

**The Profound Influence of Self-Determination Theory and Goal Setting on Performance
Excellence in Student-Athlete Populations**

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Understanding Performance Excellence (PE), defined by realizing one's potential with the ideas of self-actualization (Biswas-Diener, 2010; Perera, 2020), such as through goal attainment, remains an area of great interest to sport and performance professionals alike. Student-athlete populations were analyzed with respect to PE. Student-athlete populations face innumerable pressures including, academic standards, social adjustment, career exploration, intellectual growth, yet are still asked to perform at an elite level in their sport (Raabe, et al., 2016). In the following, Self-Determination Theory (SDT) with respect to self-determined motivations (SDM), Basic Psychological Needs (BPN) satisfaction, and goal setting with the underpinnings of SDT are identified to efficaciously achieve PE in student-athlete populations.

SDT represents motivation on a continuum ranging from amotivation (i.e. lack of motivation) to two controlled motivations (CM) extrinsic motivations (EM) (i.e. the least self-determined (SD), achieved through external rewards or punishment and introjected regulation (i.e. motivated by guilt or shame), to three more autonomous motivations (AM) including, identified regulation (i.e. the person endorses EM, such as completing a task to support another goal), integrated regulation (i.e. EM aligns with individuals values and beliefs), to the ultimate goal of intrinsic motivation (IM) (i.e. the most SDM that comes from within, such as one's desire to acquire more knowledge). Additionally, individuals have three BPN: Autonomy- (A) to have agency to make choices on our own behalf; competence-(C) to experience proficiency when accomplishing different tasks, such as GA; and relatedness- (R) to be securely connected to and understood by others that should be met to enhance SDM (Buning & Thompson, 2015; Readdy, et al., 2014). All of these variables factor into understanding the integral role SDT, SDM, and goal setting play in PE in student-athlete populations.

According to Buning & Thompson (2015) “athletes who participate for more self-determined reasons display more adaptive behaviors (e.g., invest more effort, higher levels of concentration, persistence) and perform better than athletes who are less self-determined” (p. 347). Additionally, Buning & Thompson (2015) noted that autonomy-supportive coaches are integral to BPN satisfaction, SDM, and, in turn PE in student-athlete populations. Buning & Thompson (2015) provided the perspectives of 41 student-athletes (SA), who participated in structured interviews. The results indicated 87.8% of the student-athletes had SDM. 90.2% of the student-athletes attributed their increase in competence 40.5% to instruction sessions and 35.1% after a skill execution provided by autonomy-supportive coaching, while 12.2% of student-athletes experienced controlled motivations (e.g., negative feedback), which inhibited their performance. Autonomy-supportive environments, established through coaching practices increased SDM, facilitated greater sport participation, and resulted in performance success.

Additionally, 63% of the student-athletes emphasized goal setting strategies, long or short-term goals (team or individual) consistently communicated by coach’s, increased their motivation to play and improved their performance (Buning & Thompson, 2015). According to Burton & Raedeke (2008), goal setting is one of the most effective performance enhancing strategies in sport; as it gives athletes purpose, direction, and objective and subjective measures to track performance progress. Smith, et al., (2010) added coaches play an integral role in the goal-striving process. When coaches use autonomy-supportive coaching behaviors while avoiding controlling behaviors, it increases athlete self-motivation, especially with regard to goal-attainment and PE. Readdy, et al., (2014) further defined SDM are enhanced by BPN satisfaction, which contributed to PE in student-athlete populations.

Readdy, et al., (2014) noted SDM increased when BPN are satisfied. Environments that satisfy BPN are essential in fostering optimal motivation and sport outcomes, as they are also associated with hope, optimism, and resilience, which support PE (Biswas-Diener, 2010; Dholakia, 2020; Razetti, 2020). In Readdy, et al., (2014), 85 student-athletes ($M_{age} = 20.3$ years old) participated from the university football team. The off-season was divided into three-phases with opportunities for the student-athletes to earn points for different accomplishments and lose points for specific negative behaviors as members of the Champions Club (CC).

The results from Readdy, et al., (2014) highlighted that before the CC started, athletes scored lowest in amotivation and highest on external (i.e. extrinsic) regulation with all other forms of motivation between the two. After the CC participants shifted from an ambiguous motivational profile to one that was SD. All three BPN were positively correlated with one another ($r=.41$ for Competence and Relatedness $p=.003$, $r=.63$ for Competence and Autonomy, $p<.001$; $r=.44$ for Autonomy and Relatedness, $p=.001$). The athletes mentioned that their ability to do well in associated areas (e.g., weight training) translated to their competence during the season and supported their PE. The BPN of Relatedness served as the greatest merit towards motivation, which contributed to the greatest increase in PE.

The student-athletes acknowledged that intrinsic motivations made the biggest difference in their performance and that any external rewards (i.e., controlled motivations) had the potential to impede their performance. The BPN of autonomy and internal motivations were identified as performance enhancing and important with respect to performance success (i.e., not in comparison to others, such as through posting scores in the locker room) (Readdy, et al., 2014). Ntoumanis, et al., (2014) further illustrated the preceding.

Ntoumanis, et al., (2014), involved two studies: study one involved one hundred student-athletes (64 Males (M), 36 females (F); $M_{age} = 19.89$ years), who were recruited from the University of Birmingham and local sports clubs...Study two involved Ninety student-athletes ($M_{age} = 19.63$ years) (p. 225). The study illustrated that the more autonomous an individuals' motives are in goal pursuits increases the likelihood the individual will sustain the effort to actualize their goal.

Autonomous-motivations and goal effort were associated with task-based coping (e.g., increasing effort and relaxation), whereas controlled-motivations were associated with disengagement coping (e.g., disengagement, venting) (Ntoumanis, et al., 2014). Autonomous-motivations were integral in goal-attainment, especially as goal difficulty increased. Study two highlighted that autonomous-motivations, not only aided in goal-attainment, but predicated whether goals were pursued in the future. Further, Benita, et al., (2017) added autonomy-supportive environments contributed to autonomous-motivations with goal setting, which led to greater goal-attainment and positive emotions associated with goal-attainment. Sheldon & Watson (2011) further illustrated how SDM and goal setting effectively support PE in student-athlete populations.

Sheldon & Watson (2011) involved 264 participants (i.e., 141 recreational, 83 club, and 40 varsity athletes. There were 132 M and 132 F. They measured *Coach's Autonomy-Supportive, Sport Motivation, Team Structure, and Global Positive Appraisals*. The results from Sheldon & Watson (2011) were statistically significant. The follow-up contrasts for external reward motivation, intrinsic motivation, team structure and for global positive appraisal, revealed that varsity athletes were significantly higher than recreational participants on external reward

motivation, supporting their first study hypothesis regarding this form of extrinsic motivations. Additionally, consistent with their first hypothesis, varsity athletes reported less intrinsic motivations than recreational participants. Analyses also showed that varsity athletes reported significantly more structure than recreational and club athletes. The diminished SDM in varsity athletes was attributed to the use of external rewards motivation and increased structure experienced in varsity sports (i.e., associated with decreased autonomy). Satisfaction in autonomy is integral in fostering SDM and, in turn, directly influences PE.

According to Sheldon & Watson (2011), autonomy support from coaches was associated with autonomous motivations (intrinsic and identified), whereas external rewards motivations (i.e., controlled motivations) was significantly negatively associated with intrinsic motivations ($r = -.17, p < .01$). Intrinsic motivations provide many benefits, including objective outcomes such as performance, persistence, and creativity, which are integral to goal attainment and PE. Autonomy support from coaches was highest amongst varsity athletes than in the other two groups in the case of intrinsic motivations (for the interaction, $\beta = .13, p < .05$), identified motivation ($\beta = .16, p < .01$). Autonomy support was significantly correlated with team record ($r = .32, p = .05$). As mentioned in Sheldon & Watson (2011), “The autonomy supportive coaches produce more successful teams... Whereas controlling coaching may backfire, producing worse rather than better performances” (p. 120). BPN satisfaction in student-athlete populations and autonomy support from coaches significantly impacted SDM and directly effects PE in student-athlete populations.

Further, Raabe, et al., (2016) answered the following question: In what ways do teammates satisfy NCAA DI swimmers’ BPN? Eight members (five F and three M; $M=19.75$

years) were interviewed for the study. The eight were representative of the team ($N = 44$). The results from Raabe, et al., (2016) reflected that positive teammate interactions created an environment that fostered BPN satisfaction and helped members to internalize their team's values, goals, and behaviors. According to Raabe, et al., (2016), internalization (i.e. an active, natural process in which social values become personally endorsed) can support team functioning and individual athletes' SDM and well-being. Goal setting supported both relatedness and competence by coming together to understand each other's goals and supporting accountability to reach each respective goal.

SDT with respect to BPN satisfaction in Student-athlete populations, SDM, and goal setting effectively support PE in student-athlete populations with the features that encompass SDM and BPN satisfaction, including increased optimism, hope, and resilience. Controlled motivations have the potential to impede intrinsic motivations, interfere with optimal performance, and ultimately hinder PE. SDM, established through autonomy supportive environments fostered by coaches and teammates, and goal setting with the underpinnings of SDT efficaciously contribute to PE in student-athlete populations.

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