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Advancing the Assessment of Anger in Sports: Gender Differences and STAXI-2 Normative Data for College Athletes

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The State Trait Anger Expression Inventory-2 (STAXI-2) is one of the most widely used anger assessments in the clinical psychology literature. It describes multiple facets of anger including: state/trait anger levels, experience of anger, anger expression, and anger control. Prior to this study, normative data was lacking for college athletes. Without normative data established, it was difficult to accurately compare the scores of college athletes to a relevant comparison group, and thus, difficult to effectively assess athletes presenting with anger issues. This study provides normative data for college athletes ($N = 534$), as well as an examination of anger differences between gender and compared with a "non-specfic adult" population. Male college athletes scores indicated higher anger levels on several scales, demonstrating scores indicative of being more likely to express anger and less likely to manage feeling angry and expressing anger than both the normal population and female college athletes.

Keywords: anger, assessment, college sport, emotion, gender, STAXI-2

As more media attention is paid to violence and aggressive acts both on and off-field in collegiate sports, it is perplexing that more emphasis has not been placed on examining the causes of these acts from a psychological perspective.

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While it is certainly not the only factor, anger has been found throughout the literature to have a positive association with aggressiveness and antisocial behavior toward teammates and opponents (e.g., Kavussanu, Stanger, & Boardley, 2013; Maxwell, 2004; Maxwell, Visek, & Moores, 2009; Sofia & Cruz, 2016). Knowledge of this association can be useful in applied sport psychology work toward identifying the athletic populations that may be angrier, less able to control their anger, and thus, may have the greatest need for anger management interventions (Abrams & Hale, 2005; Abrams, 2010). Unfortunately, there is currently little data existing on anger specifically in a college athlete population and anger identification assessment and protocols for this population have been scarce at best.

Anger and Performance in Athletics

Most attempts to address anger in athletics have been to try to reduce it (Abrams, 2010). Careful consideration must be taken here as there is some empirical evidence that the effects of anger are sometimes not detrimental but may in fact be beneficial if managed appropriately (e.g., Lapa, Aksoy, Certel, Özçelik, & Çelik, 2013; McGowan & Shultz, 1989; Robazza & Bartoli, 2007). Anger has the potential to affect performance by either disrupting or enhancing the focus of attention, information-processing decision making, execution, and control of actions (Jones, 2003). Some studies have focused on anger being facilitative to performance, while other chapters examined anger from a debilitating-to-performance perspective (Abrams & Hale, 2005). According to Ruiz and Hanin (2011), 75% of athletes in their study experienced anger as having a facilitating effect on performance. In some cases it appears Robazza and Bortoli (2007) offered that anger can be used as an "emergency resource" that can be called upon in highly demanding situations to produce and stimulate energy and noted that the athletes in their study believed anger is helpful in performance when they effectively control and channel it into their desired task. This was previously demonstrated when McGowan and Shultz (1989) found that college football players used anger as a activating agent, in order to prepare them for increased performance in simple tasks. Experiencing acute anger and its subsequent adrenaline release has been associated with experiencing increases in strength, pain tolerance (Abrams, 2010; Sternback, 2013), and athletic performance, as illustrated in a "double iceberg profile," where high anger and vigor both positively impact performance (Wightman, 2010). However in other situations anger may lead to ineffective use of resources as it competes with an athlete's focus, cognitive decision-making abilities, and perception of control (Jones, 2003; Robazza & Bartoli, 2007).

In team contact sports, where strength and pain tolerance may be necessary, appropriately channeled anger may be expected. Athletes in collision and contact sports did report higher levels of anger as compared to athletes in non-contact sports, and athletes in collision sports reported higher levels of state and trait anger and a greater likelihood to express anger outwardly (Bartlett, Abrams, & Byrd, 2012; Maxwell et al., 2009). In contrast, Collins, Hale, and Loomis (1995) found that when using anger-inducing vignettes, which have been used in previous work

to successfully discern aggressive tendencies in other populations, no differences in anger were apparent between athletes of contact an non-contact sports nor between athletes and non-athletes.

Gender and Anger

Common clinical belief has suggested that women internalize anger and are less likely to express anger (Lerner, 1988), while men are more like to externalize and express their anger (Long, 1987). However, studies among the general population have produced conflicting evidence that gender affects the experience and expression of anger, perhaps due to definitional problems. Deffenbacher et al. (1996), Dubihlela and Surujlal (2012), Kopper (1993), Milovchevich, Howells, Drew, and Day, (2001), and Stoner and Spencer (1987) all failed to find differences in anger across sex. Some have found sex differences in anger expression, with males more likely to express their anger outwardly (Newman, Grey, & Fuqua, 1999; Spielberger, Reiheiser, & Sydeman, 1995). Milovchevich et al. (2001) echoed this finding when they examined anger and gender role identification (i.e., masculine, feminine, androgenous). Other studies have illustrated sex differences, such as Spielberger et al. (1995), who found males to have significantly higher Trait Anger, but no sex differences on State Anger or Anger Control on the State Trait Anger Expression Inventory (STAXI; Spielberger, 1988). In a comparison of athletes versus non-athletes in a collegiate sample, Treankler (2011) found that males had significantly higher levels of state and trait anger than females and that athletes had higher levels of trait anger than non-athletes. However, besides Treankler (2011) and Dubihlela and Surujlal (2012), very few studies have specifically examined gender differences in anger among athletes.

More recently, gender has been postulated to have a moderating role on anger in athletes based on social role and biosocial theories (Stanger, Kavussanu, & Ring, 2017). Eagly (1987) proposed that the emotional experience (anger levels), and thus behavior, of men and women differs because they are socialized into different cultural expectations of behavior. Specifically, men are socialized into a social role of "protector" (e.g., seeking prominence, competition, and superiority at the cost of others), whereas women are socialized into a social role of being other-oriented, empathic, and communal (at the benefit of others). The sporting environment is one in which being competitive and superior at the cost of others is an advantage. Due to this early socialization and how men are taught to behave differently than women, Stanger et al. suggest that the ability for perspective taking and feeling empathy to reduce anger may be more impaired in sport in men than women.

Assessment of Anger

Most early efforts to assess anger and hostility were based on projective tests, such as the Rorschach Inkblot Test, and behavioral observations (Spielberger et al., 1995). The 1950s saw preliminary development of questionnaires to measure hostility, such as the Buss-Durkee Hostility Inventory (BDHI; Buss & Durkee, 1957), and

later revisions, such as Buss-Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992). The need to distinguish between anger and hostility was recognized in the 1970s with the arrival of three questionnaires: the Reaction Inventory (RI; Evans & Strangeland, 1971), the Anger Inventory (AI; Novaco, 1975), and the Anger Self-Report (ASR; Zelin, Adler, & Myerson, 1972) – all of which demonstrated questionable psychometrics (Spielberger et al., 1995). In the State-Trait Anger Scale (STAS; Spielberger, 1980), Spielberger distinguished between state anger, defined as a construct of "how one is feeling right now," and trait anger, defined as "how one generally feels over time." Advancing the assessment of anger, and of practical significance, Spielberger et al. (1995) further delineated the importance of distinguishing angry feelings from how anger is expressed. However, experiencing anger does not always lead to anger being expressed. Spielberger recognized the additional importance of assessing anger control, and thus, developed the State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988), combining facets of examining state and trait anger, as well as anger expression and anger control. This assessment has normative data established for military personnel, prison inmates, and general medical and surgical patients (Spielberger & Reheiser, 2009). With additional research and the desire to forge ongoing efforts to better understand anger, Spielberger (1999) developed the State-Trait Anger Expression Inventory-2 (STAXI-2). The STAXI-2 added 15 new items to the STAXI and includes scales to assess state and trait anger, anger expression, and anger control (Spielberger & Reheiser, 2009). Newer sport-specific assessments include the Competitive Aggressiveness and Anger Scale (CAAS; Maxwell & Moores, 2007), of which initial findings demonstrated to be a valid scale for measuring aggression and anger in sport (Abrams, 2010).

It became apparent over multiple research projects that teasing apart the experience, expression, and control of anger was critically important (Spielberger & Reheiser, 2010), and this was precisely what the STAXI-2 attempted to accomplish. Eckhardt, Norlander, and Deffenbacher (2004) denoted that the STAXI-2 was well designed, based on empirical research and coherent definitions, and explicitly discriminated between anger and hostility. Eckhardt et al. (2004, pg. 30) stated, "The STAXI-2 is based upon a solid conceptual model and possesses strong psychometric properties across a wide variety of normative groups, thus making it an excellent choice for researchers as well as clinicians" and by Abrams (2010) who described the STAXI-2 as the "gold standard for anger assessment." The clinical usefulness of the STAXI-2 is facilitated by having normative data established for male and female adolescents, adults, and psychiatric patients (Spielberger, 1999). However, it is important to note that STAXI-2 normative data has not been established specifically for athletes, and despite the overall usefulness, clinical usefulness for an athlete population is questionable without normative data for that population to compare scores.

To be significant, scores on any assessment must have an empirical frame of reference. Raw scores on their own carry little meaning. When interpreting one's score on an assessment, a comparison of where one score stands compared to others provides for practitioners to make sense of whether or not they are seeing "normal" scores, hence the need for "norms" on subjective measurements of a construct, such as anger. In reflecting the rationale used by Terry and Lane (2014)

to support the need for normative data for an athlete population to be created for the Profile of Mood State (McNair et al., 1971), which also assesses anger and has norms established for a general college population, the continuing improvement of questionnaire development and use, especially one as promising as the STAXI-2, should include normative data for specific populations of interest. In the sport psychology domain, athlete populations, specifically, are often the desired population of interest. In the few studies examining such anger differences, Treankler (2011) found that college athletes had significantly higher levels of trait anger than non-athlete college students, and Terry and Lane (2014) found athletes having significantly higher anger on the POMS Anger scale than non-athletes. As a normative group, if college athletes are being shown to differ from college non-athletes on anger levels, they should be differentiated in normative data used for anger levels. Further, Connole et al. (2014) estimated that roughly one half of NCAA Division 1 universities have sport psychology providers working with their college athletes and over two-thirds of the collegiate athletic administrators surveyed in their study expressed an interest in moving toward hiring a sport psychology professional. As more and more sport psychology professional find employment working with college athletes, the need to have normative data on utilized assessments, specifically for that population, will continue to be important.

Usually, normative data is presented in means and standard deviations, which can then be standardized and presented in percentile ranks (Whisman & Richardson, 2015). Percentiles have distinctive advantage over any alternative presentation of scores in that they directly allow one to gauge how "normal" a score is compared to the rest of the normative group (Crawford, Garthwaite, & Slick, 2009), as well as that percentiles are user-friendly and easily understood when giving feedback to the layperson.

Purpose

To date, there has not been an anger assessment with normative data established for a college athlete population. Without normative data, it is difficult to compare measures of anger for college athletes to a relevant reference group. Also, without normative data established for college athletes, it is difficult to determine if a college athlete is experiencing higher anger levels and/or lower anger control than "normal" college athletes. This is the first study to establish such normative data.

This study also sought to examine anger in college athletes using the STAXI-2, and compare them to a non-athlete population to answer the question that has been frequently posed by the media, especially in the wake of news coverage of ever-more-frequent athlete transgressions, "are athletes really angrier than non-athletes?" Gender differences in anger were also explored. It was hypothesized that male athletes would show higher anger levels and less ability to control their anger than non-athlete males, and female athletes would show higher anger levels than non-athlete females. Further, when comparing male athletes to female athletes, it was hypothesized that males would show higher levels of anger and less ability to control their anger than female athletes.

Method

Participants

The NCAA reports an estimate of 475,000 college athletes in 2013–2014 (NCAAer2014) and USA College Rugby (2014) reports 32,000 male college athletes (Women's College Rugby is under NCAA). To generalize to this overall population with 95% confidence levels, a normative sample size of at least 384 was needed. Further, in establishing normative data for instruments with high reliability (Cronbach's Alpha of at least .75) such as the STAXI-2, it is preferable to have at least 100 persons contributing to each characteristic that defines the normative group, such as gender or age level (Eatwell, 1997; Evans, 2008). A total of 534 college athletes (239 females, 295 males, $M_{age} = 20.2$ years, age range: 17–28 years) voluntarily participated in the study. Participants represented various levels of intercollegiate athletics with 149 NCAA Division 1 athletes (90 females, $M_{age} = 19.8$ years, age range: 17–25, 59 males, $M_{age} = 20.5$, age range: 18–24), 373 NCAA Division 2 athletes (149 females, $M_{age} = 19.9$, age range: 17–26, 224 males, $M_{age} = 20.4$, age range: 18–28), and club level (12 males, $M_{age} = 21.6$, age range: 19–26). Male sports represented in the normative sample were baseball (12.9%), basketball (9.8%), football (36.3%), golf, (3.1%), ice hockey (8.8%), lacrosse (1.0%), rugby (4.1%), soccer (16.9%), swimming (0.3%), tennis (0.7%), and track/ cross-country (6.1%). Female sports represented in the normative sample were basketball (10.6%), equestrian (11.3%), field hockey (1.3%), golf (2.5%), lacrosse (8.4%), rowing (0.8%), soccer (22.5%), softball (12.2%), swimming (5.4%), tennis (0.4%), track/ cross-country (7.9%), volleyball (8.8%), water polo (7.9%). In order to enhance generalizability, these participants represented a geographically varied population from seven small, medium, and large universities throughout the continental United States, including the southwest, mid-west, northeast, and west coast.

Materials

The self-report, pen-and-paper, STAXI-2 (Spielberger, 1999) was administered in-person to participants by the researchers. The STAXI-2 contains 57 items that can be answered on a likert scale of 1 (*'not at all'/'almost never'*) to 4 (*'very much so/almost always'*), with six scales, five subscales, and one index, and measures anger in 3 domains: state anger, trait anger, and anger expression/control. While state anger assess one's anger in the moment, trait anger assesses how frequently angry feelings are experienced over time. The four anger expression/control scales capture how an individual behaves when angry. Anger Expression-Out (AX-O) assesses how often anger is expressed in physical or verbal aggression while Anger Expression-In (AX-I) assesses how often angry feelings are experienced but suppressed (e.g., being angry at oneself). Anger Control-Out (AC-O) measures how frequently a person attempts to control the outward expression of angry feelings, and Anger Control-In (AC-I) assesses how often a person attempts to control angry feelings by actively calming themself. All scores are tabulated into an overall Anger Index score, ranging from 0–84, with higher scores indicated higher anger levels as measured by the STAXI-2. Internal

consistency reliability has a value ranging from .73 to .95 for the total scale and from .73 to .93 for the subscales (Spielberger, 1999). Other studies reported internal consistencies from.73 to .95 for the main scales and .73 to .93 for the subscales (Freeman, 1999) and internal consistencies of at least .84 for all scales, with the exception of Trait Anger/Reaction, where scores of .76 were found for women and .73 for men (Klecker, 1999). More extensive reliability and validity data has been established for the STAXI, from which the STAXI-2 was developed.

The STAXI-2 has been used with both clinical and non-clinical populations and normative data based on more than 1900 participants (age range: 16–63) is reported in the test manual (Spielberger, 1999) for non-specified adults. However, it is unknown how many participants in this normative group were college students and/or college athletes.

Procedure

Prior to collecting data, approval was obtained from each respective university Institutional Review Board (IRB) for the Protection of Human Subjects. Participants were obtained by first seeking permission from relevant conference commissioners and/or university athletic department directors, and then subsequently individual coaches of teams. Researchers met with teams, usually at team meetings in a classroom or locker room, explained the study to participants, went over the informed consent, and emphasized that participation was voluntary without incentive or payment for participation. It is important to note that surveys were not administered during a competitive situation, such as pre-competition or during competition. The surveys were completed with the researcher present in approximately 15–20 minutes and then collected. Identifying data, other than sport/position, age, and gender, was not collected from participants. Data collection took place over a period of four years.

Survey data was entered in IBM SPSS statistical package for analysis.

Results

Percentiles of normative data split by gender for the scales of the STAXI-2 are presented in Table 1. Most of the scores on the scales were normally distributed, with the exception of the 'State' scales, which demonstrated a positive skew (low anger). Thus, percentile ranks are the optimal presentation of standardized scores (Crawford et al., 2009).

When comparing this study's normative data with that of the data established for Spielberger's (1999) population of non-specified adult males ($N = 952$) and non-specified adult females ($N = 620$), male college athletes scores indicated higher levels of anger on several scales, as well demonstrating scores indicative of being more likely to express anger and less likely to manage feeling angry and expressing anger than both the normal population and female college athletes. Female college athlete's scores indicated a higher likelihood than Spielberger's (1999) non-specified males and non-specified females to turn their angry feelings inward and suppress anger.

Table 1 STAXI-2 Percentiles for College Athletes

		Percentiles						
STAXI-2 Scale	**Gender**	**5**	**10**	**25**	**50**	**75**	**90**	**95**
State Anger Scales	Male			15	17	21	31	38.8
	Female			15	17	20	24	27
State Anger Feelings	Male			5	6	8	11	13
	Female			5	6	7	10	12
State Anger Verbal	Male				5	7	12	15
	Female				5	7	9	11
State Anger Physical	Male				5	6	9	12
	Female					5	6	7
Trait Anger Scales	Male	12	13	15	17	21	26	28
	Female	11	12	14	16	19	21	23.8
Trait Anger Temper	Male		4	5	6	8	11	11.4
	Female			4	5	7	8	9.8
Trait Anger Reaction	Male	5	6	7	8	10	12	13
	Female		5	7	8	10	11	12
Anger Out Scale	Male	10	11.2	14	16	18	21	23
	Female	10	11	12	14	17	19	20
Anger In Scale	Male	10	11	14	16	19	24	26.4
	Female	11	12	15	18	21	24	26
Anger Control Out	Male	15	17	19	22	25	29	32
	Female	16	17	19	24	27.4	30	30.9
Anger Control In	Male	14	15	18	21	25	28	30
	Female	15	16	19	22	27	30	30.8
Anger Index	Male	16	20	30.3	38.5	46.5	52	56
	Female	13.5	18.4	24.9	35.5	44	50.1	52.8

Note. Empty cells represent the presence of a floor effect.

Using one-sample *t*-tests to compare to Spielberger's (1999) population of normal males ($N = 620$), male college athletes exhibited significantly higher scores on the State Anger Verbal scale, $t(287) = 2.431$, $p = .016$, $d = .14$, State Anger Physical Scale, $t(289) = 2.652$, $p = .016$, $d = .16$, Anger Out scale, $t(283) = 3.455$, $p = .001$, $d = .21$, Anger In scale, $t(270) = 2.591$, $p = .010$, $d = .16$, and the Anger Index $t(249) = 5.215$, $p < .001$, $d = .30$. On scales where a high score indicates better control of anger, male college athletes had significantly lower scores on the anger control scales: Anger Control Out, $t(284) = -4.892$, $p < .001$, $d = .29$ and Anger Control In, $t(280) = -5.045$, $p < .001$, $d = .3$.There were not significant differences evident on any of the trait anger scales.

When examining where average scores for male college athletes fell on the STAXI-2 normative data for males ages 20–29 (the closest comparison group to

college athlete-age in Spielberger's (1999) published normative data), all state anger scale scores fell in the 65th to 85th percentile ranges. Trait anger scales were the most similar to normal population with average scores falling between the 45th and 65th percentiles. Anger expression scales for college athletes were higher than normal population falling between 55th and 65th percentiles and anger control scales were lower falling between the 35th and 45th percentiles. Average Anger Index scores for college males fell in the 60th percentile of normal male scores.

Compared to Spielberger's (1999) normal population of females ($N = 952$), female college athletes exhibited less significant differences on the scales overall than did males in their comparison. Contradictory to the study hypotheses, female college athletes scored significantly lower on the Trait Anger Scale, $t(232) = -3.403$, $p = .001$, $d = .22$ ($p = .005$), Trait Anger Temper, $t(235) = -2.236$, $p = .001$, $d = .15$, and on the Trait Anger Reaction scale, $t(237) = -2.836$, $p = .005$, $d = .18$. Female college athletes scored significantly higher on the Anger In scale, $t(221) = 8.525$, $p < .001$, $d = .57$, and lower on the Anger Control In, $t(222) = -2.764$, $p = .006$, $d = .19$, than normal females. Although fewer differences were evident than in the male-to-male comparison, ultimately, female college athletes did exhibit significantly higher scores on the overall Anger Index, $t(197) = 3.171$, $p = .002$, $d = .23$ ($p = .004$) than the females in Spielbergers (1999) sample.

When comparing where average scores for female college athletes fell on the STAXI-2 normative data for females ages 20–29, differences were not as great as with males. All state anger scale scores fell in the 60th to 80th percentile ranges. Trait anger scales were the most similar to normal population, albeit actually lower, with average scores falling between the 40th and 45th percentiles. The Anger Expression Out scale for college athletes was similar to the normal population falling at the 50th percentile, while Anger Expression In was at the 75th percentile of normal females. Anger Control scales were slightly lower falling between the 40th and 45th percentiles. Average Anger Index scores for female college athletes fell in the 60th percentile of normal female scores.

Using independent *t*-test with Bonferroni corrections, concerning gender differences on the STAXI-2 amongst college athletes (see Table 2), the only two scales of the STAXI-2 that did not illustrate significant differences were State Anger Feelings and Trait Anger Reaction. Males were significantly higher than females on the scales measuring anger levels, such as State Anger Scales ($p = .007$), State Anger Verbal ($p = .008$), State Anger Physical ($p < .001$), Trait Anger Scales ($p < .001$), Trait Anger Temper ($p < .001$), Anger Out ($p < .001$), and the Anger Index ($p = .016$). Female college athletes scored higher on the Anger In scale ($p = .004$), and higher on both anger control scales: Anger Control Out ($p = .006$) and Anger Control In ($p = .003$). Lastly, with one very weak exception (Anger In scale, $r = -.09$, $p < .05$), age did not significantly correlate with any of the subscales.

Discussion

The present study sought to establish normative data on the STAXI-2 for a college athlete population. Additionally, normative data for the STAXI-2 established for a normal adult population (Spielberger, 1999) was compared to the college athlete sample and gender differences were examined.

Table 2 Gender Differences of College Athletes on STAXI-2 Scales

STAXI-2 Scale	Gender	N	M	SD	*SEM*
State Anger Scales	Male	279	20.2509	8.24151	.49341
	Female	221	18.5566	5.58022	.37537
State Anger Feelings	Male	287	7.1220	2.84859	.16815
	Female	227	6.9559	2.53433	.16821
State Anger Verbal	Male	288	6.9271	3.26072	.19214
	Female	224	6.2634	2.33847	.15625
State Anger Physical	Male	290	6.3069	2.74126	.16097
	Female	224	5.4375	1.50205	.10036
Trait Anger Scales	Male	285	18.5123	5.15779	.30552
	Female	222	16.7432	4.35026	.29197
Trait Anger Temper	Male	291	6.5533	2.43532	.14276
	Female	225	5.8933	2.14584	.14306
Trait Anger Reaction	Male	289	8.4533	2.46195	.14482
	Female	226	8.1018	2.32346	.15455
Anger Out Scale	Male	284	16.2820	3.81480	.22637
	Female	223	14.7220	3.32393	.22259
Anger In Scale	Male	271	17.0565	4.48794	.27262
	Female	211	18.2559	4.47543	.30810
Anger Control Out	Male	285	22.0555	4.84654	.28708
	Female	213	23.2630	4.81461	.32989
Anger Control In	Male	280	21.0464	5.12020	.30599
	Female	214	22.4159	4.96371	.33931
Anger Index	Male	250	37.9665	12.51055	.79124
	Female	190	35.0892	12.23476	.88760

Normative Data and Gender Differences: STAXI-2

Scores on the STAXI-2 scales illustrate a similar distribution to those presented by Spielberger (1999), with male college athletes showing a trend toward higher state anger levels, anger expression, and overall anger index, and lower levels of anger control than the normal population of which the STAXI-2 used as the normative group. This finding is significant because such differences highlight the need for the purpose of this study—the creation of normative data for this specific group. Further, when giving feedback to a respondent, giving the information in the context of a group they feel they *should* be compared with is very important for their acceptance of the results. Athletes may be more willing to acknowledge atypical scores if compared with other athletes as opposed to the general population.

Female college athletes had less drastic differences in scores with the normal population than male college athletes, but aside from the Trait Anger Scale, none of

the female college athletes averages matched at the 50th percentile. Also, in examining the question of "are athletes angrier than non-athletes?" for college athletes, trait anger scale scores indicate that anger as a personality construct is not significantly different compared with a normal population. This finding can lead us to question then, what is it about the environment of college athletics that is related to higher levels of state anger and expression among athletes, as well as lowered rates of anger control, since it does not appear that "angrier" personalities are seeking out sport and athletic participation at the collegiate level. This is especially interesting in line with Deffenbacher's (1992) finding that high trait anger was correlated with the experience of anger across a wide range of situations. The athletes in this study did not exhibit higher trait anger levels than a normal population, yet are experiencing more anger, as noted in significantly higher state anger levels.

Further, in supporting Lerner (1988), female athletes in this study reported higher levels of directing anger inward ("internalized anger"). It may be prudent to explore if other clinical manifestations, such as anxiety and depression, are also evident at higher levels than in the general population. This may highlight a greater need for screening and/or treatment of such clinical emotional problems in the female college athlete population.

Limitations and Future Suggestions

This study addressed a lack of research in the domain of anger and athletics, specifically, comparing athletes with non-athletes, and demonstrating that there are several differences between the groups on several anger-related constructs. Therefore, the utility of established normative data for the college athlete group is evident in providing a more meaningful way to interpret STAXI-2 results.

The normative group itself had several disadvantages, including the absence of NCAA Division 3 athletes, as well as the absence of several NCAA intercollegiate sports, such as women's bowling, fencing, gymnastics, rifle, rugby, sand volleyball, squash, and synchronized swimming. However, given the relatively low number of participants in these sports, all equating to approximately 3% of NCAA female collegiate athletes in 2013–2014 (NCAA, 2014), leaving these sports out may in fact enhance the generalizability to "female college athletes" at large. Men's NCAA intercollegiate sports absent from the normative sample included gymnastics, equestrian, rifle, rowing, sailing, skiing, squash, and wrestling. These sports include only 3.68% of all men's 2013–2014 NCAA intercollegiate sport participants (NCAA, 2014).

In line with other research that has examined differences in aggression (e.g., Keeler, 2007) and anger (e.g., Bartlett et al., 2012; Newby & Simpson, 1991) among sport-type and/or sport position, a future suggestion regarding anger in athletics may include establishing STAXI-2 normative data for more specific reference groups. This could include team sports versus individual sports, contact and/or collision sports versus non-contact sports, or even by specific sport if large enough samples could be obtained. Further, as anger is often given a negative connotation, perhaps administering the STAXI-2 with a measure of social desirability would advantageous to ascertain reliability of data.

With increased media attention toward athletes' on- and off-the-field aggressive transgressions, it is important that the results of this study are not

inappropriately used to infer causality. While this study confirms that athletes do have higher levels of state anger and overall anger than non-athletes, data was not gathered on whether or not more behavioral transgressions were occurring on or off the field.

Although the primary purpose of this study was to establish normative STAXI-2 data for a college athlete population, it may provide secondary information that has implications for the enhancement/development of student-athlete anger programming. While it is important to understand anger differences between athletes and non-athletes, it is also vital to be able to apply that information towards benefitting individual health and well-being. The aforementioned results show differences in anger levels based on gender. Programming regarding life skill development at the collegiate level for student-athletes could more specifically address these potentially problematic areas. Educating student-athletes about these results, as well as how to cope with anger in healthy ways, and utilize levels of anger towards a facilitative end, may enhance well-being and performance potential. Thus far, only Abrams (2010) has offered a "how to" program for modulating anger in sports. Given the near-daily coverage of athlete transgressions that captures the sports headlines, some of which anger is a precursor, the replication of his work, as well as expanding and refining it, is a task that clearly merits attention.

Ultimately, anger levels in an athletic context must continue to be examined in conjunction with performance. While this study did not examine anger in relation to performance, caution should be applied when determining what actions to take when athletes STAXI-2 scores indicate higher than normal levels of anger. Instead of the common sentiment of "anger is bad and we must get rid of it", it would be a worthwhile shift to change views toward "anger is a normal human emotion and the field of sport psychology must move toward helping athletes work with their anger in a controlled manner for better performance."

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