.e., satisfaction, satisfaction/fun, and boredom) and SDM. Participants included 758 Spanish high school students between the ages of 13 and 18. The researchers used a series of questionnaires to assess students' satisfaction in PE (i.e., satisfaction, satisfaction/fun, and boredom), SDM (i.e., intrinsic, extrinsic, and amotivation), and task- and ego-involving climate perceptions. The researchers discovered positive relationships between a task-oriented climate and learner intrinsic motivation ($r = .66$, $p < .001$), learner intrinsic motivation and satisfaction/fun ($r = .64$, $p < .001$), and a moderate negative relationship between a task-oriented climate and boredom ($r = -.35$, $p < .001$). Overall, a task-oriented climate predicted intrinsic motivation ($r = .69$) and extrinsic motivation ($r = .64$), and an ego-oriented climate predicted amotivation ($r = .76$). Findings from this study further support the positive relationship between a task-involved climate and intrinsic motivation. This is critical in fostering satisfaction of PA in the PE context. Teaching strategies should be implemented to cultivate a task-involving motivational climate.

Similarly, Standage and colleagues (2003) examined the effects of student goal orientations, perceptions of motivational climate, and perceived competence on SDM styles. The researchers hypothesized that task and ego orientations would predict different motivational styles (e.g., task orientations would positively predict more intrinsic forms of motivation and vice versa). Participants included 328 secondary students from two secondary schools located in the central and northern United Kingdom. Standage and his colleagues measured relationships between student goal orientations,

motivational climate (i.e., task- versus ego-climate), perceived competence, and motivational regulations. The researchers discovered that students who exemplified a high task orientation perceived their class climate to be high in mastery cues and related to increased intrinsic motivation. Conversely, the researchers found that students who possessed an ego-orientation and perceived incompetence lacked intrinsic motivation, but those with an ego-orientation improved in their perceived competence. As demonstrated by this research, a task-involving climate is positively related to higher levels of SDM. It is then essential for teachers to implement such teaching practices that cultivate a task-involving climate to improve a learner's intrinsic motivation.

Pedagogical Practices

Teaching methodologies to enhance the previously described SDT social interactions are essential to engage all learners in the PE context. Gibbons et al. (2011) created a resource manual for secondary PE teachers which included methods that are intended to cultivate each BPN. These were designed to engage females more in the learning process, but can be applicable for enhancing social interactions between genders. Related to autonomy, the authors first detailed the importance of involving learners in the learning process by providing choice, building choice into the assessment process, utilizing student input, providing opportunity for regular-self assessment, and providing competitive/non-competitive options. Related to competency, the authors suggested planning for scope and sequence across grade levels (this can be tailored to ability levels in the university setting) and paying attention to sound principles for skill and fitness development. Additionally, enhancing relatedness in the PE context centers on a sense of

social attachment. These methodologies include establishing a respectable and safe learning environment, promoting fair play, encouraging social responsibility, using student names, encouraging reciprocal learning, reducing comparison among students, and exploring PA opportunities in the community.

Transitioning a Learner from Extrinsic to Intrinsic Motivation

Implementing strategies to cultivate each BPN within SDT can positively affect the transfer of extrinsic to intrinsic motivation among students toward PA participation. These strategies include meeting each BPN, cultivating positive social support and a mastery-involving climate, and advocating for the importance of PE. Perceived autonomy support greatly impacts this transition as previously discussed in Lim and Wang's work (2009). Additionally, George and colleagues (2013) found that social support positively related to BPNs, which related to SDM, and then to future PA intentions among undergraduate students. Similarly, Ommundsen and Kvalo (2007) assessed the role of motivational climate, perceived competence and autonomy, and teacher autonomy support on student self-regulated motivation across five Norwegian high schools with 16 year old students. The authors discovered pathways in which a mastery climate and teacher autonomy-support positively improved intrinsic regulation and negatively affected amotivation. It was found that perceived competence mediated these relationships. Lastly, Sanchez-Olivia et al. (2014) discovered that teachers who advocated for PE importance within the classroom positively impacted students' future PA intentions.

Instruments to Assess Psychological Needs and Motivational Regulations

Basic Psychological Needs Scale

The BPNS is a modified instrument for the PE context that originated from the Intrinsic Need Satisfaction Scale (INSS). The INSS was created to assess needs satisfaction in the workplace among Bulgarian adults. The BPNS has since been adapted from the INSS to measure BPN constructs in PE (Deci et al., 2001). The BPNS is used widely across the PE and SDT literature and has been modified to measure BPN constructs in secondary PE contexts (Perlman, 2010, 2011, 2013; Wallhead et al., 2013; Wallhead et al., 2014).

Reliability. The BPNS's internal consistency has been assessed in prior research. Acceptable levels of reliability per construct was supported through Deci et al.'s work (2001). According to his study, Deci et al. (2001) reported Cronbach's *alpha* coefficients for competence, relatedness, and autonomy scales at 0.73, 0.84, and 0.79, respectively. The total Cronbach's *alpha* for need-satisfaction was 0.89, supporting the instruments' reliability in secondary PE.

Validity. The instrument's validity has been analyzed and determined acceptable with evidence supporting content and construct validity. Content validity has been supported throughout the secondary PE literature (Ntoumanis, 2004; Wallhead et al., 2013; Wallhead et al., 2014). Ntoumanis (2004), Wallhead et al. (2013), and Wallhead et al. (2014) cited the developer's study of the instrument (Deci et al., 2001) by reporting instrument questions related to each BPN to support content validity. Specifically, instrument items were consistent with each BPN construct. For instance, Wallhead et al.,

(2013) provided the item, "I am free to express my ideas and opinions in physical education," which directly relates to autonomy. Further, construct validity has been supported for the BPNS. Through confirmatory factor analysis (CFA), Ntoumanis (2005) reported the following results which supports the BPNS's validity (Sattora-Bentler χ^2 (186) = 838.60, $p < .001$; SRMR= .06; CFI= .93; RMSEA= .06).

Behavioral Regulation in Exercise Questionnaire-2

The BREQ-2 is an adaptation from the Behavioral Regulation in Exercise Questionnaire (Mullan et al., 1997) that utilizes five subscales to assesses motivational regulations related to SDT in exercise participants (Markland & Tobin, 2004). The BREQ-2 has been used across the literature with participants similar to this study's (e.g., age) in relation to SDT and PE (Haerens et al., 2010; Sas-Nowosielski, 2008).

Reliability. The BREQ-2's internal consistency has been supported in prior research. For instance, according to Sas-Nowosielski's study (2008), each motivational regulation subscale of the BREQ-2 has demonstrated acceptable reliability levels (amotivation being slightly lower) with Cronbach's *alpha* coefficient values of 0.64 (amotivation), 0.72 (external), 0.74 (introjected), 0.82 (identified), and 0.83 (intrinsic motivation).

Validity. The BREQ-2 has been analyzed and supported as a valid instrument for assessing motivational regulations in secondary PE (Sas-Nowosielski, 2008) and BIP courses (Haerens et al., 2010). Specifically, content validity was supported through Sas-Nowosielski's work (2008). He referenced prior studies and commented on their mentioned congruency between constructs and instrument items. For instance, identified

regulation was supported with the item, "I take part in PE classes because I value the benefits from physical exercises" (Sas-Nowosielski, 2008). Additionally, Markland and Tobin (2004) assessed the instrument's construct validity using CFA and found it acceptable. The authors reported χ^2=136.49 (p = 0.23) and RMSEA = .02, 90%, CI = .00-.04; CFI =.95; NNFI = .94; SRMR = .05). Additionally, the authors reported factor loadings that were significant and moderate to strong (M = .76; range .53–.90; p's < .001). In summary, the BREQ-2 is a valid instrument for measuring motivational regulation constructs near this study's population age range.

Perceived Locus of Causality Scale

The PLOC is an adaptation of subscales originally developed by Ryan and Connell (1989) that assesses motivational regulations in the classroom (Ntoumanis, 2002). The PLOC has been adapted to assess these regulations in the PE context related to SDM. This is evident through Hagger et al. (2005), Lim and Wang (2009), and Taylor et al.'s (2010) work.

Reliability. Internal consistencies for the PLOC have been supported in prior research. Specifically, the instrument's creators, Goudas and colleagues (1994), reported acceptable internal consistency levels with Cronbach's coefficient *alpha* values of 0.70 for each construct (i.e., external, introjected, identified, and intrinsic regulation).

Validity. The PLOC has been analyzed and supported in the literature to be a valid instrument for assessing motivational regulations in PE (i.e., content, and construct). The PLOC's content validity has been supported through a number of studies including Taylor et al. (2010), Lim and Wang (2009), and Hagger et al.'s (2005) work.

Taylor et al. (2010), Lim and Wang (2009), and Hagger et al. (2005) cited prior research in which authors cited questionnaire items that targeted motivational regulation constructs (i.e., amotivation, external, introjected, and identified regulation, and intrinsic motivation). For example, Taylor et al. (2010) referenced an identified regulation item example when describing instruments used in data collection ("Because I want to learn sports skills). Lastly, the PLOC's construct validity was supported in Ntoumanis's work (2002). The author utilized CFA to support these claims. Ntoumanis (2002) assessed the PLOC's a priori factor structure of the instrument to confirm its good fit for the data set ($\chi^2(159)=309.59$, $p<0.01$; robust CFI=0.95; NNFI=0.93; SRMR=0.05; RMSEA=0.06; 90% CI of RMSEA=0.05–0.07).

Summary

It is evident that cultivating BPNs within the PE context is positively associated with a learner's intrinsic motivation. Teaching methodologies that cultivate each BPN are essential to intrinsically motivate students to engage in PE with the potential of transfer to lifelong PA participation. There are specific curricular models that adhere to SDT constructs, namely the SEM. Additionally, mastery/task-involving learning environments appear to be more beneficial in fostering SDM. Further, a number of instruments have been validated for measuring SDT constructs. Despite this body of research that has taken place predominately in middle and high schools, it is still unclear how these findings relate to the university BIP setting. Research is needed to explore the relationship between BPN constructs and the intrinsically motivated learner in BIP courses.

Additionally, the identification of effective pedagogy that cultivates each BPN in the university setting is needed.

CHAPTER III

METHODS

The purpose of this study was to describe university BIP instructors' planning and teaching practices associated with student-perceived BPNs in their lessons. Specifically, the research questions were (a) What are university students' perceptions of autonomy, competency, and relatedness at the beginning and end of a BIP course and (b) What teaching practices appear to cultivate BPNs for these university students?

I utilized both quantitative and qualitative measures within a mixed design. According to Patton (2015), a mixed methods design could reduce threats to internal validity through the triangulation of various research procedures. This chapter addresses the study's research design, participants and setting, data collection instruments, the data collection and analysis process, and threats to the validity and reliability of the findings.

Research Design

Participants

Participants in my study were two university BIP instructors and their respective students. Eighteen total students consented to participate in the study, however two students dropped their respective course after the first full week of class which made a final sample size of 16. John, the conditioning instructor, was a PhD candidate in the department. John held a Bachelor of Science degree in Exercise and Sport Science and a Master of Science in Kinesiology and Health. John had two prior semesters of teaching

experience with conditioning and weight training. Additionally, John's previous pedagogical training included one graduate level course in teaching undergraduate students.

The beginning swimming instructor, Kim, was a full-time instructor in the BIP program and PEHTE program at the university. Kim held a Bachelor of Education in Physical Education and Sociology and a Master of Arts in Physical Education and Sports Management. She held 38 years of swimming teaching experience. Kim's pedagogical training included her six years of practice through her Bachelor's and Master's programs.

Further, at the conclusion of student interviews, I asked the student participants in each course to identify their major, gender, ethnicity, and self-perceived fitness or skill level. Demographic information of student participants is summarized in Table 3.

Table 3

Student Demographic Information

Major		Self-Perceptions						Gender		Ethnicity			
Kin	Non-Kin.	Condit.			Beg. Swim.			Fm	Male	AA	C	H	M
		L	Av	Ab	L	Av	Ab						
11	5	3	3	2	3	4	1	13	3	6	7	1	2

Note. AA = African-American; C = Caucasian; H = Hispanic; M = Multi-Ethnic; L = Low; Av = Average; Ab = Above Average.

Rationale for Selection of Instructors

I selected instructor participants using criterion sampling. Patton (2015) described criterion sampling as participant selection that is purposeful and determined by

preexisting criteria. The two categories I used were teaching experience in a college or university BIP (i.e., two semesters at minimum) and presence or absence of prior pedagogy training. Differentiating between experienced and inexperienced instructors would presumably amplify the occurrence of pedagogical behaviors that were or were not consistent with cultivating student SDM. Additionally, examining two courses taught by different instructors increased the reliability of SDT-related instruction findings at the university level.

Setting

My study was conducted at a moderately sized public university enrolling >19,000 undergraduates located in the Southeastern United States. My research included two courses (i.e., beginning swimming and conditioning) that were part of the BIP at the university. Selecting these course activities provided a realistic representation of PA opportunities in the American population. Both courses were one-credit hour and were a requirement for Kinesiology majors within the respective department. They were both taught during a summer session that lasted five weeks. Both courses met four days per week for two hours each day. The conditioning course met in the Student Recreation Center (SRC) on campus and utilized the weight room (i.e., free weights and stationary weight machines), cardio machines (e.g., treadmill), three regulation-sized basketball courts, an indoor track, and fitness studios with various equipment (e.g., TRX bands and step boxes). The beginning swimming course met at the university's pool located on campus. The pool was "L-shaped" and consisted of six regulation-size lap lanes and an attached four-foot shallow section to the right side.

Rationale. The rationale for selecting this type of research setting encompassed a number of factors. First, selecting an accredited four-year institution provided access to the specific PE population under study (i.e., university BIP). Secondly, the selected institution offered courses through a BIP specifically. It is common for institutions to provide PA opportunities through affiliated campus recreation organizations instead of BIPs. Participation in campus recreation facilities is often unstructured and may lack pedagogical practices that are effective in fostering learning (e.g., learning cues, feedback, assessment). It was critical to conduct research in a setting that delivered purposeful and structured activity with a strong pedagogical (learning orientation) focus. Lastly, I selected skill- and fitness-based courses because they are commonly taught in other BIP settings across other universities. The selection of these course types was purposeful in that students most often have access to these activities outside of the BIP environment because they are prevalent in American culture.

Entering the Setting

Negotiation with gatekeepers. To obtain access to the research site, I emailed the respective instructors requesting permission to use their courses for data collection. I then scheduled individual meetings with the instructors to collect descriptive information (i.e., level of education, degree types, teaching experience, and prior pedagogy training). Two days prior to the first course meeting, I met with each instructor to discuss the study design and data collection protocols. I explained that I was interested in learning about teaching practices in university activity courses, but I did not detail sensitizing concepts in order to reduce reactivity effects. Additionally, I discussed instructor-participant

consent forms and the instructors signed them upon agreeing to participate in the study. Prior to lesson one and data collection, I obtained permission from the department chair to conduct research in the BIP (See Appendix A).

Researcher-participant relationships. I had already established researcher-instructor relationships prior to the study. I had worked and/or completed coursework with the instructors in the department for two years prior to data collection. Additionally, I developed relationships with student participants during my time in field observations. In my initial class visit, I introduced myself to the students and familiarized the students with the study's protocols. Throughout field observation, I assumed the role as a spectator observer allowing opportunities to build relationships with the students through informal conversation. In addition, I had already established relationships with four of the students prior to the study because I had instructed them in courses I previously taught.

Researcher's Positionality

I have strong dispositions surrounding university BIPs based on my extensive training in PE and pedagogy. I believe that there are two central purposes of BIPs: assisting students in the development of intrinsic motivation toward PA and providing them with the skills and knowledge to be successful. I value BIPs strongly because they provide these opportunities for students. Providing empirical evidence supporting the value of SDT and BPNs to students enrolled in BIPs supports my claim that BIPs enhance students' PA ability and interest. I hold a Bachelor of Science in PETE, K-12 from a moderate-sized university in the Southeastern United States. The university's foundation is deeply rooted in teacher education. The premise of my undergraduate

training focused on five key areas of teaching: planning, implementation, assessment, analysis, and dissemination. This prepared me to effectively evaluate quality pedagogical practices.

Additionally, as an undergraduate PETE student, I studied and implemented the sport education model (SEM) during my engagement in numerous teaching experiences. Throughout these teaching experiences, I refined my ability to deliver sound SEM practices. As previously described in chapter two, the SEM effectively targets each BPN construct through high student autonomy, competency building, team affiliation, and social responsibility. Moreover, as a PETE student, I learned and practiced effective classroom management strategies, including increased opportunities to respond, efficient transitions, and feedback strategies.

Lastly, I have taught BIP courses for five semesters across my undergraduate and graduate career. Specifically, I have developed and improved my ability to teach net sports. I have taught intermediate volleyball, beginning volleyball, and beginning badminton classes. Throughout my time teaching these classes, I have further developed an ability to increase opportunities for student autonomy while cultivating an inclusive learning environment through the utilization of SEM. It is my philosophy to engage learners in meaningful content so they will optimistically be lifelong participants of activity.

Research Timeline

Outlined in Table 4 is a timeline that depicts the order of data collection for this research. Prior to beginning data collection, I obtained IRB approval from the

participating university. On my initial visit to the courses, I introduced myself to the students, explained that I was interested in learning about how to teach BIP courses, and collected student consent forms. The students completed questionnaires during the first full week of the summer session. I completed field observations during the first three weeks of the summer session. I selected this time frame because formal instruction typically decays during the second half, giving way to full-sided activity. I re-administered the questionnaires at the end of week three, prior to interviews. I conducted instructor interviews during weeks one and five and student interviews during weeks four and five.

Table 4

Research Timeline

Task	Prior	Week 1	Week 2	Week 3	Week 4	Week 5
Emailed Instructors	x					
Initial Instructor Meeting/ Descriptive Information	x					
Instructor Consent/Researcher Involvement Meeting	x					
Letter of Permission from Department Chair	x					
Researcher Intro/Student Consent		x				
Field Observation		x	x	x		
Instructor Interviews		x				x
BPNS Questionnaire		x		x		
PLOC Questionnaire		x		x		

Student Interviews					x	x

Data Collection

To strengthen findings from the data and increase its trustworthiness, I triangulated data from questionnaires, field observations, and semi-structured interviews (student and instructor). Triangulating ethnographic data with quantitative data permitted the discovery of consistencies and inconsistencies in the data (Patton, 2015). I collected the data in the following order, questionnaires, observations, and interviews, to reduce reactivity effects and allow interview questions to emerge from the data through naturalistic inquiry processes (Patton, 2015).

Questionnaires

Eighteen students completed the first round of questionnaires. One student in each course dropped their respective course after the first round of questionnaires were completed, reducing the enrollment in each course to 16. I administered modified versions of the Basic Psychological Needs Scale (BPNS) and the Perceived Locus of Causality Scale (PLOC) during weeks one and three of the summer session. Completing the questionnaires in a pre-/post-instruction design permitted me to observe and describe student motivational regulations and BPN constructs at two time points. The students completed the paper and pencil questionnaires at either the first or the last part of the lesson. The students in each course took about 15 minutes to complete both questionnaires. The modified BPNS consisted of 21 items: seven items assessed autonomy, six items assessed competency, and eight items assessed relatedness. Each

item was scored on a 7-point Likert scale (1 = not true at all, 4 = somewhat true, and 7 = very true). The PLOC comprised 17 items scored on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The instrument targeted five subscales: amotivation, external, introjected, and identified regulation, and intrinsic regulation.

Basic psychological needs scale. The BPNS was adapted and modified from the Intrinsic Need Satisfaction Scale originally used by Deci et al. (2001) to target need satisfaction in the workplace. Specifically, the BPNS measures the three BPN constructs as they relate to workplace satisfaction. The BPNS has been modified and used in a number of studies to assess needs satisfaction in the PE domain (Perlman, 2010, 2011, 2013; Wallhead et al., 2013; Wallhead et al., 2014). The BPNS was applicable in my study because the root of each item directly related to BPNs satisfaction and had been validated to assess BPN constructs in PE (Ntoumanis, 2005).

The BPNS was applicable for this study because in prior research, Ntoumanis's (2015) work supported the instrument's reliability and validity. Further, the instrument had been utilized in a number of studies within the PE context to assess BPNs. Specifically, prior research has targeted secondary PE students, the closest comparable population to this study's population based on ability levels and maturation (Perlman, 2010, 2011, 2013; Wallhead et al., 2013; Wallhead et al., 2014). Additionally, the BPNS directly measures variables (i.e., autonomy, competency, and relatedness) that were assessed in this study. Lastly, the measurement of each BPN's satisfaction was generally balanced among an equal number of items on the BPNS (seven per autonomy, six per

competency, and eight per relatedness). By having a balanced number of items per construct, each BPN was represented equally within the instrument.

There were two limitations to the instrument relative to this study. First, the BPNS was initially created to assess BPNs generally related to the workplace environment. The questionnaire items did not specifically target BPNs related to the PE classroom, instructor/student relationships, or BPN-oriented teaching behavior. This could have potentially affected the instrument's validation. However, the root of the items did reflect the BPNs. Secondly, it was necessary for me to make modifications to the instrument's item wording to more accurately reflect BIPs and teaching.

I made modifications to the instrument by altering its wording to better reflect the PE domain (See Appendix B). I modified all 21 items. The basis of each item appropriately targeted measures of each BPN, however I made minor wording changes to assess BPNs related to PE. For instance, I changed "work" to "class" or "people" to "students" so that the items were more PE-oriented. Additionally, I made minor changes to phrases within items to tailor their focus to PE. For instance, item three in its original context stated, "I do not feel very competent when I am at work." I modified item three to state, "I do not feel very competent when I am in class."

Perceived locus of causality scale. The PLOC was developed by Goudas et al. (1994) to assess motivational regulations. Particularly, Ryan and Connell (1989) suggested that perceptions of reasons for sport behavior are distinguished along an autonomy continuum with identifiable gradations (i.e., motivational regulations). The PLOC assesses motivational regulations through five constructs along this continuum:

amotivation (2 items), external regulation (4 items), introjected regulation (4 items), identified regulation (3 items), and intrinsic regulation (3 items). The PLOC in its original form related to the sport domain, however it has been utilized effectively in the PE domain (Hagger et al., 2005; Lim & Wang, 2009, Taylor et al., 2010; Wallhead et al., 2013).

There were three strengths of the PLOC. First, the instrument's reliability and construct validity were supported in prior research. Particularly, Goudas and his colleagues (1994) reported acceptable internal consistency levels per construct (i.e., 0.70). Additionally, the instrument's construct validity was supported by Ntoumanis's work (2002) through CFA. Second, the instrument was designed to directly measure motivational regulations that served as dependent variables in this study. These included amotivation, external, introjected, and identified regulation, and intrinsic motivation. Lastly, the PLOC was used in secondary PE to assess motivational regulations, a population that is similar to this study's (Hagger et al., 2005; Lim & Wang, 2009, Taylor et al., 2010; Wallhead et al., 2013).

There was one minor limitation to the instrument's use in this study. The instrument's original target domain was sport in general, not physical education. For this reason, minor modifications to each item were made. Specifically, I made modifications to the PLOC so that it accurately assessed motivational regulations in PE (See Appendix C). Each item originally began with the stem, "I take part in sport because…." I changed "sport" to "this particular activity course" for each item.

Field Observation

Field observation occurred during the first three weeks of the summer session. I conducted nine field observations in the beginning swimming class and eight field observations in the conditioning class. I collected field notes during field observations in a semi-covert manner; the students and instructors were not fully aware of sensitizing concepts I was observing until after data collection was complete (Patton, 2015). I initially notified the instructors and students that I was interested in studying different pedagogical practices specific to university BIP courses, but they were not aware of the exact behaviors I was observing. This ensured authentic teaching behaviors that were as free from reactivity effects as possible. I revealed the specifics of SDM variables I examined in the study to the participants after the completion of final interviews.

Role as the spectator-observer. Throughout field observations, I assumed the role as a spectator-observer by positioning myself in an unobtrusive area of the SRC or the pool deck (Patton, 2015). This allowed me to clearly hear and see interactions between instructors and students while attempting to minimize reactivity effects. Additionally, my level of interaction in lessons and interaction with the instructors and students during field observations was minimal. This further ensured a reduction of student and instructor reactivity effects and related to the naturalistic study design. There was one instance in the conditioning course that required me to participate in lesson activities. The instructor led the students through a Fartlek run. It was necessary for me to participate in the run so I could observe the instructor's teaching for the lesson.

Observation focus progression. The observational focus progression followed a specific sequence: a baseline description of instructor teaching methodologies (at the beginning lessons of the summer courses) and consistencies or inconsistencies in descriptions of teaching methodologies across the lessons. Additionally, I focused on student interactions between their classmates and instructors to gain a better understanding of relatedness throughout the course lessons. The observation data format consisted of pure descriptions coupled with asides and commentary interpretations (Emerson et al., 2011; Patton, 2015). The utilization of natural inquiry reduced restrictions in the data because I did not limit myself to descriptions based on predetermined criteria. Therefore, I identified sensitizing concepts during and following field observation. I identified autonomous, relatedness, and competency instructional strategies based on previous literature and my expertise. I assessed the behaviors across both courses through constant comparison.

The field observation process. Field observations followed a similar format across both courses. Using a pen and spiral bound notebook, I recorded brief jottings and direct quotations during each lesson, followed by detailing notes and depictions of fuller scenes the day of their occurrence, and later extended these into narrative segments in electronic word documents (Emerson et al., 2011). To reduce reflexivity effects, I split my notebook page vertically using a centerline to include asides and commentary interpretations on the right column and raw field descriptions on the left column. This aided in me clearly distinguishing field descriptions from personal interpretations.

Interviews

I conducted four instructor (two per instructor) and sixteen (eight per course) student interviews. I conducted all interviews following field observation with the exception of the initial instructor interviews. I conducted two instructor interviews during week one of data collection. Selecting two different instructors provided the potential for different teaching perspectives represented in the university's BIP. This could increase the credibility of findings in the data related to SDM-related pedagogy (Patton, 2015). Additionally, I conducted all interviews at the participants' convenience in the lobby of the building in which the Kinesiology department was housed on campus. An exception was the first round of instructor interviews, which I conducted in their office space at a time that was convenient for them.

Instructor interview protocol. Instructor interviews followed an identical format. I used a semi-structured interview guide (See Appendices D and E) consisting of initial and probing questions (Brinkmann & Kvale, 2015). The semi-structured interview guide permitted flexibility in questions concerning instruction rationales and observed instances in field observations.

The purposes of the first set of instructor interviews were to gain a better understanding of instructor expectations for their students, course objectives, planned course content, and planned strategies to meet these objectives and maintain expectations. The purposes of the second set of instructor interviews were to gain a deeper understanding of their knowledge concerning BPN-supportive teaching methodologies, identify rationales behind their implementation of observed teaching methodologies, and

clarify instances observed in field observations. During the interviews, I verbally provided an overview of the interview guide outlining the questions to be discussed (Brinkmann & Kvale, 2015). I explained that codes would be used when referring to the instructors (e.g., Instructor 1). Maintaining anonymity reduced threats to internal validity and reactivity effects (Patton, 2015). I then reassured the instructors of a safe interview environment throughout the process. I audio-recorded and transcribed verbatim each instructor interview to ensure maximal accuracy of participant responses.

Student interviewee selection. I interviewed each student in both courses who consented to participate. This provided a representation of the majority (89%) of the students in the two courses and embodied an array of self-perceived ability levels across ethnic backgrounds and gender in each class. Interviewing these students was ultimately representative of the sample.

Student interview protocol. Student interviews followed a similar format as instructor interviews. The purpose of student interviews was to obtain a deeper understanding of their BPNs and motivational regulations and their perspective on instructor behaviors that enhanced or inhibited SDM levels. Similar to instructor interviews, I utilized a semi-structured interview guide (See Appendix F) that consisted of initial and probing questions (Brinkmann & Kvale, 2015). I asked each student similar questions regarding SDM but the semi-structured interview guide reduced rigidity in the questions. Similar to instructor interviews, I began each interview by verbally outlining the interview guide to ensure a more relaxed environment for the participants (Brinkmann and Kvale, 2015). In order to reduce threats to internal validity and reactivity effects, I

explained that codes would be used to maintain anonymity (e.g., Student 1), their instructors would not have access to interview transcriptions until after final grades had been posted, and their grade would not be affected as a result of the interview (Patton, 2015). I audio-recorded and transcribed verbatim each student interview to ensure maximal accuracy of participant responses.

Increasing Trustworthiness of Data

I implemented several strategies to increase the trustworthiness of qualitative data: these included minimizing reflexivity and reactivity effects during field observations, upholding neutrality and reporting negative cases, and conducting member checks on interview data.

Reflexivity effects. I controlled for reflexivity effects by carefully providing highly detailed, authentic descriptions of teacher and student behavior, and class segments. I recorded field notes using descriptive language in active voice as opposed to judgmental language. Additionally, I wrote memos and comments in separate columns during observation. I balanced objective and subjective reasoning from a critical pedagogy viewpoint through authentic class descriptions. This aided in increasing the credibility of the data.

Reactivity effects. I minimized reactivity effects through the sequencing of data collection methodologies. I collected questionnaires and conducted field observations prior to student interviews and the second set of instructor interviews to preserve authentic classroom behavior and questionnaire results. If I would have conducted interviews before these data were collected, the instructors and students potentially could

have discerned the SDM research focus and behaved and responded in accordance to what they thought I wanted to see and hear. Secondly, I remained semi-covert in my role as the researcher until all data had been collected. I did not disclose the purpose of the study to the instructors until after I had completed the second bout of their interviews. During field observation, I remained in an unobtrusive position in the SRC and pool deck. I remained close enough to fully hear and see instructor/student interactions, but I did not disrupt the natural flow of classes. Finally, I retained the role as a spectator-observer during field observation to reduce disruptions in the natural course of the lessons**.**

Neutrality. Throughout the interview and reporting process, I upheld neutrality to the maximum extent. I avoided pressing a particular perspective during interviews and manipulating transcriptions to accentuate a biased perspective (Patton, 2015). I committed to understand the instructors and students' perspectives as the data collection process unfolded. Additionally, throughout the data collection process, I reported negative cases that emerged from field observations and interviews.

Member checks. To increase the accuracy of interview transcriptions, I conducted member checks. Following each interview, I emailed transcriptions to the instructors and students in order for them to proofread the transcriptions for accuracy of their statements. I made corrections accordingly per participant request (Patton, 2015). Additionally, following the analysis and coding of the data, I emailed my interpretations of the interview data to ensure accurate participant perspectives.

Data Analysis

Statistical Analyses

I utilized descriptive statistics (i.e., means and standard deviations) and computed Cohen's *d* effect sizes to analyze all questionnaire data. The rationale for these analyses was to describe student BPNs and motivational regulations in a pre-/post-instruction comparison in order to answer the first research question. Because I was not able to conduct inferential statistics and therefore determine statistical significance, I calculated effect sizes between pre- and post-scores within each course to measure the magnitude of difference between the pre- and post-means (Howell, 2013).

Qualitative Analyses

I conducted two levels of qualitative analyses, open and axial coding, to develop codes associated with categories. This allowed for the emergence of major themes through inductive analysis. Inductive analysis additionally guided the discovery of data properties and dimensions within categories (Patton, 2015).

Open coding. Initial stages of qualitative analysis consisted of data reduction through whole-part open coding. I read each transcription and field note in its entirety to identify a general sense of central categories and codes in the data (Corbin & Strauss, 2008). I then read each transcription line by line and identified codes that represented teaching behaviors associated with SDM constructs (Emerson et al., 2011). I utilized MAXQDA software to aid in the efficiency of this process. Following the completion of the initial open coding process, I re-coded the data a second time to expose dimensions in the data related to SDM teaching behaviors.

Axial coding. The second level of analysis consisted of axial coding. I utilized constant comparison of categories to generate major themes in the data. The purpose of constant comparison was to identify similarities and conflicts in category dimensions and properties in the data (Brinkmann & Kvale, 2015). I compared properties across each course to gain a rich understanding of SDM teaching in the university setting. I identified relationships from these comparisons further developing each theme (Patton, 2015).

CHAPTER IV

FOSTERING RELATEDNESS IN BASIC INSTRUCTION PROGRAMS

Roughly 17% of adolescents and 33% of adults are considered obese in the United States (Ogden et al., 2014). Ogden and colleagues (2014) suggested that these trends have not changed between 2003 and 2010. It is commonly accepted that serious health consequences are related to obesity (e.g., heart disease, types of cancers). Regular physical activity (PA) participation is one of many strategies to combat obesity.

An avenue that is effective in motivating and informing Americans of appropriate PA practices begins in childhood with structured physical education (PE). Physical education is paramount in the process of teaching students to be lifelong participants of PA. Sollerhed and Ejlertsson (2008) discovered that expanding a PA program prevented excessive weight gain among obese and healthy students and increased their physical capacity. Structured PE is common among K-12 schools, however PE requirements are less common at the university level. The percentage of universities supporting required PE programs, commonly referred to as basic instruction programs (BIPs), has drastically decreased from the 1930s when about 97% of universities sponsored BIPs to 2010 when only about 40% supported BIPs (Cardinal et al., 2012). Because structured PE courses are offered through these programs, they are likely a young adult's final opportunity to develop physical literacy and internalize motivation toward PA. Structured PE is likely

to enhance competency in various activities and overall motivation for those activities for sedentary undergraduate students (Sibley et al., 2013). Further, unmotivated students will ideally be more intrinsically motivated to participate in PA because BIP courses encourage engagement in purposeful and appropriate practice. By reaching the university population, BIP instructors can potentially assist students who are not regular PA participants to be physically literate and internally value PA as they leave a university (Haerens et al., 2010). BIPs are an outlet to provide these opportunities to university students (Mellinger & Cheek, 2010).

Self-Determination Theory

I employed self-determination theory (SDT) as the theoretical framework for this study. According to SDT, a learner holds three basic psychological needs (BPNs): autonomy, competency, and relatedness (Deci & Ryan, 2002). Autonomy is defined as the degree to which learners perceive themselves as initiators of and in control of behavior (Sun & Chen, 2010). Competency is related to a learner's proficiency of activities. Lastly, relatedness is associated with learners' perceptions of belonging and connectedness to a learning environment or community (Deci et al., 2001). As each of these needs is met, learners likely transition along a continuum from an extrinsically-oriented motivational state to a more intrinsically-oriented state (Deci & Ryan, 1985; Perlman, 2011). In the following section, I will provide a brief examination of literature surrounding autonomy and competency in the succeeding section. Relatedness has not been studied extensively in the K-12 PE or BIP populations.

Autonomy

Researchers have hypothesized that students' perceived primary and secondary PE experiences related to learner autonomy can affect their preparedness to be PA participants in early adulthood. For instance, Haerens et al. (2010) assessed the degree to which 2,617 Ghent University undergraduate students perceived their primary and secondary PE experiences to be effective in preparing them to be PA participants in early adulthood. The researchers retrospectively measured students' motivational regulations, total PA levels, weekly minutes spent in MVPA, active transportation, and sports participation in secondary school. The researchers found that students who demonstrated more autonomous profiles self-reported higher PA participation levels were more active in both secondary school and early adulthood when compared to those with less autonomous profiles (i.e., more controlling). This research suggests the effects of learner autonomy in the PE classroom on the transfer of PA participation into adulthood.

Competency

Similar to Haerens et al.'s (2010) findings, Erdvik et al. (2014) assessed the extent to which Norwegian secondary students' current SDM levels, mediated by competency and perceived activity identity, could predict post-graduation PA intentions. Upon measuring post-graduation PA intentions, PA identity, motivational regulations, PA levels outside of PE, and perceived competency, the authors found that SDM may have positively affected post-graduation PA intentions. Particularly, this relationship was strengthened by students' positive perceptions of competency and PA identity. However, these competency effects were significant only for males while PA identity significantly

mediated PA intentions for both genders. This research emphasizes perceived competency's support of SDM on PA participation intentions in secondary students.

Likewise, research suggests that competency plays a critical role in PA participation preferences in the university population. According to Wang (2014), competency may affect undergraduates' leisure-time physical activity (LTPA) preferences. The author assessed relationships between undergraduates' current PA levels, perceptions of competence levels in lifelong PA, and preferences for lifelong PA. Wang (2014) found that perceived competencies were significantly related to lifelong PA preferences, thus suggesting that perceived PA competencies may account for their engagement in lifelong LTPA.

Lastly, not only is competency a significant factor in PA participation among undergraduates, researchers have shown that SDM levels also may be associated with fitness levels. Sibley and colleagues (2013) used tenets of SDT to assess associations between SDM levels and participation motives using measures of physical fitness. They hypothesized that those who exhibited more intrinsic and identified regulations would be more physically fit. Upon assessing reasons for PA participation (i.e., enjoyment, appearance, social fitness, and competence/challenge), motivational regulations, aerobic fitness, and percent body fat (PBF), the researchers found that perceived competency and higher fitness motives predicted better fitness and higher appearance motives predicted lower fitness levels. Moreover, they found that higher intrinsic motivation predicted better aerobic fitness and higher introjected regulations predicted higher PBF. Thus, competency and higher intrinsic regulations may predict greater fitness levels.

Significance

This study compliments current literature because it may contribute to the understanding of relatedness, specifically, as it is associated with a BIP's role in facilitating student SDM towards PA. Additionally, this study will utilize mixed research methodologies to examine relatedness and provide insights into pedagogical practices associated with university BIP instruction that can foster relatedness in the classroom.

Across current literature, little is understood concerning the university PE population specifically and learner SDM. There is a small body of literature that assesses motivational constructs of SDM in BIPs (Haerens et al., 2010; Wang, 2014) however they only target competency and autonomy. There is no research that addresses the relatedness construct in BIPs specifically. More research is needed to understand the role of relatedness in BIPs specifically. This study complimented current literature to help better understand BIPs' role in meeting student relatedness needs as part of SDT.

Further, this study will utilize mixed method research methodologies to assess the relatedness construct. The implementation of qualitative methodologies within this design provided a deep understanding of pedagogical practices that may affect relatedness among BIP students. In the existing literature, most studies have relied on quantitative measures without considering the in-depth perspectives of teachers and students. Coupling qualitative methodologies (i.e., interviews and field notes) with Likert-type questionnaires can be effective in gaining a clearer understanding of students' relatedness perceptions. Additionally, this study investigated instructional strategies that can potentially foster learner relatedness in the BIP classroom. Research is needed to

understand teaching practices that nurture learner relatedness in the university BIP classroom. This study may fill this gap by using field observation and instructor interviews to better describe relatedness-supportive instructional strategies.

As previously indicated, learner autonomy and competency have been studied among university and secondary populations (Haerens et al., 2010; Sibley et al., 2013; Wang, 2014). These constructs have been shown to affect the transfer of PA participation into young adulthood, PA preferences and intentions, and actual fitness levels. However, in order to understand SDM's effects on the university PE population more holistically, research is needed to understand SDM's third construct, relatedness. Therefore, the purpose of this research was to describe university BIP instructors' planning and teaching practices associated with the student-perceived relatedness BPNs in their lessons. Specifically, the research questions were (a) What are university students' perceptions of relatedness at the beginning and end of a BIP course and (b) What teaching practices appear to cultivate relatedness for these university students?

Methods

Research Design

Participants. I utilized criterion sampling to select instructor participants. Criterion sampling is intentional and participants are selected by preexisting criteria (Patton, 2015). The criteria I used in this research were teaching beliefs and prior pedagogical training. Instructors' experiences with varying pedagogical training and beliefs surrounding SDM-conducive teaching would presumably amplify the teaching practices that were or were not consistent with student SDM development. Further, in-

depth examinations of two different instructors and courses increased the reliability of SDM-related teaching findings in BIPs.

Specifically, the participants in this study were a male and female university BIP instructor and the students enrolled in their conditioning and beginning swimming courses, respectively. John taught conditioning and was a Ph.D. candidate in the department with two semesters of formal teaching experience. Kim taught beginning swimming and was a veteran instructor in the department. She held a M.S. degree and had over 30 years of teaching experience in BIPs and in the physical education teacher education program in the department.

Eighteen students (nine per class) initially consented to participate in the study. However, one student from each course dropped their course after the first week of class, making the final sample size 16. I asked student participants from each course at the end of their interviews to self-identify their major, gender, ethnicity, and perceived fitness or skill level. Their demographic information is summarized in Table 5.

Table 5

Student Demographic Information

Major		Self-Perceptions						Gender		Ethnicity			
Kin	Non-Kin.	Condit.			Beg. Swim.			Fm	Male	Aa	C	H	M
		L	Av	Ab	L	Av	Ab						
11	5	3	3	2	3	4	1	13	3	6	7	1	2

Note. Aa = African-American; C = Caucasian; H = Hispanic; M = Multi-Ethnic; L = Low; Av = Average; Ab = Above Average.

Setting. I conducted this research at a moderate size public university (enrollment > 19,000) located in the Southeastern United States. This institution was an accredited four-year university that offered activity courses through an organized BIP. Some institutions offer PA opportunities through campus recreation organizations in lieu of BIPs. Campus recreation-sponsored activities often lack structured course pedagogy (e.g., sequential curriculum, accepted instructional practices, formal assessment). Instead, they offer leisure pursuits that target students already motivated to participate in PA. The BIP program at this university was instructional in nature offering pedagogically structured lessons and formal assessments of student knowledge and performance.

This study encompassed two BIP courses (i.e., conditioning and beginning swimming) that were part of the Department of Kinesiology course offerings at the university. Both courses were one-credit hour and were included in the PA requirements for undergraduates majoring in Kinesiology. The courses were taught during a 5-week summer session in which they each met four days per week for two hours each day. I elected to sample fitness- and skill-based courses because they are commonly taught in other BIPs. These course activities are also easily accessible outside of a university setting.

Research Procedure

I implemented a mixed methods design using quantitative and qualitative measures. According to Patton (2015), a mixed methods design potentially reduces threats to internal validity through triangulating research procedures. Further, by using mixed methods, I was able to obtain a deep understanding of teaching methods that may

affect relatedness among BIP students by collecting instructor and student perspectives. I obtained IRB approval and permission to conduct research from the Department of Kinesiology chair and both instructors prior to data collection. Both instructors and their students formally consented to participate.

Data collection. To reduce reactivity effects and to generate interview questions from emergent data and natural inquiry, I collected data in the following order: questionnaires, field observation, and interviews (Patton, 2015).

Questionnaires. I administered a modified version of the Basic Psychological Needs Scale (BPNS) to assess BPNs (i.e., autonomy, competency, and relatedness). The BPNS was originally developed to assess BPNs in the workplace (Deci et al., 2001). The original BPNS was validated by Deci et al. (2001). Alpha coefficients were as follows: autonomy = 0.79, competency = 0.73, and relatedness = 0.84. The root of each item reflected each BPN, however I altered each item's wording to reflect BIPs. For instance, I changed item three from its original context, "I do not feel very competent when I am at work," to, "I do not feel very competent when I am in class." I administered the BPNS in a paper/pencil format during weeks one and three of the five-week summer session. Students completed questionnaires at either the beginning or ending of the lesson (per instructor's request). The BPNS consisted of 21 items scored on a 7-point Likert scale (1 = not true at all, 4 = somewhat true, and 7 = very true).

Additionally, I administered a modified version of the Perceived Locus of Causality Scale (PLOC) to assess motivational regulations (i.e., amotivation, external, introjected, identified regulations, and intrinsic motivation). Because the PLOC was

originally developed to assess reasons for sport behavior (Goudas et al., 1994), I altered each item's wording to reflect BIPs as opposed to sport. For example, I changed "sport" to "this particular activity course." The original PLOC was validated by Ntoumanis (2002). Alpha coefficients were as follows: > 0.70 for intrinsic motivation, identified regulation, and external regulation, 0.69 for introjected regulation, and 0.85 for amotivation. I administered a paper/pencil version of the PLOC during weeks one and three of the summer session. The PLOC consisted of 17 items that were scored on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Field Observation. I conducted field observations during weeks one through three of the summer session. I completed eight observations in the conditioning course and nine observations in the beginning swimming course. I remained semi-covert throughout this process until after data collection was complete. I did not want to identify sensitizing concepts to John and Kim during field observation because I wanted to reduce reactivity effects as much as possible. Throughout the observation process, I unobtrusively maintained the role of spectator-observer with the exception of one conditioning lesson when the class participated in a Fartlek run. It was necessary that I participated, running with the students, so I could accurately describe John's instruction. The observation focus progressed from an initial baseline description of instructor methodologies followed by consistencies and inconsistencies across the summer session.

Interviews. I conducted two interviews with each instructor and one interview with each student who consented to participate (16 total student interviews). I completed all field observations prior to interviews except the first bout of instructor interviews. The

first round of instructor interviews occurred during week one of data collection with their purpose being to gain a deeper understanding each instructor's expectations for his or her students, as well as their course objectives, planned course content, and planned strategies to meet these objectives and maintain expectations. The purpose of the second round of instructor interviews was to gain a deeper understanding of each instructor's knowledge concerning BPN-supportive teaching methodologies, identify rationales behind their implementation of observed teaching methodologies, and clarify events observed in field observations. I conducted the second round of instructor interviews in the final week of the summer session. Further, the purpose of student interviews was to gain a better understanding of their BPNs and motivational regulations and their perspective on instructor used teaching practices that enhanced or inhibited relatedness.

I conducted the first round of instructor interviews in each instructor's office while conducting the remaining student and instructor interviews in the lobby of the university's Kinesiology building. I utilized a semi-structured interview guide, audio-recorded, and transcribed verbatim each interview. When transcribing the interviews, I used codes and pseudonyms to maintain participant confidentiality.

Data trustworthiness. I implemented numerous strategies to increase the qualitative data trustworthiness. First, I controlled for reflexivity effects by providing authentic and detailed descriptions of field observations, used descriptive as opposed to judgmental language, and wrote memos and comments separately from descriptive data during field observation. To control for reactivity effects, I deliberately ordered the occurrence of data collection methods (i.e., questionnaires, field observation, and

interviews), remained semi-covert during field observation, and unobtrusively maintained my role as spectator-observer during field observation. Further, I maintained neutrality during interviews by avoiding pressing for responses and leading questions. I used probing questions late in each interview to solicit information about the instructor's use of particular teaching practices when participants did not volunteer this information during early segments of the interview. I conducted member checks on all interviews to ensure the accuracy of participant statements. Lastly, I reported negative cases and triangulated data sources (Patton, 2015).

Data Analysis

Quantitative analyses. I used descriptive statistics (i.e., means and standard deviations) in addition to Cohen's *d* effect sizes to describe all questionnaire data to answer the first research question. I utilized these particular statistics to describe student BPNs and motivational regulations at two time points, the beginning and near end of the courses. Because I was not able to claim statistical significance, I calculated effect sizes between pre- and post-scores within each course to assess the magnitude of difference between pre- and post-means.

Qualitative analyses. I open and axial coded the data to develop codes, categories, and themes (Patton, 2015). Through inductive analysis and constant comparison, I generated major themes that emerged from the data. I utilized MAXQDA software to aid in data sorting and organization. The initial stage of qualitative analysis consisted of data reduction via whole-part open coding. I read each transcription and assigned codes to the data. I completed this task twice and generate categories through

constant comparison. The final stage of qualitative analysis consisted of axial coding. Through constant comparison, I compared categories across all data mediums. I repeated this task twice, generating themes (Patton, 2015).

Results

Quantitative data from the BPNS and the PLOC point out changes in student motivation in the swimming and conditioning courses over the summer session. Tables 6 and 7 display means (*M*), standard deviations (*SD*), and effect sizes (*d*) per dependent variable from pre- to post-assessment. The scores are differentiated by course. My first research question addressed students' relatedness perceptions at the beginning and end of the summer session. Based on mean BPNS relatedness responses and Cohen's d effect sizes, it appeared that the conditioning students' relatedness scores decreased while the beginning swimming students' scores increased. These findings were in conjunction with decreases in the more internally-regulated forms of SDM (i.e., identified regulation and intrinsic motivation) in the conditioning course, and increases in these same forms of SDM in the beginning swimming course.

Table 6

BPNS Descriptive Statistics

	Pre-Scores		Post-Scores		Cohen's *d*	
	Cond.	Swim.	Cond.	Swim.	Cond.	Swim.
Construct	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*		
Autonomy	5.21 (1.10)	5.06 (0.60)	4.95 (1.34)	5.68 (0.78)	-0.24	1.03
Competency	5.80 (0.68)	5.95 (0.81)	5.60 (1.64)	6.44 (0.51)	-0.29	0.60
Relatedness	4.81 (0.82)	5.33 (0.46)	4.51 (0.80)	5.94 (0.41)	-0.37	1.33

Note. Cond. = Conditioning; Swim. = Beginning Swimming.

Table 7

PLOC Descriptive Statistics

	Pre-Scores		Post-Scores		Cohen's *d*	
	Cond.	Swim.	Cond.	Swim.	Cond.	Swim.
Construct	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*		
Amotivation	1.46 (0.56)	1.27 (0.34)	1.50 (1.28)	1.29 (0.58)	0.07	0.06
External	2.16 (1.56)	3.85 (0.80)	2.41 (1.61)	4.19 (0.70)	0.16	0.43
Introjected	2.22 (0.97)	1.80 (0.71)	2.25 (0.80)	2.31 (0.95)	0.03	0.72
Identified	4.17 (0.78)	4.00 (0.77)	4.00 (0.99)	4.37 (0.52)	-0.22	0.48
Intrinsic	4.17 (0.76)	3.83 (0.81)	3.83 (1.20)	4.04 (0.52)	-0.45	0.26

Note. Cond. = Conditioning; Swim. = Beginning Swimming

In the following section, I will contrast both instructors' teaching practices that were consistent with these apparent increases and decreases.

Relatedness

In the context of this research, relatedness was characterized by learning environment and building relationships. Particularly, relatedness pointed to a learning environment that was non-threatening (i.e., mutually respectful and encouraging), facilitated as a cohesive unit, and increased comfort to connect students to the related activities' environment. Building relationships was characterized by engaging students in activities that fostered relationships among their peers and building student-instructor relationships by establishing trust, maintaining approachability, and displaying a sincere interest in the students. I will discuss these two characteristics as relatedness categories in the following section. Within each category, I will contrast John and Kim's instructional practices observed in field observation and taken from interview responses.

Learning Environment

Non-threatening classroom environment. My findings supported the need for instructors to create a learning environment that is positive and non-threatening. Creating a learning environment that was mutually respectful and encouraging seemed to aid in establishing a non-threatening classroom environment. Student and instructor interview responses supported Kim's ability to foster this type of environment. For instance, Kim articulated the necessity of establishing mutual respect between instructors and students to build cohesiveness:

> I think that they need to see that you're human. I think if you are human and not the instructor up here somewhere, I think they respond to that. I talk to them as adults. I rarely have to get on them, but if I have to, I will. So, I think that's the way you build that cohesiveness with your group.

Kim's statement implied avoiding portraying superiority over her students and modeling respect in the learning environment. Student interview responses supported this claim. For instance, when I asked the extent to which Kim expressed a rationale for completing tasks, multiple students responded that there was not a need for Kim to explain the "why." Ashley stated, "She doesn't need to explain herself more than once unless it's really, like, I'm not understanding how I'm supposed to be doing this. It's not a respect issue."

Conversely, while one of John's course objectives was for his students to "demonstrate respect for their classmates and interact with their classmates," John did not model this same respect for his students. For instance, during the lesson prior to completing the Fartlek run, I asked John the duration of the Fartlek run. He responded,

"As long as they last. I feel like I'll be going with my dog, you know? If I see them panting, I'll know to slow down a little bit." Taylor's interview responses supported John's lack of respect toward his students, specifically because she perceived John to reinforce stereotypes. Particularly, she stated the course was "segregated to where there's this air that some people are less fit than others and there's...weird connotations about, like, eating or lifestyle that's so non-specific and irrelevant to the class." Additionally, at the conclusion of her interview, I asked Taylor if she held any suggestions for John to improve his teaching. She responded, "I would suggest that he try to touch with his students on more of an adult level...and try to connect with people emotionally and culturally."

Further, Kim reinforced a learning environment that appeared to be emotionally safe and supportive by providing encouragement to students of all ability levels. For instance, consider this lesson segment in which Ashton (one of the non-swimmers in the course) completed her first full length:

> 'Yes! Whoo!' Kim shouts as she and the helper are clapping and smiling. Kim then takes her lifeguard float and twirls it around her head. 'How does it feel?' she asks Ashton. 'Tired.' 'I'm so proud of you. You almost stopped but you didn't, makes me tingle. Whoo!'

Kim was also supportive of the more skilled students in the course, stating in lesson three, "You've worked hard this week and made great progress. For you more experienced people, you've really refined your skills a lot. Looks good!" Kim's students supported this as evidenced by their interview responses. Consider Ashley's description of the course's learning environment: "I think it's safe. I feel respected, I feel like no one

is judging me in that classroom because we're all on different levels. We all get it. We're all in the same situation whether someone has swam before and someone who can't swim at all." Kim's actions reciprocated to her students. Consider this scene where Kay, a non-swimmer, had successfully front crawled without using a kickboard:

> Kim then starts to walk over to the shallow end. Kay is front crawling without the kickboard. The instructor starts to clap quickly, 'We have another swimmer on our hands!' Ashley and Lindsey cheers. 'We have a Michelle Phelps!' Ashley shouts from the lap lanes.

Consequently, it appeared that Kim's ability to facilitate a non-threatening learning environment to be conducive to student relatedness.

Conversely, John did not provide encouragement and positive support to students in the conditioning course. In his initial interview, John stated his desire for students to value the effectiveness of encouragement in the course by, "trying to get them to appreciate what verbal encouragement does for their (the students') partner or something else in the workout." However, John only displayed this level of support once during the first lesson of the course. Consider this segment from the aerobic portion of the fitness pre-assessment:

> The next group lines up at the start line. 'Remember to breathe, go!' John shouts. The students begin. For about the first three minutes, the only noise is feet scampering across the wooden floor as the students run (with the exception of John saying 'go' after each beep). Shortly thereafter, two female students yell, 'You got it!' Some of the other students and John join in saying things like, 'Good job, keep pushing!'

John perceived this lesson segment differently. Consider his interview statement regarding this same instance:

> I'm telling them you want to encourage your partner, you want to be vocal with your partner. If they miss it, go, 'It's okay. You missed this one, catch up!' Instead, I ended up doing a lot of that and they stood very passive and quiet, and they didn't even start clapping or cheering for the final ones until I was doing it. You would see that naturally come out in more of a team dynamic but you just don't see it so much in the class.

Aliyah commented on the absence of John's encouragement throughout the course, stating, "I feel like he should do more encouraging, like ways we could encourage each other. Maybe have a, what is it called, a reliability partner." Conversely, Amber perceived the course to be "very respectful," with everyone being encouraging, not judgmental. Despite Amber's negative case, it appeared that John's students perceived him to be lacking in modeling positive support and encouragement.

Building community. Additionally Kim established a sense of community in her course, which appeared to positively affect the learning environment. She accomplished this by instilling a cohort mentality in the course through engaging with her students and reducing competitiveness. Kim emphasized her belief in the importance of building a sense of community in her swimming courses, stating, "What I try and do is on that very first day and the very first week is develop a sense of community so that they're all in it together even though there's a couple of non-swimmers and there some people who swim." Kim established connections with students by engaging with them through conversation both related and unrelated to the course. Particularly, she connected with students based on their personal attributes or common interests. She noted the importance

of this in her second interview: “I’m very… I guess I would call it friendly, but you know still have that distinction between being the instructor, but I like having that feeling of togetherness.” This was supported throughout field observation. Consider this scene from the conclusion of lesson one in which the instructor is speaking with two students regarding their ethnicity:

> I approach Kim about setting up an interview time. I wait patiently for the opportunity and listen to their conversation (Kim and two students). Kim asks Ashton if she’s from Jamaica (Ashton has a Jamaican flag shirt on). ‘No, my boyfriend is,’ Ashton responds. I’m from Africa. Ashton looks at Alan and asks, ‘You’re from Africa too?’ Alan responds, “Well, my family is, I was born in England.’ Kim interrupts, ‘You are? What part?’ Alan explains London. With Kim’s eyes getting bigger, ‘I am from south London.’ Ashton then says, ‘What? I thought you were Australian.’ Kim rolls her eyes and they all laugh.

Ashley supported Kim’s ability to bring cohesion to the students through conversation and purposeful engagement, stating, “...she’ll also bring up class discussion about other things and laugh and joke with us, and I think that helps with the classmate kind of thing.” I consistently noted laughter in Kim’s class throughout my field notes. For example, when teaching the students breathing techniques, Kim joked with Connor for not exhaling for the instructed three-second intervals:

> I notice Connor is breathing for longer than three seconds. The instructor stops and looks at him. He has been going for about 30 seconds now. In a humorous and sarcastic tone, ‘That’s a long three seconds.’ Connor pops his head out of water. The class laughs. The instructor redirects the students to try exhaling for only three seconds. (There is a lot of laughter among the students and instructor.)

Additionally, Kim encouraged a sense of community by combating competitiveness between her students. In her second interview, Kim made a comment

that reinforced her belief in creating a sense of community emphasized in her first interview:

> When I first meet the groups I always mention that we're all in this together, you know, that it's not a competition. If you can swim, I want you to be very encouraging to the ones who cannot swim. So...I think I successfully always make my swimming classes a nice cohort.

Throughout her lessons, Kim emphasized individuality on a consistent basis. For instance, near the end of the summer session, Kim would instruct the students to complete a series of strokes "on their own time," thus eliminating competition between students. Numerous students supported these occurrences and Kim's interview statements in their interviews. For example, Ashley stated, "I think the whole class has been based on personal improvement..." Additionally, Casey made a similar claim, stating, "She doesn't really compare us in that way. She focuses on the person and their improvement, she doesn't really say, 'Oh, Casey's doing way better than this person.'"

Contrastingly, John did not facilitate community in his course. This potentially stemmed from his beliefs the course's purpose and structure. During lesson four, I noted a conversation between John and a weight room attendant. John indicated his conflicting view of activity courses in the department:

> John walks back over to my end of the weight room and finds a floor attendant. I assume they know each other from a previous class because she appears to be a student worker and they are talking about other courses here in the Kinesiology department. Mandy is standing close by and joins the conversation. She asks John why the conditioning and weight training courses will be combined into one in the upcoming semester. John comments on what other activity courses are like at institutions such as the school where he received his bachelor's. [Paraphrasing] 'In those classes we learned about movement analysis, injury prevention, and how

> to apply it to life. Here, we're more-so babysitting. You come in a class and the instructor goes, 'Okay, we're just here to jog,' whereas other places ask, 'How would you teach and demo this movement?' They give you something tangible. In undergrad I walked out of a class with a CPR certification.'

Through informal conversation in the lessons, John repeatedly referenced his beliefs of the purpose of the course. For instance, in lesson three, he stated, "Like we talked about last time, activity classes at other places have more purpose." Further, John expressed his beliefs about the course structure through informal conversation in other lessons. For instance, due to the course's low enrollment, John desired to treat each student as an individual personal trainee. During lesson one, John stated, "I wish we had our own space and I could treat these guys as clients." Additionally, during lesson three, John stated, "With these small numbers I could almost do 30-minute personal training sessions." Field observation data were consistent with John's statements. During instructor-led and individual workouts, there was minimal interaction between the students and John. Particularly, during lesson four, an individual workout day, John worked out individually during the lesson. Consider this lesson segment: "I walk around to observe what the class and John is doing. About five students are spread out in the weight machine room and two to three are in the free weight room. The instructor is squatting independently. This continues for about four minutes and then Mandy walks over and asks the instructor a question." Another field entry from lesson eight supported this scene:

> Typically, the instructor goes up to the weight room and works out on days like today (individual workouts). If students ask him questions, he explains and talks to them. Or, if he sees something they're doing that's incorrect, he'll talk to them about it, but typically there is not a lot of teacher-student interactions to observe.

The conditioning students' interview statements pointed out John's lack of effort to encourage community in the course. Adam expressed this in his interview:

> Most professors, especially in a small class, will have kind of like some kind of introduction where everyone gets to know each other. I feel like that would be especially easy in such an active class like that. I mean, there was only like 10 people, but he really didn't try to do anything like that.

With the exception of a group assignment in which the students designed and led their classmates through a formal workout, John did not execute strategies to create community. For instance, Shannon emphasized this in her interview, stating, "Everything else is just pretty much up to you if you want to communicate with others (aside from the group assignment). Although John reported that he valued community and wanted his students to interact, he used few grouping or class structures to facilitate this process. Students were quick to point out both their desire for social interaction with John and with their classmates and the missed opportunities for positive interactions because of John's rigid expectation for 'individual workouts.' His desire that students learn to exercise on their own limited his interest in creating a class community.

Integration of course content. Instructors in BIP courses often work to help students apply the content to their daily lives. Successful integration of course content into students' daily lives seemingly stems from students' increased comfort in the activities and efforts to connect them to the environment in which the activities occurred (i.e., a regulation-size pool or a fitness center). Interestingly, although Kim did not explicitly teach for integration, all but one of her beginning swimming students stated they were motivated to continue to participate in organized swimming. For instance,

Ashton, initially a non-swimmer, commented that she had always been motivated to learn to swim but she never felt comfortable in the water. She stated, “I’ve always wanted to learn swimming so I was always motivated to do it, it was just more of getting in the water. You can be motivated from afar, but when I actually got in and now I was just, ‘Okay, this isn’t as easy as I thought it was,’ but I pushed myself.” Later in her interview, Ashton self-identified herself a “level 10” (scale of motivation), stating that she desired to teach others how to swim and to continue to swim at her local YMCA. Similarly, Kay, the other non-swimmer, possessed a comparable perspective. During informal conversation with Kay prior to lesson six, she stated, “I was really scared the first day but now I’m not. I’ve actually been around water all my life, I’ve just never got in a pool. I’m from the coast so I was always in the ocean, but in there you just jump around and play. My mom just never taught me to swim.” During her interview, Kay stated the reason her skill improved was because she “got more comfortable with the water,” and was more motivated to continue swimming because she, “got to the point where she was comfortable with it. It felt good...in the water.”

John made explicit efforts to help his students integrate course content into their daily lives. He helped students to become aware of exercise opportunities outside the course and established a level of comfort in the gym. John encouraged his students to value PA and adopt a healthy lifestyle on an individual level. In his initial interview, John emphasized that his course priority was for students to “develop a...healthy lifestyle where they make this type of exercise a daily part of their routine.” Additionally, John expected his students “to be able to come in and know and feel comfortable with what

they're doing in the weight room so they can have that knowledge and understanding going forward."

John directly connected lesson activities to PA opportunities outside the course. For instance, while leading students through a circuit workout, he communicated how easily it was to complete the exercises in various settings: "These stations are good because you can do these anywhere, at home, on the street, with the exception of the [balance] balls." Additionally, John pointed out equipment modifications for exercises (e.g., gym bleachers in lieu of step boxes). Students increasing familiarity with the weight equipment and weight room protocols increased their comfort level and provided a reason to continue exercising in formal gym settings. For instance, Jason stated, "I feel a lot more comfortable with a lot of the facilities and just using all that stuff. I felt like I formed a lot of healthy habits that will keep me in shape." Jason additionally stated, "I'm looking at it as a positive experience and it really got me sort of more comfortable with the gym and it really got me more comfortable with every, with just working out in general." Mandy supported Jason's statements by commenting, "I know a lot more about using the machines, so I feel a lot more comfortable about coming in by myself and using machines." Therefore, it seemed that facilitating students' desire to integrate course content into their daily lives was a relatedness aspect present in this research.

Building Relationships

Partner and group activities. Kim fostered student-to-student relationships by intentionally engaging them in partner and group activities. For instance, during a water

exploration activity (i.e., floating), Kim paired the less-skilled students with the more advanced students:

> Kim asks the students which of them were comfortable with floating on their backs. All but one student (Kay) raises their hands. She then asks Mark to partner with Kay. Kim then demonstrates the form for floating. As she is demonstrating, she states, 'You will put one hand on their lower back and the other behind their neck for support.'

Later in the lesson, Kim teaches the students a jellyfish float. During this segment, Kim states, "Let's remember the 'breathe out of water rule.' Only breathe when your face is out of the water. Work with a partner on the jellyfish float." Ashley supported these instances of partner work by stating, "Sometimes she'll (Kim) have us get together and partner up and work together, even just having us doing games, too, I think is a great way for us to get to know each other instead of just doing your own workout the whole time." Lindsey reinforced Ashley's comment, stating, "In the beginning of class where she partnered us up a little bit, I think that helped us build a relationship even if you didn't know somebody in the class, you had to know them."

Additionally, a second aspect of partner activities that seemed effective in nurturing student relationships was reciprocal teaching. Students aided in instruction by teaching their peers throughout lessons. For instance, Kim utilized the more advanced students by having them work with the lower-skilled students in the course. This periodically occurred without her prompting:

> Ashton and Ashley continue to work independently in the shallow end. Ashley is speaking to Ashton. "Are you kicking like this," (moving her arms up and down) "or like this?" (Wobbling her shoulders and arms around.) Ashton then glides off

> the side of the pool deck and practices a front crawl. Ashley follows her close by as she swims. (Ashley was not prompted by the instructor to help Ashton.)

Kay, a lower-skilled student commented on how helpful and encouraging reciprocal student teaching was to her learning: "And there also, like, the people in the class, they were really nice, so they'll be out there to help you too. Like, sometimes, 'cus she (Kim) can't get in the water, they had no problem coming over." Consequently, it appeared that placing students in an instructional/reciprocal role benefited students in both roles and encouraged student relationship

Further, during each week's final lesson, Kim designated time for students to play an organized sport (e.g., water polo) as a class. Kim stated its purpose was for students to have fun and to complement their hard work every week. In the interviews, every beginning swimming student mentioned how effective the games were in building relationships among peers, especially because swimming is an individual activity. Casey supported this observation by stating, "On Thursdays we kind of get together and do a group activity, and it kind of gets us moving with each other..." Ashton supported this same comment, stating, "When we're playing games and stuff and we're on different teams, that's where we learn how to bond with one another just to see your strengths and your weaknesses, things like that."

Conversely, John occasionally encouraged partner work during lessons (e.g., spotting), but he did not actively lead students through partnered activities. This was evident throughout field observation. The students completed one circuit workout and the fitness assessment in partners. Scott supported John's lack of execution in leading the

conditioning students through partnered activities, stating, “He suggested us partnering up for some, like, workouts such as benching and stuff. I personally kind of worked at a higher rate than most people and so I didn’t necessarily partner up a lot.” Mandy made similar claims, stating, “There have been times when he would encourage, has encouraged us to partner up with somebody, so of course that’s going to enhance our relationships.” However, not all students felt that John encouraged partner work.. For instance, Aliyah commented on how she would have liked John to engage students more often in partner work:

> I feel like if he did more of… if we did individual workouts, it should be more like partner workouts and maybe have a different partner every day. Like, me try something, whatever this person that I haven’t worked with, his workout routine, and then the next day have a different partner, and that’s how we’ll all get to know each other.

Amber made a similar claim, stating, “I guess, like, It’d be nice to, if he could say instead of individual workouts, break people off into small groups or in twos maybe and say you guys can work out, you can work out together.”

Although John did not facilitate partner activities, he did foster student relationships on one occasion through a group assignment near the end of the course. John grouped the students together and assigned them to create and lead their classmates through a group workout. This was supported by student interview responses. For instance, when I asked Adam how John encouraged relationships between him and his classmates, Adam responded, “I guess I would say he doesn’t, besides the, we have the one group project. Other than that, there’s nothing.” Similarly, Josh stated the group

projects “forced the students to work together.” Additionally, Scott stated that he “definitely got to be good friends with the people that were in his group for the workout thing, that they were good people to work with.” Therefore, the students seemingly perceived the intentional grouping of classmates in partners or larger groups as important in building student-to-student relationships.

Establishing trust. In addition to student-to-student relationships, Kim also facilitated relationships with her students. Kim appeared to ground these relationships in trust between herself and her students. Throughout her lessons, Kim repeatedly encouraged her students to trust her. For example, during lesson two, Kim taught her students to sequence together breathing cycles and arm and leg movements when performing the front crawl. During monitored practice, Kim noticed that the students were failing to kick as they swam. She then stated, “Who is forgetting to kick? What you do here (shallow end) will be what you do there (the lap lanes). You have to trust me.” Later in this lesson, Kim instructed the students to practice these movements in the lap lanes. During this time, Kim followed Kay down the pool deck as Kay performed the flutter kick with a kickboard for the first time. As Kay prepared her first attempt, she hesitated. Kim reassured her, stating, “You’ve got to trust me,” and smiled at Kay. Kay responded by nodding her head and smiling. Additionally, during lesson nine, Kay taught her students the flip turn. Consider this segment from her instruction:

> ‘The helper is now going to do six strokes and tuck and stop. She’s not going to touch the wall. She’s just going to flip,’ Kim says. The helper demonstrates this movement as the students watch. ‘You’ve got to trust me. You’re not going to hit the wall. That’s why we’re practicing here,’ Kim exclaims.

Kay supported Kim's effectiveness in establishing trust on her improvement in the course. During her interview, Kay stated, "I didn't think I could do it (swim successfully), but as I listened to her, I was like I'm pretty sure I can do it because she knows what she's doing." Moreover, the more experienced students perceived Kim to trust them in addition, stating, "I feel like she gives us control when she lets us go on our own while she's helping other people...'cus I think she trusts us in that way."

Conversely, the concept of trust did not surface during field observation in the conditioning course, nor did John's students comment on this element of instructor-student relationships in their interviews. However, John briefly commented on the importance of trust in student mastery of course content in his second interview, stating, " "'...I know you don't think you can do anything, but if you just follow my instruction...Just try it. Give me yourself and let's just see what happens,' and then they go, 'Oh yeah, I'm a different person. It's the best feeling.'" While John appeared to value the trust of his students, this element was not present in his instruction. Therefore, based on these findings, it seemed that trust was an important facet of instructor-student relationships.

Instructor approachability. Instructor approachability and transparency appeared to play a minor role in student-instructor relationships. Overall, Kim and her students did not explicitly discuss this element of relationships, however Ashley regarded Kim's approachable demeanor as a positive aspect of her experiences in the BIP on campus. In her interview, Ashely stated, "She's fun and very people-oriented. It's like

she's very approachable. A lot of times at UA, people that are instructing, in my opinion, aren't somebody that I would go up to after class ends..."

Further, John valued and attempted to encourage student-instructor relationships by verbalizing his approachability. For instance, he stated in his initial interview, "I want to have open dialogue with them. I want to know if something is too hard or too easy and I want them to honestly say that..." John frequently voiced his willingness to be approachable throughout the course. Consider John's statement given prior to an individual workout day during lesson five: "Okay, I want to reiterate to you guys that if you need some help, maybe your workout is flat and you are having trouble coming up with ideas on your own, I can help you." John reemphasized this willingness to assist his students during a circuit workout: "If you think you remember how to do these things now and get to a machine and forget, just holler and I'll help you out." Two of John's students supported his approachability. For instance, Josh stated, "I think that the fact of the matter is that I'm, I feel a part of the group and that I am just, that I enjoy being there and I know that I can go to him if there's anything I have questions on." Additionally, Scott stated, "I felt very comfortable with him in terms of, like, he wasn't intimidating about, like, asking to teach about stuff." Therefore, portraying a sense of approachability was conducive to encouraging student-instructor relationships.

Instructor interest. Kim's display of sincere interest in her students appeared to be conducive to building relationships with her students. For instance, during lesson five I noted a memo speaking to Kim's use of student names and initiation of conversation: "Another consistency of Kim is she uses student names almost every time she is talking

to them and she will frequently engage in casual conversation with the students about topics unrelated to the course." Multiple students articulated this quality to be important to their learning. For instance, Ashley expressed her appreciation for the instructor taking time getting to know her:

> She's interested in helping you. She takes the time to understand you, know what your weaknesses are, and she focuses on each student individually so that you don't feel like just a number, so that's something that's really good about this class. I've enjoyed that, just getting to know her and her taking time to get to know me.

Additionally, Lindsey agreed with Ashley's about Kim's willingness to show interest in her students, stating, "I don't feel like we could never ask her anything or couldn't say anything and she would shut us down, so she kind of leaves the floor open to whatever things we have to say."

Conversely, while John verbally welcomed relationships between himself and his students, he did not actively pursue them. Typically, John would begin a lesson by explaining course-related information (i.e., "housekeeping" information) and asking the students how they were doing or how they physically felt after the previous lesson. However, John only attempted to get to know the students formally on one occasion. During lesson two, an individual workout day, John walked around to each student, to "make sure everything was going well, to get to know their names, and get to know them." However, during other individual workout days, he rarely interacted with students apart from course-related feedback. John frequently completed his own independent workouts during individual workout lessons. On one occasion, John mentioned his

boredom, stating, “I’m so bored right now, man, I really am.” As previously noted, students responded negatively to John’s lack of interest in developing relationships with them. For instance, Adam stated that he wished John would have personally engaged more. However, Aliyah held an opposing perspective, stating, “I like that he comes around and he’ll watch for a second to see if you’re doing something right. But I mean either way, if you catch him, he’ll just come over and talk anyway.” Therefore, actively portraying a genuine interest in students and their needs appeared to positively affect student-instructor relationships.

Discussion

Based on quantitative and qualitative findings, it appeared that relatedness was instrumental in developing student SDM. Because of my small size and a lack of inferential analyses, I was not able to claim statistically significant increases or decreases in relatedness with the BPNS pre- to post-assessment. However, other studies assessing similar populations (i.e., secondary PE students) have found significant changes in BPNS scores. These similar findings may support my findings and point to actual change in relatedness from pre to post as a result of instruction. For instance, Wallhead et al., (2014) compared BPNs in students whose teachers implemented the Sport Education Model (SEM) versus Multiactivity (MA). Preliminary analyses (i.e., mean scores) showed significant increases in relatedness from pre (5.12) to post (5.28). Similarly, Perlman (2010) assessed BPNs in amotivated students who participated in either an SEM or Traditional Approach condition. Perlman’s (2010) results indicated significant pre (M = 3.07) to post (M = 3.63) increases in relatedness satisfaction among students in the

SEM condition. Moreover, Taylor et al., (2010) measured motivational regulations as predictors of effort, exercise intentions, and LTPA at three time points in a trimester. In their sample, Taylor and colleagues (2010) found consistent changes in each regulation across the trimester's three time points (e.g., intrinsic motivation means: 4.81, 4.98, 4.88). Therefore, it is possible that there were actual changes in my sample's BPNS and PLOC scores based on findings from these studies. Additionally, I identified teaching strategies that positively and negatively affected relatedness. As a result, two themes emerged from the data: intentional interaction and the desire to be valued.

Intentional Interaction

Findings from my study support the premise that an instructor's efforts in facilitating relatedness is intentional and actively initiated. In other words, instructors facilitate relatedness in BIPs through genuinely and actively investing in the students and fostering a sense of community and cohesiveness. This is different from merely verbalizing relatedness instructional strategies. For instance, a number of beginning swimming students commented how Kim actively encouraged relationships between their peers through the intentional planning of group games at the conclusion of the week and student reciprocal teaching opportunities. Conversely, a conditioning student commented how she wished John had made an effort to lead the students through some type of "get to know you" activity. This supports Gibbons' (2014) claim for the necessity of interspersing team-building activities throughout a term. A handful of conditioning students commented that John attempted to reinforce peer interaction, but it did not "translate over." Therefore, actively and intentionally engaging students, generating peer

relationships, and building community in a course appears to be effective aspects in encouraging relatedness.

The Desire to be Valued

A second theme that emerged was the students' desire to be valued on a personal level. Instructors who exemplify an effort to care for students as an individual in addition to a professional is effective in meeting this need. However, this does not mean that instructors overstep appropriate and professional boundaries. For example, Ashely valued Kim's effort to take the time to get to know her and care for her as an individual, emphasizing she "wasn't just a number." Conversely, Adam, a conditioning student commented that he wished John had made an effort to "personally engage" with him. Connell and Wellborn (1991) noted that relatedness is connected with one's desire of feeling worthy, loved, and respected. Additionally, Vygotsky (1978) affirmed that developing relationships with others who are knowledgeable is conducive to learning according to social-constructivist pedagogy. These findings support this notion of instructor-student relationships at both a professional (i.e., class-related) and personal level.

Conclusions

By using mixed measures, I was able to explore aspects of relatedness in SDM from student perspectives. While relatedness is equally as important to autonomy and competency in assessing SDM holistically, it is often overlooked in the literature. These findings supported Gibbons' (2014) claims for the necessity of team-building exercises to encourage student relationships, that instructors should actively and intentionally

encourage peer relationships and show interest in instructor-student relationships rather than merely verbally encouraging those behaviors. Further, these findings support similar claims from Connell and Wellborn (1991) that relatedness is associated with one's desire of feeling worthy, loved, and respected. Additionally, these findings support the need for instructors to care for students on an individual and professional level. Lastly, I discovered that building community in a BIP course encourages. Thus, when instructors establish and maintain control over the classroom, yet present themselves as approachable and non-superior to the students, the students can feel cared for as individuals.

While findings from my study are promising in conveying additional information regarding SDM's relatedness construct, it is important that I discuss limitations and future recommendations for research on this topic. First, supplementing qualitative findings with inferential statistical analyses can aid in providing support in the form of triangulation between observed and perceived teaching strategies and changes in student SDM. I suggest using larger, more representative sample sizes that permit the use of inferential rather than descriptive statistics in future mixed-method BIP studies. This might involve conducting research with larger enrollment BIP courses or including additional courses or course sections to increase sample sizes. Second, as more research is conducted examining SDM in BIPs, the emerging categories and themes will permit future researchers to begin the research using research-based *a* priori categories such as teaching strategies that may contribute to nurturing relatedness in BIPs. Upon establishing these strategies across other BIPs, a final future recommendation I suggest

would be to validate a quantitative measure that would allow the in-depth assessment of relatedness aspects on a greater scale aside from the current more generic questionnaires.

CHAPTER V

RESULTS AND DISCUSSION

I was able to identify a number of instructional strategies that were more or less conducive to student BPN cultivation. I will begin this chapter by detailing BPNS scores to answer the first research question and then describe categories and generated themes related to SDM conducive instructional strategies to answer the second research question. My research questions were (a) What are university students' perceptions of autonomy, competency, and relatedness at the beginning and end of a BIP course and (b) What teaching practices appear to cultivate BPNs for these university students?

Results

My first research question addressed student BPN perceptions at the beginning and end of a BIP summer session. Based on mean BPNS scores and Cohen's *d* effect sizes, there were seemingly increases in autonomy and competency scores among the beginning swimming students and decreases among the conditioning students from pre- to post-assessment. In the following section, I will contrast instructional practices of both instructors and point to consistencies between BPNS scores and their instruction. My second research question examined the instructors' teaching practices that facilitate BPNs for university BIP students. In the following section, I will discuss three categories related to autonomy and competency: meaningful instruction, differentiated instruction, and active learning.

Meaningful Instruction

In this research, meaningful instruction was characterized by sharing decision making with students namely through giving them a degree of ownership over their learning (i.e., choice), encouraging personal improvement, and providing rationales for task completion. I will support these claims with field observation and interview data in the following section.

Student ownership. Throughout her instruction, Kim gave her students a degree of ownership over their learning through shared decision-making. This meant that Kim shared decision making with her students by allowing them to make choices related to their personal learning and growth. Specifically, student ownership in the beginning swimming course represented students' control of pace when learning each stroke. For instance, consider this segment from lesson one in which Kim's students are practicing the flutter kick:

> 'Should we try on our backs? Let's do! If you feel comfortable on your own, do this on your own. If not, use your partner for help. Partners, keep your hands on your partner until they feel comfortable.' She then asks the students if they want a partner and Kim raises her hand. She pairs Kim and Andy together.

In this scenario, Kim allowed the students to choose if they desired to practice flutter kicks independently or with the assistance of a peer. Similarly, during lesson two when teaching the students breathing sequencing, Kim offers her students the option of breathing every three of four strokes: "'Who likes four better?' she asks. 'Practice what you like best' (referencing three- or four-stroke breathing sequence). 'You guys are

looking great but we need to polish it up. In your own time do four more widths.'" Towards the end of the semester, Kim gradually relinquished more decision making to her students. For instance, during lesson nine, Kim instructs the students to "do six warm-ups," at the beginning of the lesson, then thanks them and monitors their performance. In her interview, Kim supported this aspect of choice in her teaching across the summer session:

> I think for some of them, because they didn't know how to swim, they couldn't make decisions for themselves that way, so I had to help them with that like you do with any motor skill teaching. But once they… once they knew they were comfortable, they could make a decision about what strokes they wanted to swim, how far they wanted to swim.

Kim's students supported this notion of choice in their learning. Consider Kay's interview response: "I can go at my own pace, I mean even though she pushed me to go further, she didn't make me do it unless I was comfortable. She listens to our opinion, what we want to do that day."

Conversely, John attempted to relinquish a level of decision making to his students by allowing them to choose fitness components (e.g., muscular strength) they wished to improve across the summer session. However, John did not provide a foundation of knowledge for his students to be successful. John split the course between instructor-led workouts and student individual workouts. With the exception of two lessons, John did not provide parameters to the workout. He only stated that students should have their workout planned prior to class. One of John's expectations related to

individual workout days was for students to design individual workouts to implement prior to class:

> I understand that especially with this class, most of them have little to no real background in strength and conditioning, so the expectations of their accountability for putting things together for themselves is pretty low. But, my expectation is that as the summer term goes on they're going to start to pick up on the way things are planned and how to design a workout and then start to really create their own in a logical manner.

A central tenant of this quote is John's mention of students "picking up on...how to design a workout." While John did provide accurate demonstrations and explanations of exercises during instructor-led workouts, he did not teach students how to apply them to their individual workouts or how to structure a workout. For instance, during lesson one John led his students through a circuit workout. During lesson two, John instructed his students to complete an individual workout "on their own." He provided three parameters to the lesson: "Do some type of warm-up. It could be something we've done in here (the gym) or the treadmill," cardio, core strength and flexibility (e.g., planks), and light stretching. Additionally, during individual workout periods, John would navigate through the SRC and provide feedback concerning form correction and answer questions, but he was not able to monitor all students concurrently. Further, John would often complete his own workout while students were individually working out.

Consequently, students held mixed perceptions of individual workout days because they felt other students were not receiving the full benefits of the workout. These students perceived their peers did not know what they were doing. For instance, Aliyah stated in her interview that many of her classmates "did not look like they knew what

they were doing." Contrastingly, another student, Alisha, stated, "I feel like he is...really making us control the class, how it goes. He'll have workouts here and there just so, like, when we do do our individual workouts, we'll actually know what to work out and in what order."

Personal improvement. Kim emphasized personal improvement throughout her lessons. She associated meaning with learning because she focused students' attention on individual growth rather than comparison with their peers. Kim emphasized personal improvement in her second interview:

> The very first class meeting we had, I said, 'You're being evaluated. You, one-on-one, not in comparison to the rest of the people in the class.' I reiterated that a lot with the students who hadn't done as much swimming just to remember not to worry about what those students over there were doing because they were doing laps. This is what I always say, 'Where were you on day one? Where are you today? End of the semester?' so I do reiterate that a lot.

Data from field observation supported Kim's claim. Particularly, during her lessons, Kim frequently used the phrase, "On your own time," when instructing students to practice variations of stroke combinations. This implied a degree of individuality. For instance, near the beginning of lesson one, Kim instructed her students to flutter kick across the shallow end of the pool using kickboards. As the students practiced, she stated, "Do three to four more on your back on your own time and stop." Additionally, during lesson two's warm-up segment, Kim instructed the students to "have everybody with kickboards do four kicks on your own time." One of the non-swimmers, Kay, supported these findings and Kim's interview statement:

> From the second day of class, she told me not to pay attention to everybody else because they're, I mean they aren't super advanced, but they are comfortable with the water, they know how to swim, and they caught on to things a little faster than I did.

Additionally, Ashley stated that she perceived the entire course to be based solely on personal improvement, while Casey stated, "She focuses on the person and their improvement."

John referenced personal improvement in his lessons, though not exhaustively. One of his student expectations was for them to complete a baseline fitness test at the beginning of the summer session, set individual goals to achieve at the end of the summer session, and plan how to personally meet these goals between the time points:

> We did baseline fitness assessment that measured different areas. They were then able to assess that (baseline fitness) by comparing their values to normative data as well as their baseline values to see if there was improvement in cardiorespiratory fitness. For this, it was kind of that act, that process of thinking about what your goals are and what you want to achieve, and then planning accordingly.

During the fitness pre-assessment, John reinforced the concept of personal improvement, stating, "Today we are going to complete fitness testing and then we'll do it again in June so you can compare numbers. Using the pre-test see how you improve." John continued to emphasize personal improvement, however only on limited occasions. During lesson four, a circuit workout in the weight room, John instructed his students to complete either two or three sets. He encouraged students to "select a weight that was comfortable for them," when completing the sets. During this lesson, one student asked John if he wanted them to use the same amount of weight as he had used in his demonstrations. John

responded, “That’s a good question. No, whatever is comfortable. If you put on a weight that’s too light, do the set and put some more on for the next set.” John’s students confirmed his support for personal improvement. For instance, Amber stated, “I don’t think he really compares anybody to anybody else just because he’s more like, ‘This is for you, this is for your own improvement.’” Seth stated the only comparison in the course was “to their baseline fitness assessment.” However, Aliyah mentioned that she perceived John to compare her to another student in the course during the Fartlek run. “...He was like, ‘She (Rhonda) might outrun you in this area.’ He’ll start off by saying this. If I was Rhonda, I’d be like, ‘Okay, and?’ But yeah, he does compare so I guess he should watch what he says.” Therefore, based on these findings, it appeared that the students valued personal achievement rather than achievement in comparison to their peers.

Provided rationale. Kim provided rationales to her students for completing tasks throughout her lessons. Kim believed that providing a rationale for completing an activity was very important, stating in her first interview, “If the students know why they’re doing something, they’re more inclined to do it.” Particularly in this research, Kim associated rationales with movement efficiency. For instance, during lesson eight, Kim instructed Ashton to relax more while swimming because, “Once she started relaxing, she would not be so tired.” This implied swimming that was more efficient. Further, during the warm-up segment in lesson nine, Kim instructed her students to utilize hand paddles because they “trained their forearms.” Kim’s students supported her association of provided rationales with movement efficiency. For instance, Ashton stated:

> If we were learning something new and she would tell you, 'If you do it this way, it's better than be doing it the other way, especially if you're trying to do the front crawl and you're putting your hands in the water. It's less resistance if your thumb goes in and you keep your elbows high versus slapping the water and you're going to face more resistance,' so things like that.

Ashley confirmed Ashton's statement, stating, "A lot of this is her saying, 'You need to learn how to breathe right so you're not tired and you're swimming more efficiently.'" While some of Kim's students held this perspective, Maddie, interestingly, did *not* feel it was necessary for Kim to provide a rationale for completing a task. In her interview, Maddie stated, "I really don't think she has to because I feel like it's pretty straight forward. Like, when we first started to front crawl with the kickboard, that's obviously so you can learn how to do the legs, and then you add the arms." Lily also held a similar perspective:

> Yes and no because I feel like...we should be doing what we're doing...since it's a beginning swimming class. When we learned flip turns the other day she told us, 'You're doing this because when you have to do lap to lap, it makes it flow a lot easier than just tapping the wall and turning around.' So in that sense, yeah.

Conversely, there were limited occurrences and mixed perceptions concerning John's delivery of task rationales. Regarding the conditioning course specifically, rationales were associated with movement efficiency and identifying worked muscle groups. In his initial interview, John stated his lack of use of this instructional strategy and the necessity to improve in this strategy:

> What I should do a little bit more, I just don't want to take away from the warm-up or from the activities by going on a soap box kind of chat, is explain why. Like, right now I say when we do walking lunges, 'Drop through the hips, don't

> let your knee touch the ground, don't let your knee go over your toes,' those types of things. I'm saying that right now, they know that that would be inappropriate, but right now they're not lead to why and what potential things you can run into from that in terms of injury or other types of issues. So, I should work a little bit more of that

Adam agreed with John's statement, claiming, "He doesn't really explain anything. He is just kind of like, 'Okay, you can do this. It's good." Additionally, I noted just two occasions during field observation that John provided rationales relating to movement efficiency. In lesson seven, John provided rationales when demonstrating two exercises during a circuit workout: "John approaches the TRX bands. 'If you want more resistance, stand up straighter. Use an overhand grip while doing these. The reason why I want you to use an overhand grip is because it works your back.'" In addition, John stated in lesson seven to use free weights when executing front squats. He explained because it stabilized the students' balance when squatting. Gina supported this perspective:

> Well doing something a certain way, I understand that. It has to be done that way for you to get the most gain out of it. There are certain ways you can do things that you're kind of cheating the exercise, and I think most people understand that you can do something any old way and that you're not really getting anything out of it. So, form is important.

Mandy agreed with Gina's claim, stating, "I would say that he's very good at letting us know what part of the body that it [the exercise] is working out, what it's going to do for us, and everything." Consequently, students predominately perceived the use of rationales as beneficial to their skill development because they were instructed how to be more efficient movers.

Differentiated Instruction

Relative to this research, differentiated instruction (DI) was defined by the tailoring of instruction to meet the needs of students with varying ability levels. Particularly, DI was characterized by individualized instructor feedback that was corrective and specific, providing learning cues coupled with demonstrations, providing modifications, and adhering to learning styles. I will discuss these instructional strategies in the following section and support them through field observation and interview data.

Instructor feedback. Kim consistently utilized feedback that was specific to a task, corrective of mechanics, and individual to each student. Consider this example from the conclusion of the second lesson: Kim is speaking to Sadie as Sadie is heading to the locker rooms and states, "You're kicking to the sides. Remember, up, down." Additionally, during lesson five, Kim corrected Ashley's kicking mechanics during warm up. She looks at Ashley and said, "Ashley, while you're on your back, keep your hips down a little so your knees don't come out of the water." Further, during lesson eight, Kim corrected Ashton's arm mechanics of a front crawl, stating, "Ashton, you're catching resistance when you do this (making circular arm motions parallel to the water). Do the pull arm rotation." In addition, Kim monitored students' practice, allowed them to work through skills for a set amount of time, and returned to them to provide corrective feedback about the particular skill. This feedback delivery method was elaborated by Sadie and Ashley's interview responses:

> *Sadie*: She lets us practice and then we'll go back and critique what we need to improve on.

> *Ashley*: I would say whether it's… how do you say this… whether she says it or not, she's still looking, so she may not say it at that moment but sometime in that class she'll be like, 'Hey, I noticed you were doing this. Maybe you should try this differently, or hey, you looked a lot better than the day before.'

Sadie additionally commented that Kim "individualizes her critiques for each student." Ashley also explained, "She'll come to you individually and tell you, 'Oh, this is what you should work on,' and that really seems to help a lot." A third student, Ashton, supported the notion of individualized feedback with her interview statement: "See, that's why I like her because she doesn't compare you with other students, she just says, 'You're doing great,' and each of the students have their own levels and she understands that, so she communicates to each of them at a different level."

Conversely, there were discrepancies between perceptions of John's use of corrective/specific feedback and what I observed in field observation. In John's second interview, he emphasized the importance of providing corrective feedback to each student in his or her individual workout journals:

> I try to recognize, like in their journals, as they work through things and they design their individual workouts, I'll make little comments, little corrections. I'll say, 'I'd think about doing this before doing this, you know, just in order because, you know, just because this is going to really help, you know, kind of overload, like, your lower extremity rather than coming back to it later.

However, during field observation, I only observed one instance of John providing corrective-specific feedback. During a circuit workout in lesson seven, John briefly corrects Josh's performance of front squats: Josh has a kettlebell. The next round begins. John is standing in front of Josh and is mirroring the movement with him. "Remember,

sit back on those heels." Accordingly, Beth explained that John only utilized individual and specific-corrective feedback on rare occasions:

> I guess he has helped me if I have an incorrect form on something which has helped and I…I can name specific, although rare, situations where if I've been doing something, he's applied kind of personal pressure, which does help. I hate it when someone's hovering all over you when you're doing something, but it does help for you do it correctly, so I guess that has helped in situations.

Despite these uncommon instances, two students found John's feedback to be especially helpful in aiding in their improvement in the course. For instance Josh, commented in his interview, "I like that he is willing, I like that he is very hands on to correct me if I'm doing something wrong." Additionally, Rhonda stated, "He keeps coming around checking on me while I'm working out and gives his input on how you can improve." Considering the results from both courses, it appeared feedback that was individualized, corrective, and specific was beneficial to student learning.

Learning cues with demonstrations. Congruent with instructor feedback, Kim used task learning cues and correct demonstrations when providing feedback to her students and teaching new content. Though not mentioned by her students, I frequently observed Kim utilizing learning cues and demonstrations in her teaching. For instance, consider Kim's method of teaching the sidestroke taken from field observation: "Kim talks through all of the cues. The helper then demonstrates a sidestroke. Kim explained, 'What I want you to do is put your lead arm on the water. Your trailing arm should be resting on your hip.'" Additionally, when teaching her students leg movements associated with the breaststroke, Kim taught the information using the same strategies: "'These are

called frog legs. I'll demonstrate on the deck.' Kim begins talking about each cue of the stroke and is demonstrating the leg movements. 'Tuck, turn, kick, and glide." Further, when adding arm movements to the breaststroke, Kim continued with this same instructional method:

> 'Okay, let me talk to you about the arms. It's simple.' The instructor is on her side of the pool deck demonstrating and explaining the relationship between the arms and breathing. She is including an example of what the incorrect form of the arm looks like. 'So here's the sequence: pull with the arms, as your head comes up tuck your knees, then glide. Pull and breathe, kick and glide. Pull and breathe, tuck and glide. This is your rhythm.'

Similarly, I observed John's use of verbal cues repeatedly throughout his instruction. During John's initial interview, he stressed the importance of using learning cues during instruction:

> Definitely verbal cues, that's probably the biggest thing because it is…it's an active course. It requires mimicking movement and kind of some self-awareness in your own body position, that kind of proprioceptive idea. So yeah, the verbal cues are huge.

During instructor-led workouts, John would name an exercise and demonstrate the movement while providing related learning cues. The students would mimic his movements and John would execute the exercises concurrently. Consider this scene during warm-ups in lesson one:

> About midway through the second lap, John turns around and faces the class. 'As you finish, line up along the length of the right side of the court.' (He is standing at the right corner of the court closest to the door. He is pointing to the baseline he referenced as the students slow down to a walk when they reach him in the corner.) He then walks out to center court facing the class and says, "Okay, first

> thing, walking lunges." He correctly demonstrates the movement and accurately reviews the learning cues from last class.

John exemplified this same teaching strategy during a circuit workout in lesson six:

> After we complete our Fartlek run, we go back inside the SRC into one of the fitness studio rooms and grab black exercise mats off the wall. We sit in a semi-circle. The instructor calls out a number of exercises to complete and we execute them. He will name the exercise, demonstrate a repetition, and explain the movement simultaneously.

While John commonly utilized this teaching strategy, his students did not mention its effectiveness in their learning. Nonetheless, the instructors' use of learning cues seemed conducive to student learning because they consistently infused them into feedback and novel mechanics.

Exercise modifications. An additional aspect of differentiated instruction utilized solely by John was his provision of exercise modifications. He frequently provided students with multiple variations of an exercise that met their personal ability level. John understood teaching to individual fitness levels explaining, "I understand that everybody is not at the same fitness level, so that's kind of what we talked a little bit about today. There are different ways to modify each activity to make it…make that goal attainable for each individual." I observed this strategy frequently throughout instructor-led workouts as John provided students as a group with several variations for exercises. Consider this example from a circuit workout in which he provided three balance ball exercises with different difficulty levels:

> John makes his way to the last station, the balance ball and medicine ball. [Paraphrasing] 'The balance ball is nice because it provides different levels of difficulty.' He steps up on the ball. 'Find your balance spot and come down. One partner will 'go' at this station and the other can rest. If you have good balance you and your partner can do medicine ball tosses. You can also flip the ball over to the flat side and repeat.'

Additionally, during a circuit workout in lesson seven, John provided a modification to box jumps, stating, "Do a nice controlled pace. You don't have to do box jumps. you can do step ups if you like." John reinforced this same concept to Josh during the same lesson, stating, "If you're uncomfortable with box jumps, you can do step ups." Amber found John's use of exercise modifications to be effective in helping improve her fitness and knowledge about fitness. For instance, Amber responded, "When he goes through circuits he, like, shows us what to do, and what's the proper way, and then if you can't do it he shows modified ways." Therefore, it appeared that exercise modifications were instrumental to John's students because he provided them with variations of exercises to choose from that were challenging to their fitness levels.

Learning styles. A final teaching strategy consistent with differentiating instruction was Kim's ability to teach to various students' learning styles. (e.g., visual, auditory, kinesthetic). For instance, she administered to visual learners by providing demonstrations of the strokes, giving her students online links to instructional videos, and providing posters with pictures and learning cues of various strokes. For instance, Kim provided students with online videos of the various strokes they had learned in the course:

> I might also put some videos up onto the course website for you to look at. Will that help to have a visual? 'Yes,' the class says unanimously. Okay, also the Rio Olympics are this summer. That's good because you can use this (a handout detailing each stroke's performance cues) and follow along. They'll be going fast, but still…

Additionally, Kim provided laminated posters detailing stroke mechanics along with visual aids:

> There is a laminated poster leaned up against a chair at the edge of the pool that says, 'Breaststroke' in big black letters across the top and pictures below it with small captions. 'Girls, look,' Kim says as she's pointing to the poster. Ashley and Ashton walk over to the poster and read over it momentarily, then they begin to practice.

Further, Kim catered her instruction to auditory learners through her provision of learning cues per stroke and her facilitation of open dialogue regarding course content throughout the lessons, and checking for student understanding (CFU; discussed in the succeeding section). Lastly, Kim accommodated kinesthetic learners by questioning her students on how their bodies felt performing the various strokes. For example, consider this segment from lesson two in which Kim is leading her students through water exploration activities: "The students plunge their face in the water. Water splashes up and the area is filled with gargling noises. They bring their heads out of the water. 'How does that feel? Are you comfortable with water on your face?' Kim asks." Additionally, during independent practice time in lesson four, Kay had difficulty kicking when performing the front crawl: "Kay says to Kim, 'I feel like my left leg is stiff.' 'Let me see,' Kim says. Kim monitors Kay front crawl 'Relax your feet,' Kim tells Kay." Kim's students agreed

that Kim worked to accommodate their various learning styles. Ashley confirmed the use of this strategy in her interview:

> I like that she goes over…first of all she goes over, like, if you're a kinesthetic learner, a visual learner, an auditory, she breaks down just by saying it, by showing you, and then like she has you almost...she almost discusses how your body should feel in the water. So, she does touch on every single type of learner.

Another student named Ashely also stated that "the online videos helped." Therefore, it appeared that Kim's accommodation to various learning styles was effective in differentiating her instruction to differing students.

Conversely, John did not intentionally teach to the variety of learners in his course, nor did John or his students comment on this instructional strategy in their interviews. Observed throughout field observation, John simply verbally instructed how to perform an exercise, provided mechanical cues, and demonstrated the exercise. However, every student in the course mentioned in their interviews that they perceived themselves to improve in their fitness with the exception of Amber. Amber had recently transferred from another institution where she played collegiate softball. She perceived the five-week course to be "too short" to detect changes in her fitness.

Active Learning

Based on the findings of this study, active learning was characterized by involving students in the learning process (i.e., demonstrations and positive reinforcement) and checking for student understanding. In the following section, I will support these claims with field observation and interview data.

Student involvement. Kim included her students in her lessons by utilizing them for stroke demonstrations, though she did not implement this teaching strategy exhaustively. Kim termed this "active learning" in her initial interview. On a few occasions, Kim used students to demonstrate strokes or stopped the students during practice segments to positively reinforce their correct performance. Consider this segment from field observation: "She then instructs the students to stop and come to her side of the pool. She asks Andy to swim back and forth across the pool one time to demonstrate leg kicks." In addition, Kim positively pinpointed Maddie's correct performance of a breaststroke to two students:

> Kim, Ashley, and Alan are watching Maddie practice her breaststrokes. Kim says to Ashely and Alan, 'Look at how she's holding the glide.' Maddie surfaces out of the water and rests on the side of the pool deck. Kim then tells her, 'Much better, whip your arms now. Your glide is much smoother, do you feel that?' Maddie nods her head.

Kim's students affirmed her involvement of them in the lessons. Lindsey liked these opportunities because they made her feel "like she (Lindsey) knows what she's doing." Finally, another student, Ashton, stated her appreciation of Kim's inclusion of students in content delivery by assuring their attentiveness in the lessons:

> If you're not the most talkative she'll still try to make sure that you understand or that you're being attentive, or at least try to make you answer, but it's not like an intimidating type of thing. She just wants to know that you're basically listening and you know what's going on.

Conversely, with the exception of one occurrence, John did not implement strategies to involve his students in the learning process. During the fitness pre-

assessment, John utilized two students to demonstrate the sit-and-reach assessment. Two of John's students supported his lack of student involvement in the lessons. Even with only eight students in the course, Adam pointed out, "He doesn't know my name, so he doesn't know me. I don't know. I'm not a huge fan." Additionally, Gina stated, "I don't know. I guess I say I kind of don't feel included in the class." Therefore, based on Lindsey and Adam's contrasting statements, it appeared that the students perceived their involvement in the lessons as important and valuable and wished John had included them more in the instruction and demonstrations.

Checking for understanding. Kim commonly utilized a formative assessment strategy throughout her lessons, checking for student understanding (CFU). Based on the data, CFU was characterized by Kim's questioning of students' knowledge retention. Kim stated in her initial interview, "I will involve the students, ask them questions, give information when it's necessary but double check understanding." Kim's claim was supported in field observation. For instance, consider this interaction between Kim and Kay in class:

> Kim looks at Kay and says, 'Pretend I'm an alien from outer space that just landed on Earth. Can you explain to me how to complete a glide?' Kay's eyes get big for a moment and responds, 'I don't know, jump?' 'Yes, only you're jumping out, not up,' Kim responds.

Further, Kim exemplified CFU when teaching her students the breaststroke:

> The students complete their four laps down and back. Then Kim asks, 'Question. Is it easier to swing your arms in short bursts or large, slow strokes?' A student answers, 'Little.' 'Yes, you're using much less resistance across the water that will slow you down.'

Kim's students supported her use of CFU and perceived this teaching strategy to be conducive to their learning. For instance, Lindsey stated:

> She asks us when we're talking about the different techniques, she'll ask us what this is instead of just giving us the answer. So she kind of makes, or like, she's like, 'Does anybody have any questions about this?' or 'Why this, why that?' so she gives us the chance to say how we feel or how we think it is versus just telling us how it is.

Conversely, John did not CFU in his instruction. I did not observe John's use of this teaching strategy in field observation, nor did his students mention his use of it either. Interestingly, though, Mandy pointed out that the use of this strategy was important to her learning. When I asked her what John could do in the future to help teach her more effectively, Mandy's response focused on assessing students on information they have learned:

> Interesting question...the only thing I can think of is maybe before we go in and maybe do circuits, or if he's going over a certain type of exercise, or whatever, maybe he could ask us more questions instead of just teaching it to us, even if it's things that we've done before. Kind of see what we've picked up on, what we have retained.

Therefore, it appeared that students from both courses valued opportunities to assess their learning rather than being blatantly told the information.

Discussion

It appeared that John and Kim's instructional practices affected student SDM development by facilitating autonomous- and competency-supportive or unsupportive instruction. Due to my small sample size, I was not able to assert significant changes in

BPNs or motivational regulations. Nonetheless, other studies targeting secondary PE students have found significant changes in BPNs. Because of the similarities in populations of my sample and those in other studies, those findings may point to actual pre-/post-changes because of instructional practices that John and Kim implemented. For instance, Wallhead et al. (2014) examined pre/post BPNs in secondary PE students who participated in either a Sport Education Model or a Multiactivity Model condition. The authors found significant pre-/post-increases in autonomy means (4.44 to 4.49) and competency means (5.18 to 5.41). Further, I identified numerous instructional strategies that were conducive and non-conducive to fostering learner autonomy and competency. As a result, I was able to identify two themes that emerged from the data, integrating BPNs and linking SDM and constructivism.

Integrating BPNs

The first theme that emerged from the data was integrating BPNs. This reinforced the role of each of the identified instructional strategies' in meeting autonomy and competency needs in BIPs specifically. I will discuss this theme through two subthemes, autonomy and competency.

Autonomy. Shared decision-making was conducive to facilitating student autonomy because students were permitted some ownership over their learning. Kim provided her students with a degree of control over their personal learning and growth because they partially controlled the pace at which they progressed through course content and Kim referenced improvement on an individual basis. Course content and lesson activities were more meaningful to the students because Kim provided them with a

foundational knowledge of course content, then allowed them to make decisions related to their learning. The relevance of student choice and control in the enhancement of personal meaning is supported in the literature. For instance, Sun and Chen (2010) defined an autonomous learning environment as one that encourages students to be initiators of behavior and assume responsibility for their learning. Additionally, Cheon and colleague's (2009) study targeting in-service teacher training to improve autonomy-supported instructional strategies included "creating opportunities for choice" as an effective instructional strategy.

However, students must be provided a foundation of knowledge to effectively make choices that are conducive to their learning (Cree & Macaulay, 2000). John's students were given an immense amount of control over their learning (i.e., freedom of individual workouts), but it appeared that this amount of control was not conducive to their learning because they were not taught how to transfer their performance of individual exercises into a sequenced workout routine. In other words, John did not teach for far transfer of learning (Cree & Macaulay, 2000). This appeared to be consistent with John's students' decrease in mean pre-/post-BPNS scores. Cree and Macaulay (2000) defined far transfer as applying individual skills to a novel or changing situation. Consequently, it seemed that a lack of baseline knowledge was not conducive to students' ability to make decisions about their learning.

Student involvement. Similar to student ownership, when Kim involved her students in the learning process through positive pinpointing and demonstrations, she relinquished an element of control to her students, thus enhancing autonomy. Kim often

used students to demonstrate strokes and she positively pinpointed accurate stroke executions from her students (e.g., Maddie). These findings were consistent with Gibbins' (2011) claim that involving students in the learning process can enhance learner autonomy. Additionally, Taylor and Ntoumanis (2007) found that student perceptions of their teacher's involvement of them in lessons (in addition to structure and autonomy support) positively affected SDM levels. Because John maintained complete control of instruction during instructor-led workouts, an element of his students' autonomy support was lacking, and thus likely consistent with mean pre-/post-autonomy scores. Therefore, involving students in the learning process seemed to affect learner autonomy in these BIP courses because it relinquished a degree of control.

Provided rationales. The practice of instructor rationalization for class activities is generally supported throughout the literature as an autonomous instructional strategy (Cheon et al., 2012; Shen et al., 2009). For example, Ntoumanis and Standage (2009) completed a systematic review of intervention studies and assessed the proficiency of SDT-supportive instructional methodologies. Regarding autonomy, providing a rationale for task completion was one of numerous instructional strategies found to enhance learner autonomy. This is due to students attaching a form of personal meaning to an activity. In my study, instructor-provided rationales were directly related to the efficient performance of a stroke or exercise. Supported by observed occurrences during field observation, both students and instructors communicated the benefit of rationalizing instruction in their interviews (e.g., Kim referencing the importance of instruction rationalization because students feel "more inclined" to engage in activities when they are provided with reasons

why). Consequently, providing rationales appeared conducive to learner autonomy because it attached meaning to lesson activities for students.

Competency. Instructor feedback that was individualized, corrective, and specific appeared to be effective in facilitating competency in John and Kim's BIP courses. While there were mixed perceptions, John claimed to provide feedback verbally and in written form in his students' fitness journals. Some students found this to be helpful in improving their fitness and fitness knowledge. Josh, an inexperienced student to conditioning, appreciated John's willingness to correct and provide feedback to him during workouts. Kim's students made similar claims as they stated an appreciation of "individual critiques" and helpful feedback. Nicaise et al.'s (2007) findings support my findings, suggesting student-perceived competence was predicted by teachers' feedback. Therefore, it appeared that individualized instructor feedback that was corrective and specific was effective in addressing competency needs in an array of student abilities.

Learning cues with demonstrations. Both instructors consistently utilized learning cues coupled with demonstrations in their instruction when providing feedback and teaching novel content. Learning cues have repeatedly been reinforced in the literature as an effective teaching strategy for cognitive learning and skill development in PE (Landin, 1994, Rink, 2013). More specifically, Kwak (1993) found that instructors' provision of task learning cues with full task demonstrations was effective in students' skill development. Both instructors executed these instructional strategies in their lessons. John specifically attested to the importance of utilizing learning cues in his initial interview, stating verbal cues "are huge" because the course "requires students to mimic

movement" and attune to their self-awareness. In addition, Kim's delivery of learning cues with demonstrations appeared to be exceedingly important to the cultivation of her students' competency. Both Kim and her students referenced students' lack of correct form in the initial stages of the course. Although most students could stay above water, their stroke form was initially incorrect leading to various execution issues (e.g., efficiency in the water). Kim's use of learning cues with correct demonstrations appeared to aid in the students' accurate learning of the strokes.

Modifications. John, specifically, used modifications to support task achievement in his lessons. John frequently provided modifications, or multiple exercise alternatives, to increase or decrease exercise difficulty to meet individual competency needs. For instance, in his initial interview, John recognized the importance of providing exercise modifications to differentiate tasks for individual students because everyone possessed different fitness levels. John provided exercise modifications throughout his instructor-led workouts. He frequently used language such as, "You can change one workout in so many ways," (referencing a balance ball) or modifying wall-sit difficulty levels by positioning your feet closer or further from the wall. John's student, Amber, noted that modifications directly aided in improving her fitness and fitness knowledge, explaining that John provided modified ways to complete exercises if she could not execute it the "correct way." Consequently, John's use of exercise modifications seemed to benefit student competency because this instructional strategy allowed students to improve relative to their individual fitness levels.

Checking for student understanding. Kim encouraged active thinking and knowledge recall by frequently using CFU strategies with her students. Kim described this instructional strategy as conducive to student learning because it engaged her students in the learning process rather than passively providing them with information. This encouraged Kim's students to internalize course material. CFU has been supported in the literature. For instance, Fisher (2006) supported CFU as an effective active learning/engagement strategy that establishes "the link between teaching and learning." Particularly, Fisher (2006) claimed CFU is a formative assessment tool, aiding teachers in determining the degree to which their students have truly learned. Kim's students supported this aspect of active learning. For instance, Lindsey stated, "... she's like, 'Does anybody have any questions about this?' or 'Why this, why that?' So she gives us the chance to say how we feel or how we think it is versus just telling us how it is." Conversely, John did not utilize this method in his instruction. One of his students, Mandy, commented in her interview that John could improve his instruction by asking students questions to see how much information "they were retaining." Therefore, it appeared that encouraging active thinking through CFU was effective in facilitating student competency.

Learning styles. Kim's efforts to deliver instruction that met students' various learning styles appeared to be conducive to their competency in swimming. Silver et al. (1997) argued that learning-style models focus on how students process information in the educational setting. Additionally, these researchers argued that learning styles are not fixed, rather they are developing as students learn. This was modeled throughout Kim's

instruction as she utilized various methods to teach to differing learning styles (e.g., visual, auditory), and therefore reached students who processed information differently. Kim's attention to learning styles appeared to bolster student competency as students acknowledged that this instructional strategy was beneficial to their personal learning. When I asked Ashley a probing questions that conceptualized her perception of a favorable "teaching style," she responded that her ideal instructor "touches on every type of learner. I was able to support Ashley's claim through field observation. Kim provided students with video clips, handouts detailing stroke characteristics, physically moved students' limbs (e.g., arms) through appropriate movements, and utilized demonstrations and learning cues. Therefore, Kim believed that addressing differing learning styles was influential to the beginning swimming students' learning, consequently supporting student competency.

Linking SDM and Constructivism

A second theme that emerged from the data was commonalities between constructivist teaching and SDM-supportive teaching. Specifically, a link emerged in the data between SDM-supportive instruction and constructivism. In a general sense, constructivist theories claim that learners actively construct knowledge as they build upon an existing knowledge base (Alexander, 2005). Vygotsky (1978) supported an additional tenet to constructivism, social constructivism, claiming that learners internally construct knowledge as they draw upon social experiences. Both constructivist and social constructivist instruction are linked to SDM-supportive instruction in that they parallel concepts associated with each BPN.

Constructivism, social constructivism, and BPNs. There is a conceptual parallel between constructivist and BPN-supportive instruction. Particularly, Piaget posited that constructivist learning takes place in environments in which instructors provide students with opportunities to problem-solve and build their understanding based on a foundation of previously learned knowledge. This parallels learner autonomy because instructors give students an element of control and responsibility over their learning and the focus of passive learning is reduced (Shen et al., 2009). Further, tenets of social constructivism are linked to relatedness-supportive instruction. Specifically, Vygotsky argued that learning could not take place if a learner acts completely alone in the process (Dahlberg et al., 1999). This argument supports relatedness-conducive instruction because of classroom environmental and relational implications. Instructors who encourage a cohesive learning environment and foster relationships in this environment are facilitating social constructivism. Lastly, social constructivism appears to be connected to competency facilitation within SDT. A commonly accepted goal of PE is to develop learner competency in various movement patters. Increased competency is linked to higher SDM levels. However, recent studies have shown that increased competency and increases in learner perceptions of competency point to increased SDM (Jacobs et al., 2002). Vygotsky's Zone of Proximal Development (Vygotsky, 1978) elicits the difference between a learner's ability or knowledge and what standard they are expected to reach in their knowledge and ability. Therefore, building a learning environment and relationships with those who are more competent than the individual learner (e.g., instructors and peers) may be beneficial to increasing learner competency. Therefore, due to these

parallels between constructivism and SDM, instructional strategies implemented by Kim, and John on rare occasions, were consistent with constructivist teaching. I will discuss these consistencies in the following section.

SDM/constructivist instruction. I was able to identify seven codes within three categories in my results section that represented SDM-supportive instruction. Each of these was consistent with constructivist teaching. I will discuss these relations in this section.

Chen and Rovegno (2000) claimed that in order for instructors to exemplify effective constructivist teaching, they should not merely engage their students in exploratory processes to construct knowledge. Rather, they should act as mediators and guide their students through this process (Chen & Rovegno, 2000). Kim aided in this process through providing her students with a foundation of knowledge that aided them in successfully constructing knowledge. She accomplished this through first meeting competency needs (i.e., teaching to various learning styles, providing corrective/specific feedback and learning cues/demonstrations, and providing rationales for course tasks). While John did implement instructional strategies that met competency needs to a some degree (e.g., exercise modifications and feedback), he failed to provide his students with the foundation of knowledge to transfer their knowledge of individual exercises into a workout routine. For example, I identified student ownership as the instructors relinquishing an element of control to their students over their learning. Kim and John allowed their students to make decisions based on their personal improvement, growth, and understanding. Kim also involved her students in the learning process by utilizing

them for demonstrations. John gave his students control to identify fitness areas to improve upon across the semester, then design workout routines to meet these improvements. This was consistent with the very basic tenets of constructivism in that the instructors allowed her students to actively engage and explore their own understanding based on an existing knowledge base (Alexander, 2005). However, because John initially failed to provide his students with an adequate foundation of knowledge, some students perceived individual workouts to be unsuccessful in meeting their competency needs simply because they were not prepared to sequence individual exercises into a workout routine.

Lastly, Kim implemented CFU while John failed to do so. Kim's execution of this strategy was consistent with constructivism because she encouraged critical thinking. Particularly, Kim facilitated critical thinking by guiding her students to identify incorrect movement patterns and to problem solve to correct these patterns (e.g., Kay's alien example) (Chen & Rovegno, 2000). Consequently, it appeared that Kim's instruction increased students' SDM using constructivist strategies while John's instruction decreased student motivation and was not consistent with constructivist teaching strategies.

Summary

In summation, it seemed that the conditioning students' decrease and the beginning swimming students' increase in autonomy and competency mean scores were linked with their instructors' teaching practices. I identified teaching practices that were autonomy-supportive (i.e., student ownership, personal improvement, student

involvement, and provided rationales), competency-supportive (i.e., positive/corrective feedback, learning cues and demonstrations, exercise modifications, CFU, and teaching to learning styles), and discussed how they are integrated into BIP instruction. Additionally, I discussed the link between these teaching practices and constructivist teaching. In the following section, I will summarize this research, draw final conclusions regarding these teaching practices, and discuss future recommendations for future researchers in this field of research and BIP instructors.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In this chapter, I will provide a summary of my research including my conclusions and recommendations for researchers and university BIP instructors. This research used a mixed method design to describe university BIP instructors' planning and teaching practices associated with student-perceived BPNs in their lessons. Specifically, the research questions were (a) What are university students' perceptions of autonomy, competency, and relatedness at the beginning and end of a BIP course and (b) What teaching practices appear to cultivate BPNs for these university students?

Summary

It is commonly accepted in the literature that structured PE is an effective outlet for properly informing and motivating students to be lifelong participants of PA (Cardinal et al., 2012). PE courses at a university, commonly referred to as BIPs, are critical for young adults because they often provide a final opportunity for them to engage in structured and meaningful PE. Cardinal et al. (2012) noted the dramatic decrease of BIP requirements among American universities. The authors stated 97% of American institutions imposed some form of a PE requirement in the 1930s. This number has since reduced to about 40% in 2010. It is critical that university students who are not regular PA participants enroll in BIPs to increase their intrinsic value for PA and become physically literate (Haerens et al., 2010).

We know that BIPs can potentially provide these accommodations to university students (Mellinger & Cheek, 2014).

I employed SDT as the theoretical framework for my study. SDT is frequently used and largely supported as a framework for analyzing motivational aspects of PE. SDT postulates that students possess three BPNs, autonomy, competency, and relatedness (Deci & Ryan, 2001). As each of these needs is met in the learning environment, students likely transition from an externally-motivated state to a more internally-motivated state (Perlman, 2011). In relation to BIPs and BIP instructors, it is critical that they meet student BPNs in order to aid in students' internalization of PA (Perlman, 2011).

Upon studying current literature, there appears to be a lack of research related to university students and SDM. However, SDM in the K-12 population has been studied comprehensively. Specifically, of the three BPNs, autonomous instruction (Perlman, 2013), SDM and PA levels (Lonsdale et al., 2009), and competency has been studied extensively. However, these same studies have not targeted university BIPs and instructors. Additionally, of the few studies surrounding SDM and BIPs (Haerens et al., 2010; Mellinger & Cheek, 2014; Sibley et al., 2013; Wang, 2014), only autonomy and competency constructs have been addressed. Therefore, relatedness has not been studied in-depth among BIPs. This research contributed to existing literature because it focused on SDM specifically within the university BIP population. Particularly, my study added to our knowledge of theoretically grounded motivational constructs (i.e., relatedness) within university BIPs.

I utilized a mixed methods research design using two quantitative questionnaires and qualitative methodologies of field observations and interviews to better understand student and instructor perspectives. In prior research, quantitative measures have been used to provide an overview of this construct. This research contributed to this body of knowledge by using qualitative methods to gain a deeper understanding of instructor and student perspectives on instructional strategies as they relate to student motivation. I utilized revised versions of the Basic Psychological Needs Scale and the Perceived Locus of Causality Scale questionnaires (i.e., BPNS and PLOC), interviews, and field observations to obtain instructor and student perspectives. I analyzed the quantitative data descriptively and the qualitative data using inductive analysis and constant comparison. For the qualitative data, I completed two levels of coding, open and axial, to generate qualitative themes. I combined these findings with pre-/post-assessments of BPNS and PLOC scores (i.e., means and standard deviations) to answer the research questions.

My first research question addressed student BPNs at the beginning and end of the courses. Based on BPNS and PLOC scores and student interviews, it appeared that all but one student perceived himself or herself to improve in course competencies. Additionally, based on these same measures, it seemed that perceived relatedness worsened over the progression of the conditioning course and improved over the progression of the beginning swimming course.

My second research question addressed instructional strategies that facilitated student BPNs. The results suggested several categories (i.e., instructional strategies) that facilitated student BPNs. Concerning learner autonomy, Kim shared decision making

with her students by giving them some control over their learning (e.g., individual student improvement), including students in lesson segments (e.g., using students in demonstrations), and providing rationales for course activities. Regarding competency, Kim used learning cues with correct demonstrations, provided individualized specific/corrective and general feedback, checked for student understanding, utilized differentiated instruction (e.g., modifications), and taught to varying learning styles. Finally, Kim met relatedness needs by facilitating a non-threatening learning environment (i.e., maintaining mutual respect, emotional safety, and a relaxed learning environment), building a sense of community (e.g., engaging with students, providing encouragement, and reducing competition), and teaching the integration of course content outside of course meetings (i.e., comfort). Additionally, Kim cultivated relationships between herself and her students (i.e., establishing trust, presenting transparency and approachability, understanding student needs, and maintaining a genuine interest in them) and facilitated relationships between her students by engaging them in partner and group activities.

As a result, several qualitative themes emerged based on these findings. These included intentional interaction, the desire to be personally valued, integrating BPNs, and linking SDM and constructivism. I will draw conclusions and briefly present these themes in the succeeding section.

Conclusions

Based on the findings from this research, I can draw several conclusions associated with the (a) role of relatedness in university students' motivation to participate

in BIP courses and (b) the role of autonomy and competence in students' BIP motivation. Based on these conclusions, I have represented instructional strategies that appear to be effective in creating a motivational climate in BIP courses conducive to student motivation and learning.

The Role of Relatedness in University BIP Students' Motivation

Findings from this study contributed to current literature surrounding SDT and the BIP population by suggesting the equal importance of relatedness in addition to autonomy and competency. Of the minimal literature focusing on SDT and BIPs, only competency and autonomy have been identified as influential in overall learner SDM for the BIP population. However, it appeared that relatedness-supportive instructional strategies were equally as important in fostering SDM as indicated by student interview responses. Kim displayed an intentional interest in her students, which was critical in her building relationships with her students. This was in opposition to John merely verbalizing student interest. Additionally, Kim displayed a sincere level of care for her students on an individual basis, while not compromising professional boundaries, which seemed to be effective in facilitating student-instructor relationships. Finally, both instructors created a classroom environment that was positive and non-threatening to students (by avoiding displaying a sense of superiority over students), which also appeared to positively affect relatedness needs.

The Role of Autonomy and Competence in University BIP Students' Motivation

In addition to relatedness, findings from this study complimented current research surrounding autonomy and competency needs, yet they were not novel concepts. However, these findings were applicable and relative to the BIP population.

Autonomy. The instructors presented content in ways that were meaningful to their students. Kim effectively shared decision making with her students by giving them some control over their learning (i.e., individual improvement and self-identified pace) and provided rationales for tasks. Additionally, she implemented active learning in her lessons. Kim overwhelmingly considered her students' input concerning facets of the learning process, they involved students in the learning process, and prompted students to reflect and respond to questions regarding course content (i.e., CFU).

Competency. In enhancing student competency, the instructors modeled correct technique and skill, thus exhibiting appropriate standards in reference to course competencies. John and Kim achieved this through delivering correct learning cues and demonstrations and appropriately utilizing direct instructional methods. Further, the instructors differentiated instruction to students on an individual basis. For instance, Kim taught to her students' varying learning styles (e.g., auditory and visual) while John consistently provided modifications to exercises in his lessons. Additionally, both instructors' based their feedback individually on each student.

Recommendations

Based on the findings from this study, I can make recommendations to assist researchers studying SDT in BIP settings and to inform university instructors' selection

of teaching strategies to enhance student BPNs. These recommendations will point to sound research techniques when studying SDT and aid BIP instructors in improving their BPN-supportive instruction.

Researcher Recommendations

In this research, I attempted to employ the BPNS and PLOC to track changes in students BPN and motivational regulation scores from the beginning to near end of the summer session. Unfortunately, the small, unrepresentative sample sizes (8 students/course) did not permit me to analyze the data inferentially, limiting my ability to detect changes in motivation in these two courses. Thus, I would recommend that researchers target courses with larger student enrollments and/or include additional numbers of courses in the sample to address this threat. A future recommendation to strengthen the findings' conclusiveness would be to analyze the data with inferential rather than descriptive statistics. This process would ensure more confident results targeting instrument scores and observed instructional strategies.

Continue to Examine Relatedness as an Essential Basic Need within SDT. Participant interviews and field observations confirmed the significance of classroom relatedness as an integral component of SDT as a whole. While relatedness is not as commonly targeted in SDM literature compared to learner autonomy or competency, it is as equally critical in understanding SDT holistically. Credible instructional strategies have been identified in the literature relating to autonomy and competency. Therefore, the instructional strategies I identified in this study associated with classroom relatedness should be explored further in other, larger, more representative samples. This will

strengthen the applicability of the identified instructional strategies to other BIPs in varying settings.

Include Focus Groups as a Data Collection Tool. Because my study used a small sample size, I was able to obtain in-depth student and instructor perspectives concerning instructional strategies conducive to SDM. Particularly, I was afforded the opportunity to interview every student in both courses. However, future studies should employ much larger sample sizes where in-depth student perspectives may be more difficult to obtain, especially concerning the relatedness basic need. Thus, I recommend that research using a qualitative or mixed-methods design utilize accepted methods of qualitative sampling to select a meaningful number of key participants for individual interviews and focus groups to permit more students to provide input. Additionally, focus groups provide an interesting group dynamic in which participants *discuss* answers that may be beneficial to understanding instructional recommendations benefiting the course as a whole rather than individual student needs.

Instructor Recommendations

Meaningful instruction. Kim demonstrated autonomy-supportive teaching by implementing instructional strategies that made course content meaningful to her students. I strongly recommend that instructors work to make content meaningful to their students. I suggest that they explicitly provide rationales to assist students to connect the content to their lives. Student motivation appears to increase when they perceive instruction to be meaningful and connected to their current lives. Providing rationales for exercise and stroke execution appeared to motivate students because they understood the

relevance of instruction. As Kim stated, students feel "more inclined" to engage in course content if they are provided with explanations of why they are completing a task (Ntoumanis & Standage, 2009). In addition, Kim effectively shared decision making with her students by allowing them to have some ownership over their learning (i.e., goal setting and personal growth). By allowing students to obtain a degree of control over their learning, such as personal improvement, it appeared that Kim's students found their efforts to be more personal and meaningful. Consequently, I strongly recommend that instructors share a level of decision making with students in order for them to find tasks meaningful.

Active learning. I recommend that BIP instructors purposefully include active learning as a central part of their lessons. Active learning is an autonomy-supportive instructional strategy demonstrated by Kim in this research. She involved students in the learning process and prompted students to reflect and respond to questions concerning the understanding of course content. Kim frequently utilized students to demonstrate strokes or positively reinforced proper stroke execution. It appeared that involving students in the learning process positively affected learner autonomy (Gibbons, 2011). Lastly, Kim encouraged active thinking and content recall through checking for understanding (CFU). As Lindsey stated, this instructional strategy gave the students voice.

Role modeling. I recommend that BIP instructors use role modeling to enhance student competency. Addressing student competency, the instructors role modeled correct skills (i.e., beginning swimming) and exercise techniques (i.e., conditioning). John and Kim accomplished this by utilizing learning cues and demonstrations. Both John and Kim

provided students with proper demonstrations of tasks coupled with learning cues to aid in their learning of proper mechanics. This concept is not new, yet critical for motor learning and development (Landin, 1994). By role modeling appropriate standards, the instructors effectively fostered student competency.

Differentiated instruction. I recommend that BIP instructors individualize instruction to enhance student motivation. A second competency-supportive teaching methodology executed by the instructors was differentiated instruction. John and Kim tailored their instruction to accommodate student needs on an individual level. Because ability levels varied greatly across both courses, instructors' individualized instruction appeared to benefit the development of student competencies (Silver, 1997). For instance, Kim consistently presented course information in ways that met differing learning styles (e.g., visual and kinesthetic). Additionally, John introduced exercise modifications or multiple task alternatives, to individualize challenges for students on a personal basis. John commonly demonstrated this by providing exercise modifications that aided in his students' self-identified task outcomes (Davis & Burton, 1991). Therefore, instruction that was individually tailored to students seemed to be most beneficial to their learning.

Intentional interaction. I recommend that BIP instructors demonstrate interest in their students' lives and use enjoyable tasks to assist students to get to know each other. An instructional strategy that appeared effective in facilitating relatedness was intentional interaction. Kim, in particular, sincerely displayed interest in her students and built a sense of community with them. Kim consistently encouraged relationships between students through group activities (i.e., group games) and student reciprocal teaching

opportunities. John did not overtly demonstrate this strategy and his apparent disinterest was a concern from his students. When I asked students how John could have improved the course, Aliyah commented that she wished John would put more effort into leading students through "get to know you" activities. As supported by Gibbons' (2014) study, Kim's intentional effort to encourage relationships between students and build community within her course was crucial to nurturing relatedness.

Instructors value of students. I recommend that instructors demonstrate value for their students. In this study, students expressed a desire to be personally valued by their instructors. Kim met this relatedness-oriented need by displaying a level of care for her students on a professional and individual basis while maintaining appropriate and professional boundaries. Beginning swimming students stated in their interviews they felt that Kim was interested in them personally and they were not "just a number." Conversely, a conditioning student, Adam, wished that John "personally engaged" with his students. This finding leads me to recommend that not only BIP instructors strive to engage with students on a professional level but also on an individual level, making them feel respected, worthy, and cared for (Connell & Wellborn, 1991).

Nonthreatening classroom environment. I recommend that instructors strive to create and nurture a nonthreatening class climate. In my research, both BIP instructors fostered a learning environment that was positive and non-threatening to students. Kim did not portray a sense of superiority to her students; rather, she maintained a mutually respectful relationship with her students while assuming control over the course. John and Kim were approachable and respectful of their students. They designed and

maintained a classroom environment that was positive and relaxed. Perlman and Karp (2010) noted similar findings relating classroom enjoyment to student perceptions of connectedness and emotional safety. Additionally, Gibbons (2014) related a safe and respectful learning environment, helping students feel valued, using inclusive language, and setting an early positive tone in the course. Therefore, relatedness was positively affected when students perceived instructors were approachable and were respectful of students.

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APPENDIX A

LETTER OF PERMISSION TO CONDUCT RESEARCH

Dr. Amanda J. Smith, Chair
Department of Kinesiology

Dear Dr. Smith,

I am a second year master's student in pedagogical kinesiology studying under Dr. Ennis. I am seeking your permission to collect data for my master's thesis using activity courses that are offered over the first summer session (i.e., conditioning and beginning swimming). I have outlined the pertinent details of my study below.

Specifically, the purpose of my study is to describe university basic instruction program (BIP) instructors' planning and teaching practices associated with student basic psychological needs (BPNs) associated with self-regulation. My research questions are (a) What are university students' perceptions of the BPNs (autonomy, competency, and relatedness) at the beginning and end of a BIP course and (b) What teaching practices appear to cultivate BPNs for these university students? Data collection strategies will include administering two questionnaires to the BIP students, conducting field observations of the instructors' courses, and conducting two interviews with each instructor and one interview with nine students per class.

Specifically, I will observe 9 lessons for each instructor. I will sit at the side of the gymnasium or on the pool deck and will not interrupt the lesson. I will interview the instructors and students outside of class time so as not to take away from the instructional time.

Would you please take into consideration the significance of this research as it would greatly complement the existing literature surrounding learner motivation and effective pedagogical practices in physical education at the university level. At the conclusion of my study I will share my findings with the instructors and general findings with the KIN department.

Thank you for your considering this request,

Sincerely,

Elizabeth Stoffa
KIN Master's Student

APPENDIX B

BASIC PSYCHOLOGICAL NEEDS SCALE

(Original Version)

Basic Need Satisfaction at Work

When I am at Work

The following questions concern your feelings about your job during the last year. (If you have been on this job for less than a year, this concerns the entire time you have been at this job.) Please indicate how true each of the following statement is for you given your experiences on this job. Remember that your boss will never know how you responded to the questions. Please use the following scale in responding to the items.

1	2	3	4	5	6	7
Not at all true						Completely true

1.	I feel like I can make a lot of input to deciding how my job gets done.	1	2	3	4	5	6	7
2.	I really like the people I work with.	1	2	3	4	5	6	7
3.	I do not feel very competent when I'm at work.	1	2	3	4	5	6	7
4.	People at work tell me I am good at what I do.	1	2	3	4	5	6	7
5.	I feel pressured at work.	1	2	3	4	5	6	7
6.	I get along with people at work.	1	2	3	4	5	6	7
7.	I pretty much keep to myself when I am at work.	1	2	3	4	5	6	7

8. I am free to express my ideas and opinions on the job.	1	2	3	4	5	6	7
9. I consider the people I work with to be my friends.	1	2	3	4	5	6	7
10. I have been able to learn interesting new skills on my job.	1	2	3	4	5	6	7
11. When I am at work, I have to do what I am told.	1	2	3	4	5	6	7
12. Most days I feel a sense of accomplishment from working.	1	2	3	4	5	6	7
13. My feelings are taken into consideration at work.	1	2	3	4	5	6	7
14. On my job I do not get much of a chance to show how capable I am.	1	2	3	4	5	6	7
15. People at work care about me.	1	2	3	4	5	6	7
16. There are not many people at work that I am close to.	1	2	3	4	5	6	7
17. I feel like I can pretty much be myself at work.	1	2	3	4	5	6	7
18. The people I work with do not seem to like me much.	1	2	3	4	5	6	7
19. When I am working I often do not feel very capable.	1	2	3	4	5	6	7

20. There is not much opportunity for me to decide for myself how to go about my work. 1 2 3 4 5 6 7

21. People at work are pretty friendly towards me. 1 2 3 4 5 6 7

(BPNS – Modified Version)

Basic Need Satisfaction in Class

The statements of this questionnaire specifically concern your feelings about your interactions in this course. Please indicate how true each of the following statements are for you given your experiences in this course *only*, not other activity courses in the past or future. Remember that your instructor will not know how you responded to the questions. Please use the following *7-point* scale in responding to these items: 1 = not true at all, 4 = somewhat true, or 7 = completely true.

1	2	3	4	5	6	7
Not at all true			Somewhat true			Completely true

1.	I feel like I can give a lot of input into decision making in class.	1	2	3	4	5	6	7
2.	I really like the people in class.	1	2	3	4	5	6	7
3.	I do not feel very competent when I am in class.	1	2	3	4	5	6	7
4.	My instructor tells me I am good at the course content.	1	2	3	4	5	6	7
5.	I feel pressured in class.	1	2	3	4	5	6	7
6.	I get along with others in class.	1	2	3	4	5	6	7
7.	I pretty much keep to myself when I am in class.	1	2	3	4	5	6	7
8.	I am free to express my ideas and opinions in class.	1	2	3	4	5	6	7
9.	I consider the others in class to be my friends.	1	2	3	4	5	6	7

10. I have been able to learn interesting new skills in this class.	1	2	3	4	5	6	7
11. In a typical class period, I frequently have to do what I am told.	1	2	3	4	5	6	7
12. Most days I feel a sense of accomplishment from what I do in class.	1	2	3	4	5	6	7
13. My feelings are taken into consideration in class.	1	2	3	4	5	6	7
14. In class I do not get much of a chance to show how capable I am.	1	2	3	4	5	6	7
15. Others in class care about me.	1	2	3	4	5	6	7
16. There are not many students that I am close to.	1	2	3	4	5	6	7
17. I feel like I can pretty much be myself in class on a day to day basis.	1	2	3	4	5	6	7
18. Other students I interact with regularly do not seem to like me much.	1	2	3	4	5	6	7
19. I often do not feel very capable.	1	2	3	4	5	6	7
20. There is not much opportunity for me to decide for myself how to do things in class.	1	2	3	4	5	6	7
21. Other students are generally pretty friendly towards me.	1	2	3	4	5	6	7

APPENDIX C

PERCEIVED LOCUS OF CAUSALITY SCALE

(Original Version)

Why do you take part in sport? **I take part in sport …..**	Strongly Disagree				Strongly Agree
1. because I'll get into trouble if I don't.	1	2	3	4	5
2. because I want the coach to think I'm a good athlete.	1	2	3	4	5
3. because I want to learn sport skills.	1	2	3	4	5
4. because sport is fun.	1	2	3	4	5
5. but I really don't know why.	1	2	3	4	5
6. because that's what I am supposed to do.	1	2	3	4	5
7. because I would feel bad about myself if I didn't.	1	2	3	4	5
8. because it is important for me to do well in sport.	1	2	3	4	5
9. because I enjoy learning new skills.	1	2	3	4	5
10. but I don't see why we should have sport.	1	2	3	4	5
11. so that the coach won't yell at me.	1	2	3	4	5
12. because I want the others to think that I'm good.	1	2	3	4	5
13. because I want to improve in sport.	1	2	3	4	5

14. because sport is exciting.	1	2	3	4	5
15. but I really feel I'm wasting my time in sport.	1	2	3	4	5
16. because that's the rule.	1	2	3	4	5
17. because it bothers me when I don't.	1	2	3	4	5

(PLOC-Modified Version)

The questions in this questionnaire specifically concern your reasoning for enrolling in this course. Please indicate the degree to which you agree or disagree with each statement. As you are responding, please think about each statement in reference to this course *only*, not other activity courses in the past or future. Remember that your instructor will not know how you responded to the questions. Please use the following *5-point* scale in responding to these items: 1 = strongly disagree, 3 = somewhat agree, or 5 = strongly agree.

Why do you take part in in this particular activity course?
I take part in this activity course …..

	Strongly Disagree		Somewhat Agree		Strongly Agree
1. because it is required for my major.	1	2	3	4	5
2. because I want the instructor to think I'm competent in class activities.	1	2	3	4	5
3. because I want to learn related skills.	1	2	3	4	5
4. because this class is fun.	1	2	3	4	5
5. but I really don't know why.	1	2	3	4	5
6. because that's what I am supposed to do.	1	2	3	4	5
7. because I would feel bad about myself if I didn't.	1	2	3	4	5
8. because it is important for me to do well in this course.	1	2	3	4	5
9. because I enjoy learning new skills.	1	2	3	4	5

10. but I don't see why we should have activity courses.	1	2	3	4	5
11. so that I won't get penalized academically.	1	2	3	4	5
12. because I want the others to think that I'm good at the activity.	1	2	3	4	5
13. because I want to improve in fitness.	1	2	3	4	5
14. because activity courses are exciting.	1	2	3	4	5
15. but I really feel I'm wasting my time in activity courses.	1	2	3	4	5
16. because that's a requirement.	1	2	3	4	5
17. because it bothers me when I don't.	1	2	3	4	5

APPENDIX D

INSTRUCTOR INTERVIEW GUIDE – 1

Question 1: Please describe your expectations for your students in this course.

- Level of responsibility?
- Student growth?
- Interaction/engagement in the class?

Question 2: Please describe your learning objectives for this course.

- Describe the premise you based these on.
- Describe your rationale for selecting these objectives.

Question 3: How are you planning to meet these learning objectives?

- What strategies will you use to meet these objectives?

Question 4: Will you describe a typical class period?

- What content will be taught across the semester (in general)?
- How will your lessons be structured?
- Will you be the primary or only instructor in the course? Will students or guest instructors have some teaching responsibilities?

APPENDIX E

INSTRUCTOR INTERVIEW GUIDE – 2

Question 1: How successful do you believe you were in accomplishing your course objectives this summer session?

Question 2: Describe strategies that you think are effective in motivating students to be physically active/regular swimmers?

Question 3: Describe your students' fitness/skill level in conditioning/swimming at the beginning of this class?

- How have your students' fitness/skill level changed now as a result of your course?
- How have you helped your students improve their fitness/skills and knowledge in the course?

Question 4: In what ways did you share decision making with your students over their learning?

- How did you provide choice to your students in class?
- How important was it to provide a rationale for completing tasks to your students in class?
- To what extent did you emphasize the goal of personal improvement versus improvement in comparison to other students in the class?

Question 5: In what ways did you make your students feel included in the class?

- How did you involve your students in the learning process in class?
- How did you encourage your students to build personal relationships (student to students and student to instructor)?
- Describe a class environment that is respectful and emotionally safe in conditioning/swimming.

Question 6: How would you change your future teaching in any of the areas we just discussed in this interview?

APPENDIX F

STUDENT INTERVIEW GUIDE

Question 1: What were your reasons for enrolling in the class?

Question 2: Describe your fitness/skill level in conditioning/swimming before taking this class.

- Describe your fitness/skill level now as a result of this course.
- What particular skills/fitness areas improved across this summer course?
- How has your instructor helped you improve your skills/knowledge in the class?

Question 3: In what ways do you feel that you have control over your learning in class?

- In what ways does your instructor provide you with choice while learning in class?
- To what extent does your instructor communicate reasons for completing tasks in class?
- To what extent does your instructor emphasize personal improvement? Improvement in comparison to others' in class?

Question 4: In what ways do you feel included in the class?

- How has your instructor made you feel included or involve you in the class?
- To what extent would you say that the class environment is respectful and emotionally safe?
- How does your instructor encourage relationships between you and your classmates?

Question 5: Prior to this class, what was the degree to which you felt motivated to participate in swimming/conditioning?

- How motivated are you now to participate outside of class as a result of taking this class?
- Would you continue to participate in swimming/conditioning after the course ends?
- Please provide examples of ways you will participate in swimming/conditioning during the rest of the summer.

Question 6: If this instructor were to teach you in this course in the future, what changes would you suggest to help him or her to teach you?

- How could s/he help you become more competent in swimming/conditioning?

- How could s/he help develop in class relationships to help you feel more comfortable?
- How could s/he help you to have more “say” in the course?