

# Effects of Participation in a Summer Sports Camp on At-Risk Boys: A Self-Determination Theory Perspective

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## Abstract

To date, research has rarely focused how a summer camp influences at-risk boys' motivation and physical activity through a self-determination theory. This study examined changes of motivational and physical measures among at-risk boys participating in a summer sports camp. One hundred at-risk boys, aged 10-13 years, participated in a three week camp session. Two questionnaires and an endurance activity were completed by the boys as pre and post-tests. Results revealed amotivation increased and intrinsic regulation decreased across the camp session. Also, the boys' endurance performance did not significantly change across the camp period. Findings suggest programs allowing more camper-centered choices and de-emphasizing competition may promote increased motivation and physical performance of at-risk boys.

Key words: motivation, physical activity, choice, competition

## Introduction

From a public health and physical education perspective, adolescent children in the U.S. continue to exhibit low levels of physical activity (Vierling, Standage, & Treasure, 2007). Furthermore, adolescents do not meet the national recommendation that they engage in at least 60 minutes of moderately intense physical activity on daily basis (Center for Disease Control and Prevention [CDC] 2013). The low levels of physical activity among adolescents pose substantial health problems, such as overweight or obesity (Power, Ulrich-French, Steele, Daratha, & Bindler, 2011). Reports have indicated that 18% of U.S. youth are obese, and 16% of them are overweight (Ogden, Carroll,

Curtin, Lamb, & Flegal, 2010). The high levels of over-weight and obesity are particularly observed in at-risk adolescents (CDC, 2013).

Adolescents placed at-risks are identified as those who have a less possibility of pursuing education and a high possibility of not graduating from high school (Armitage & Sprigg, 2010). American at-risk adolescents typically are classified as low socioeconomic status stricken and underserved backgrounds and ethnic minorities (Lawman, Wilson, Van Horn, Resnicow, & Kitzman-Ulrich, 2011). They are more likely to encounter a variety of social and economic challenges than non at-risk adolescents (Close & Solberg, 2008). They also feel more alienated from school and peers and face higher possibilities of experiencing failure at school than non at-risk adolescents (Close & Solberg, 2008). Further, most at-risk adolescents are male, have uncertain views for their future, and are likely to have low self-confidence in school work (McBride &

Bonnette, 1995).

Since higher levels of physical inactivity are connected to the rise in the prevalence of overweight and obesity among at-risk adolescents, it is important to understand the determinants of physical activity behaviors among at-risk adolescents and why and how they might want to participate in physical activity (Tremblay & Willms, 2003). Motivation has been regarded as a crucial determinant of sustained participation in physical activity and change in physical activity behaviors (Deci & Ryan, 2000; Martin, McCaughy, & Shen, 2008).

In recent years, a motivation framework widely used in educational settings is Self-Determination Theory (SDT; Deci & Ryan, 2002), which posits that people endeavor to satisfy three basic psychological needs, namely autonomy, competence, and relatedness (Deci & Ryan, 2002). Autonomy refers to the extent to which people regard themselves as the initiator of their behavior and as being volitional for the initiation of the behavior. Competence is defined as the ability to perform activities in which people engage effectively and to achieve desired outcomes. Relatedness indicates the degree to which a person feels connected or involved with others and experiences a sense of belongingness to a particular social community.

According to Ryan and Deci (2000a), individuals experience self-determined motivation to the extent they perceive the fundamental three needs for autonomy, competence, and relatedness are met. When individuals are engaged in certain contexts and activities that satisfy or curtail the three psychological needs, individuals can also posit differently leveled self-determined motivational regulations that lie on a continuum (Deci & Ryan, 2002). Ryan and Deci (2000b) stated this continuum consists of five motivational regulations that range from amotivation to intrinsic regulation.

Amotivation represents the absence of both intrinsic and extrinsic motivation. It is the least autonomous self-determined motivational regulation representing an unwillingness to attain a goal (Ryan & Deci, 2000b).

For example, students have no intention to engage in physical activity programs, so they may join in passively or not at all.

External regulation refers to an extrinsically regulated motivation where an individual seeks to meet or avoid external contingencies such as rewards or threats of punishment (Ryan & Deci, 2000b). With this regulation, a learner initiates a behavior to attain or avoid certain outcomes associated with an assigned task (Ryan & Deci, 2000b). For example, students may participate in an endurance running event to get a donated reward even though they do not like running.

Introjected regulation refers to a partially internalized motivation in which an individual endorses the necessity of a behavior (Ryan & Deci, 2000b). With introjected regulation, the motive for certain action is controlled by self-imposed sanctions such as guilt or anxiety and ego enhancement (Standage, Duda, & Ntoumanis, 2005). For example, students may perform warm-up exercise at the beginning of a physical education lesson because that is the rule. Otherwise, they may feel badly or guilty in class.

Identified regulation is a more autonomous self-determined motivation where a learner identifies personally with the value or benefit of a behavior (Ryan & Deci, 2000a). Here, students may exercise regularly because they recognize or believe that doing so is beneficial to increase physical health and endurance.

Intrinsic regulation is the most autonomous self-determined motivational regulation. It refers to the voluntary engagement in activities for one's own interest, pleasure, and satisfaction (Deci & Ryan, 2002). When individuals are intrinsically engaged in their ongoing activities, they are completely self-motivated (Deci & Ryan, 2002). Students may engage in physical activity for feelings of interest, enjoyment, and satisfaction gained.

The fundamental perspective of SDT is that when individuals are intrinsically motivated, they experience better affective, cognitive, and behavioral outcomes (Ryan & Deci, 2000a). SDT has a connection to physical activity outcomes in that the mechanism of the

self-determined motivational regulations might affect the extent to which individuals are physically active (Bryan & Solmon, 2007). Research in physical activity settings supports this theoretical perspective by showing intrinsically regulated motivation to be positively associated with increased behavioral persistence and performance (Standage, Gillison, Ntoumanis, & Treasure, 2012).

There is evidence supporting the link between autonomous motivational regulations (i.e., intrinsic and identified regulation) and positive motivational consequences of physical activity (Wilson, Rodgers, Blanchard, & Gessell, 2003). Adolescent students who are more intrinsically motivated, for example, have been linked to higher levels of performance on endurance activities. Shen, McCaughy, Martin, and Fahlman (2009) found that when adolescent students in middle schools were intrinsically motivated in physical education classes during one semester, they showed higher performance on an endurance activity such as PACER (Progressive Aerobic Cardiovascular Endurance Running) test (Kowal & Fortier, 2000). Further, Power et al. (2011) demonstrated adolescents showing intrinsic regulation in a school-based physical activity program scored significantly higher on the PACER test than those who had external and introjected regulation.

Although the health-related benefits from participation in physical activity have been extensively studied among at-risk adolescents, most research occurs in traditional school based physical education settings (Watts, Jones, Davis, & Green, 2005). If physical activity levels are to be encouraged, we must look for other avenues for at-risk adolescents who are exposed to lower physical activity level. For example, summer sports camp settings may provide opportunities for enhanced physical activity among at-risk adolescents who are generally from lower income working families or underserved communities, have less access to physical activity opportunities, and less family support for participating in physical activity (Molnar, Gortmaker, Bull, & Buka, 2004).

To date, there has been a scarcity of studies

investigating the relationships between three psychological needs and self-determined motivational regulations, and subsequently changes in self-determined motivational regulations and performance in physical activity, specifically among at-risk boys in sports camp settings such as a summer camp.

In sum, this study attempts to assess how participation in a summer sports camp influences changes of at-risk boys' self-determined motivational regulations by examining the relationships between the three psychological needs and the five motivational regulations. Additional information may provide insight into how self-determined motivational regulations might impact an endurance activity among at-risk boys. Particularly, a deeper understanding about changes in self-determined motivational regulations among at-risk boys may be helpful for future programming by camp administrators.

This study investigated the relationships between three psychological needs and self-determined motivational regulations among at-risk boys participating in a summer sports camp and whether participation in summer sports camp activities leads to changes in self-determined motivational regulations and performance on an endurance activity.

Specifically, in a three-week summer sports camp for at-risk boys, this study examines:

(a) What are the relationships between three psychological needs and self-determined motivational regulations? (b) Are there changes in self-determined motivational regulations across a three-week camp period? (c) Are there changes in the performance on an endurance activity (PACER test) across the camp period?

## Methods

### Participants and Setting

Participants consisted of 100 at-risk boys, aged 10-13

( $M = 11.4$ ), enrolled in a summer sports camp located in the southwest U.S. Ethnicity groups were 52% Hispanic American, 26% White, 17% African American, 1% Asian American, and 4% others. The summer camp consisted of two three-week sessions. During each session, the camp activity began at 9 a.m. and ended at 5 p.m. Monday through Sunday. Boys played a variety of sports-related activities throughout each camp session. Specifically, the boys participated in daily scheduled sports activities such as soccer, flag football, basketball, track & field, swimming, canoeing, archery, tennis, field hockey, and baseball. Although the boys had been involved in physical education classes, they did not have enough opportunities to develop self-efficacy. The boys were encouraged to improve self-esteem, learn discipline and respect, and strive for excellence through participation in the camp activities. The camp administrators divided the boys into groups by age, 10-11 and 12-13. Each group participated in all activities based on the same teaching context, which was instructor-centered.

Prior to the study, the researcher obtained permission from the university review board, parents, and participants. Eight male full-time certificated instructors taught the scheduled camp activities during each camp session.

## Instrumentation

Psychological Needs Perception Questionnaire (PNPQ). The PNPQ assesses the perceptions of the three psychological needs (autonomy, competence, and relatedness). The three constructs were modified from the 16 items based on a physical activity context identified by Standage et al. (2005). Each construct includes four items, totaling in 12 items. The stem statement was reworded to capture the activities in a summer sports camp. The stem was modified to: "In my activities at camp..." An autonomy example item is "I have some choices in what I do." A competence example item is "I am satisfied with my performance."

A relatedness example item is "I feel valued by my group members." All responses were recorded on a 5-point Likert scale ranging from 1 (Not at all true) to 5 (Very true). The PNPQ has demonstrated acceptable construct validity and reliability with similar age groups in physical activity settings (Zhang, Solmon, Kosma, Carson, & Gu, 2011).

Behavioral Regulation in Exercise Questionnaire (BREQ-2). The BREQ-2 consists of the five motivational regulations: intrinsic, identified, introjected, external, and amotivation (Markland & Tobin, 2004). The stem statement was reworded to focus on the activities performed by participants and read, "I participate in camp activities because..." Each construct consisted of four items except for introjected regulation that had three items, totaling in 19 items. An example item of intrinsic regulation is "It's fun." An example item of identified regulation is "It is important to me to participate." An example item of introjected regulation is "I feel bad when I don't participate." An example item of external regulation is "Others say I should." An example item of amotivation is "I think they are a waste of time." All responses were recorded on a 5-point Likert scale ranging from 1 (Not at all true) to 5 (Very true). The BREQ-2 has demonstrated acceptable levels of validity and reliability with adolescents in physical activity settings (McDavid, Cox, & Amorose, 2012).

The Progressive Aerobic Cardiovascular Endurance Run (PACER). The PACER (Cooper Institute, 2007) was used to measure boys' performance on an endurance activity. The objective of this test is to run back and forth across a 20 meter distance as many times as possible in a set mode. An audio recorder with a beep tone controls the running pace. Participants must run the 20 meters once the beep sounds. The beeps increase in tempo requiring participants to increase their pace. Total score is the number of times boys can run the 20 meters within two chances. Detailed test protocol is found in the FITNESSGRAM test administration manual (Cooper Institute, 2007).

## Procedures

Data were collected during regularly scheduled camp activities. During Week 1 of each session, all boys completed the PACER test on the first day and the three questionnaires on the third day as pre-test. During Week 3, the final week of each session, all boys completed the three questionnaires on the third day and the PACER test on the last day again as post-test.

The researcher administered the questionnaires in the camp cafeteria after scheduled camp activities. The boys were encouraged to answer as honestly as they could and to ask questions if they had difficulty understanding instructions or items in the questionnaires. Boys were informed that only the research team had access to their responses. To ensure the confidentiality of their responses, the researcher let boys disperse from each other so that they could not see each other's answers. The questionnaires were completed in approximately 20 minutes. A research team consisting of four graduate students administered the PACER test to the boys, and camp coaches assessed the boys on a basketball court during scheduled camp activity classes. The researcher explained the PACER test to the boys before they completed it and encouraged them to perform their best.

## Data Analysis

For preliminary analysis, all data were screened to exclude outliers or missing data. Then, the researcher performed a MANOVA to assess whether boys in both camp sessions were different at pre-test. Confirmatory factor analyses (CFA) assessed the two inventories to check factorial validities. Internal consistency of all questionnaire data was confirmed using Cronbach's alpha index (1951). Descriptive data were provided for all of the variables. To describe the stability of the study variables across two time points, variable correlations between pre and post-tests were assessed. Pearson correlation analyses were conducted to investigate the relationships among three study variables: psychological

needs for autonomy, competence, relatedness; self-determined motivational regulations; PACER test performance.

Multiple regression analyses investigated how autonomy, competence, and relatedness of the boys contributed to their five motivational regulations. A repeated measures MANOVA examined changes in five motivational regulations across the three-week camp period. Finally, a dependent t-test examined PACER test score changes of the boys across the three-week camp period of time.

## Results

Preliminary analysis confirmed no outliers and five missing cases where a full of measure was omitted. The missing cases were eliminated from further analysis, which retained 95 recruited participants. The results of the MANOVA indicated there were no significant differences ( $p > .05$ ) in both sessions, so data were collapsed. The CFAs revealed a good fit (Bentler, 1990; Hu & Bentler, 1999) between the model and data for PNPQ ( $\chi^2/df = 1.40$ , CFI = .93, RMSEA = .06, SRMR = .06) and BREQ-2 ( $\chi^2/df = 1.49$ , CFI = .92, RMSEA = .07, SRMR = .07). The Cronbach's alpha coefficients (Cronbach, 1951) for all the self-reported measures ranged from .548 to .891 on the pre-test and from .520 to .855 on the post-test. One item in external regulation subscale in pre-test was eliminated from further analysis due to low reliabilities (less than .45). All study variables demonstrated acceptable internal consistencies (Peterson, 1994). The means, standard deviations, and internal consistency measures among the study variables are presented in Table 1. Correlations between each construct from the pre and post-tests significantly correlated with each other,  $p < .01$ , indicating stability of study's variables across the two time intervals (See Table 1).

**Table 1.** Descriptive Statistics, Internal Consistency, and Correlations of Pre & Post Variables

Variables	Means(SD) (Pre)	Means(SD) (Post)	$\alpha$ (Pre)	$\alpha$ (Post)	Correlations (Pre&Post)
Autonomy	3.51(.75)	3.48(.68)	.578	.520	.609*
Competence	4.07(.64)	3.83(.73)	.741	.767	.698*
Relatedness	3.81(.80)	3.54(.86)	.818	.843	.468*
Amotivation	1.87(.88)	2.27(.89)	.727	.760	.479*
External regulation	3.11(1.07)	3.13(1.06)	.570	.650	.481*
Introjected regulation	3.19(1.18)	3.23(1.14)	.608	.689	.567*
Identified regulation	4.12(.75)	3.95(.86)	.548	.747	.449*
Intrinsic regulation	4.53(.71)	4.28(.78)	.891	.855	.366*
PACER	30.52(15.36)	32.79(18.69)			

\* $p < .01$ . SD = Standard Deviation.  $\alpha$ =Cronbach's alpha coefficients.

As seen in Table 2, expected theoretical associations within each motivational variable supported by the SDT tenet were confirmed in the pre-test data. In the psychological needs variable, autonomy, competence and relatedness were significantly correlated. In addition, proximal relationships consistency with theoretical expectations in self-determined motivational regulations was supported. That is, intrinsic regulation was highly correlated with identified regulation; extrinsic regulation was associated with introjected regulation; introjected regulation was correlated with identified regulation. Also, amotivation was negatively correlated with intrinsic and identified regulation. Finally, autonomy and competence

were significantly correlated with PACER test scores.

As shown in Table 3, autonomy, competence and relatedness were all significantly correlated with identified and intrinsic regulation ( $r = .26$  to  $.57$ ,  $p < .05$  for all) at post-test. Multiple regressions, using stepwise variable selection examined how autonomy, competence, and relatedness predicted the two motivational regulations. Identified regulation was predicted by competence and relatedness,  $R^2 = 43\%$ ,  $\beta = .400$ ,  $p < .01$ ;  $\beta = .363$ ,  $p < .01$ , respectively. Intrinsic regulation was predicted by relatedness and competence,  $R^2 = 37\%$ ,  $\beta = .458$ ,  $p < .01$ ;  $\beta = .237$ ,  $p < .05$ , respectively.

**Table 2.** Bivariate Correlations Among Study Variables (Pre)

	A	C	R	Am	Ex	Ij	Id	It	P
A		.39**	.33**	-.01	.00	.06	.15	.31**	.27**
C			.42**	-.25*	.00	.00	.19	.43**	.30*
R				-.02	.17	.21*	.35**	.31**	.13
Am					.28**	.14	-.23*	-.31**	.06
Ex						.20*	.12	.08	-.01
Ij							.52**	.21*	.08
Id								.42**	.06
It									.18
P									

A=Autonomy, C = Competence, R = Relatedness, Am = Amotivation, Ex = External regulation, Ij = Introjected regulation, Id = Identified regulation, It = Intrinsic regulation, P = PACER.

\* $p < .05$ . \*\* $p < .01$ .

**Table 3.** Bivariate Correlations Among Study Variables (Post)

	A	C	R	Am	Ex	Ij	Id	It	P
A		.35**	.30**	-.08	.12	.14	.27**	.26**	.31**
C			.46**	-.12	.27**	.18	.57**	.45**	.26*
R				-.24*	.22*	.36**	.55**	.57**	.24*
Am					.10	-.14	-.20*	-.30**	-.02
Ex						.24*	.40**	.21*	.09
Ij							.61**	.30**	.28**
Id								.57**	.26*
It									.18
P									

A=Autonomy, C = Competence, R = Relatedness, Am = Amotivation, Ex = External regulation, Ij = Introjected regulation, Id = Identified regulation, It = Intrinsic regulation, P = PACER.

\* $p < .05$ . \*\* $p < .01$ .

Results of the repeated measures MANOVA showed significant differences among the five self-determined motivational regulations across the three-week camp period, Wilks'  $\lambda = .801$ ,  $F(5, 86) = 4.286$ ,  $p = .002$ ,  $\eta^2 = .199$ . Significant mean differences occurred in amotivation,  $F(1, 90) = 16.875$ ,  $p = .000$ ,  $\eta^2 = .158$ , and intrinsic regulation,  $F(1, 90) = 8.510$ ,  $p = .004$ ,  $\eta^2 = .086$ , across the two time periods. From pre to post-test, amotivation scores increased whereas intrinsic regulation scores decreased. Results of the dependent t-test showed no significant differences in the PACER test scores across the two testing sessions,  $F(1, 86) = 2.604$ ,  $p = .110$ ,  $\eta^2 = .029$ .

## Discussion

The purposes of this study were to first investigate the relationships between the three psychological needs and self-determined motivational regulations in at-risk boys attending a summer sports camp. This study also examined changes in self-determined motivational regulations and performance on an endurance activity across a three-week camp session.

Correlations among the three psychological needs and the five motivation regulations at post-test showed that autonomy, competence, and relatedness were significantly

correlated with intrinsic and identified regulation. The correlations indicate that the motivational processes in which the boys perceived autonomy, competence, and relatedness from their camp activity contexts were related to internalization of autonomous motivational regulations (i.e., intrinsic and identified regulation). Multiple regression analyses provided additional indicators of the three psychological needs on the autonomous motivational regulations. Competence and relatedness were significant predictors of intrinsic and identified regulation.

These results are consistent with SDT studies based on adolescents' perceptions of autonomy, competence, and relatedness in physical activity settings. That is, the psychological needs adolescents perceived in a social supportive context predicted their autonomous motivational regulations versus controlled motivational regulations (i.e., external and introjected regulation) (Standage et al., 2005). Specifically, Ntoumanis, Barkoukis, and Thøgersen-Ntoumani (2009) found that adolescents with high competence and relatedness needs satisfaction in physical education classes perceived higher levels of intrinsic and identified regulation.

Furthermore, studies have found that adolescents' perceptions of competence and relatedness to be the salient predictors determining autonomous motivational regulations in physical education settings that were

teacher-centered, as similar to this camp environment (Ntoumanis, 2001; Standage, Duda, & Ntoumanis, 2003; Standage, Duda, & Ntoumanis, 2006). Especially, they have argued that perceiving competence and relatedness in team sports contexts such as those of the present camp environment may elicit autonomous motivational regulations because feeling competent in the demonstration of physical ability in public exposure and the development of feelings of connectedness to classmates could play a considerable role in shaping self-oriented motivational dispositions such as willingness for positive affective outcomes and persistence in competitive behaviors for success. For the most part, the current study findings were consistent with these relationships.

Results showed significant changes in the mean scores of amotivation and intrinsic regulation across the three-week camp period of time. Amotivation increased and intrinsic motivation decreased. The camp activities primarily involved competitive team sports such as soccer, basketball, and flag football. Instruction was instructor-centered or controlled. In this environment, there are more likely to be fewer opportunities for student choice and involvement in decision making (McBride & Xiang, 2004). Thus, it is possible that the campers felt less autonomous in their environment that could, in turn, contribute to boredom, reduced engagement, or concentration (Pelletier, Dion, Tuson, & Green-Demers, 1999). Under such circumstance, the at-risk boys may fail to have causality and control of their behaviors that in turn show little effort or adherence in their behaviors for accomplishing tasks in camp activities (Ntoumanis, Pensgaard, Martin, & Pipe, 2004). In other words, in the controlling context, the at-risk boys may have been more likely to be passively participating in activities or have no intention to engage in the activities (Shen, Wingert, Li, Sun, & Rukavina, 2010), leading to increased amotivation and decreased intrinsic regulation during such activities (Kalaja, Jaakkola, Watt, Liukkonen, & Ommundsen, 2009).

Results from the PACER test yielded no significant changes across the camp period of time. Shen,

McCaughy, and Martin (2007) proposed that distinct activity domains such as different learning environments and durations can largely influence youths' motivational status. The camp activity environment supported a competitive facet in most activities, had an instructor-oriented teaching approach, and had an inflexible time schedule. The environmental combination of these conditions may not have stimulated the boys' motivational dispositions to yield significant changes on an endurance activity (Kalaja et al., 2009). In other words, because the boys were not intrinsically motivated by the camp activity contexts that did not satisfy their psychological needs for autonomy, competence, and relatedness, they might have been less likely to make significant changes in the endurance activity across the camp period (Shen et al., 2009).

In sum, the psychological needs (i.e., competence and relatedness) of the at-risk boys participating in the camp activities showed a positive relationship with intrinsic and identified regulation. However, this positive relationship failed to yield significant changes in forms of self-determined motivation (i.e., intrinsic and identified regulation) and the endurance run over the course of the camp period.

These findings yield the practical implications that may help instructors or program managers understand the motivational processes and their effects on at-risk boys participating in a summer sports camp. First, the boys showed increased amotivation and decreased intrinsic regulation across the three-week camp session. Research has demonstrated that instructional environments with low opportunities for choice or decision-making may not be suitable for promoting motivation, learning, and development for adolescents (Treasure & Roberts, 2001). Specifically, motivational climates that the teacher promotes can have a significant effect on the adolescents' motivational processes (Valentini & Rudisill, 2004).

It is suggested that camp instructors design positive learning contexts by providing greater autonomy such as promoting decision-making opportunities in activity tasks and valuing at-risk boys' senses of choice, volition, and



willingness in camp activity contexts (Zhang, 2009). They can also provide more opportunities for choice to enhance intrinsic motivation and persistence in the camp activities. For example, instructors can accept at-risk boys' opinions in selecting groups for each activity and provide them with opportunities for choosing their favorite activities.

Additionally, at-risk boys may not be adaptively challenged by camp activities based on competitive camp environments (Pelletier et al., 1999). Adventurous or challenging activity programs emphasizing inter and intrapersonal facets rather than competitive aspects in a supportive environment might be added to the camp curriculum. Including such activities in camp programs might elicit at-risk boys' interests and active engagement, leading to greater social, cognitive, and psychomotor development.

This study contributed to previous research findings obtained in physical activity settings by employing SDT literature. Although previous research investigated whether physical activity settings impact self-determined motivational regulations and physical activity levels, none focused specifically on at-risk male adolescents in a summer camp setting. When considering practical implications for camp programs that encourage physically active lifestyles, this study provides additional evidence on motivational and behavioral changes supported by a theoretical viewpoint. By providing more opportunities to meet a sense of autonomy in camp activity contexts and instilling novel and challenging activities, camp administrators might better promote self-determined motivation that boosts at-risk boys' engagement in camp activities. Doing so can, in turn, help them to sustain higher levels of intrinsic motivation that will transfer to enhanced performances across their camp experience.

While notable findings among the boys occurred, there are some limitations to be noted. First, this study examined changes in study variables over a three-week period. This is a relatively short time to assess observable changes among the investigated study variables. This time frame may have contributed to the

lack of significant changes in the self-determined motivation and the endurance activity performance among the at-risk boys. To assess the motivational processes and behavioral changes of participation in camp activities with an at-risk adolescent male population, a longer time frame may be required. Second, this study was conducted with only at-risk male adolescents. Therefore, the present study makes no generalizations beyond the immediate population. Future research might expand the sample size, gender pool, and demographic backgrounds.

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