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Locus of Control in Athletic Training

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Purpose: Locus of control (LOC) is the level of control an individual feels they have over the outcomes in their life; work locus of control (WLOC) is the control someone feels over their work. Both LOC and WLOC can be internally or externally affected and influence athletic trainers' ability to change their clinical circumstances. The purpose of this study was to explore athletic trainers' LOC and WLOC. **Method:** Cross-sectional web-based survey. The survey was created from two existing, validated surveys which measure locus of control and work locus of control in athletic trainers along with the collection of 8 demographic variables. **Results:** Of the 213 participants, athletic trainers expressed an external LOC (n=108, 50.7%) in their personal lives while reporting an internal WLOC (n=197, 92.5). **Conclusion:** Participants demonstrated external LOC and internal WLOC. Future investigations should examine LOC and WLOC with work conditions like burnout and job satisfaction to understand barriers faced in the workplace by athletic trainers. **Key Words:** *ownership, empowerment, mindset*

INTRODUCTION

In order to provide the highest quality patient care, there is a need for healthcare providers to constantly adapt and evolve.^{1,2} However, in order for practitioners to adapt and evolve, they must first be empowered to do so and must understand whether or not they themselves control their own ability to change clinical practices.² Professional barriers to change in healthcare, specifically in athletic training, have been identified in order to remove them so that implementation of various best practices can be done more successfully.^{3,4} Lack of time, support, and knowledge have all been identified as barriers to making change in one's practice, ranging from vitality of profession issues to healthcare competency; for instance, these barriers have been identified in finding work-life balance and job satisfaction, while also contributing to challenges in ability to implement evidence based practice and patient reported outcome measures.³⁻⁵ One of the possible explanations for the consistent barriers in healthcare is the perceived control practitioners have over their practice.^{1,2,6}

Locus of control (LOC) is the extent to which someone feels control over outcomes in their life.⁷ Similarly, work locus of control (WLOC)

is the control someone feels over work events.⁸ Both LOC and WLOC are categorized by being internally or externally affected. Internally affected refers to results based on one's self, when someone feels their own actions play a role in the outcome of events.⁸⁻¹¹ Externally affected refers to results based on circumstances, someone feels the outcome of events are often out of their hands no matter their actions.⁸⁻¹¹ In order to implement change, clinicians have to first perceive they have the power to do so. Research shows that healthcare professionals may not believe they have any control over their work environment, and may therefore be limited in implementing clinical change because they feel they cannot control their time, support, or knowledge.^{12,13} Without feeling control over their clinical work, athletic trainers may also find they feel unable to make the necessary changes to their practice to benefit patient care.

Athletic trainers describe difficulty changing their circumstances, whether it's implementing new concepts into practice or their overall feelings of control over work-life integration.^{3,5} Before athletic trainers can overcome the common barriers in healthcare, they first need to understand themselves.^{6,14}

To understand how athletic trainers perceive their ability to control their lives and work situations, we sought to examine both the LOC and WLOC in athletic trainers. We hypothesized that athletic trainers would experience higher levels of internal LOC compared to external WLOC score. Identifying the LOC in ATs will allow us to better implement interventions for clinical changes; especially with WLOC often helping us explain why people in similar environments have different views about job satisfaction, well-being, work stressors, relationships with superiors, and perceived autonomy.¹⁵

METHODS

Study Design

We used a cross-sectional, web-based survey design to investigate the LOC and WLOC of currently practicing athletic trainers. The independent variables in the study were: age, gender, work setting, ethnicity, education level, years of experience, part-time or full-time work status, supervisor duties, and any associated personnel report directly and are located in Table 1. This project was deemed exempt by the XXX Institutional Review Board.

Demographic Variables		N	%
Gender	Male	95	44.6
	Female	118	55.4
Age	20-25	24	11.3
	26-35	104	48.8
	36-45	44	20.7
	46 and Over	27	12.7
Ethnicity	American Indian/Alaskan Native	2	.9
	Native Hawaiian or Other Pacific Islander	1	.5
	Asian/Asian American	2	.9
	White or Caucasian	192	90.1
	Black or African American	8	3.8
Highest Education Level	Hispanic or Latino	8	3.8
	Bachelor's Degree	41	19.2
	Professional Master's Degree	96	45.1
	Post- Professional Master's Degree	68	31.9
	Advanced Practice Clinical Doctoral Degree (DAT, DHSc, etc)	7	3.3
How many years of active practice as an AT	Research Doctorate (PhD, EdD, etc)	1	.5
	0-5 years	54	25.4
	6-15 years	92	43.2
	16-30 years	35	16.4
	Over 30 years	11	5.2
Current Practice Setting	Amateur/Recreational/Youth Sports	2	.9
	Clinic	23	10.8
	College/University	76	35.7
	Hospital	8	3.8
	Military/Military Academy/Government/Public Safety	10	4.7
	Performing Arts	3	1.4
	Professional Sports	7	3.3
	Secondary Schools	81	38
	Other	3	1.4
Current Position	Part-Time	7	3.3
	Full-Time	206	96.7
Currently Supervise Personnel	Yes	71	33.3
	No	141	66.2

Table 1. Demographic Data

Participants

We surveyed athletic trainers who were engaged in daily patient care. A random sample of 4,333 athletic trainers were credentialed by the Board of Certification and recruited from the National Athletic Trainers' Association (NATA). Our survey was open for 6 weeks and a total of 288 participants accessed the survey and with 213 completing the survey in its entirety (response rate: 6.5%). Incomplete surveys were omitted from the analysis due to the nature of the instrumentation.

Instrument

The web-based survey (Qualtrics®, Provo, UT) included a total of 27 items consisting of 9 demographic items, the validated 10-item Rotter LOC survey, and an 8-item WLOC survey by Spector.^{7,9} Rotter's full locus of control survey has 23 items, but a shorter tool of 10 items has been validated for generic use.^{7,9,16} The demographics we asked were gender, job setting, years of clinical practice, position of authority and number of direct reports, and organizational structure so they could be compared to both locus of control and work locus of control. It is important to note, the principle of compatibility suggests that the magnitude of the relationship between two variables will be greatest when both are assessed at the same level of specificity.^{15,17} We calculated the scores for LOC and WLOC and classified participants with tendencies to be internally or externally controlled, referred to as calculating the internal/external (I-E) for each scale. An external locus of control implies that luck, faith, or others have control of work events, where as someone with internal locus of control attributes events to their individual actions.¹¹ For each item on the LOC tool participants selected from two statements 0 (internal option) or 1 (external option) and scores are totaled and range from 0-10. The items on the WLOC are scored from 1 (internally focused) to 6 (externally focused) with scores ranging from 8-48. The WLOC

survey generally shows a stronger relationship with work-related criteria's (e.g., job satisfaction, affective commitment, and burnout) than general LOC tools.¹⁵ WLOC represents the extent which people attribute rewards at work to their own behavior (e.g. WLOC items would be people who do well at their jobs are generally rewarded, and most people who make an effort).¹⁵ For both scales the higher the overall score, the more external the participant's perceived control, indicating the participants felt things that happen in their lives and/or work are outside of their control. The reason for using both scales is supported by research completed on domain-specific personality measures, which states that framing the lens that people answer the questions through has to be balanced.¹⁸ Meaning that participants should answer LOC assessments for both their personal lives and work in order to have a balanced response. The validity of these surveys have been completed on individuals across countries, languages, age groups, and professions such as nursing and entrepreneurship and have remained consistent.^{7-11,13} There have also been many other LOC surveys that use Rotter and Spector work as a baseline for making more focused and specific locus of control surveys.^{18,23}

Procedure

An initial e-mail was sent out in September 2020 by the NATA. After the initial email, two follow-up emails were sent to those that did not fill out the survey every two weeks over the six-week period. The email included informed consent, demographics information on the study, and a link to the web-based survey in Qualtrics (Qualtrics®, Provo, UT). Surveys that did not have every answer completed were not counted, as one missed question in either survey invalidates the score for that survey which means the scores cannot be compared in this study.

Data Analysis

We calculated characteristics of central tendency (mean, standard deviation, range, and frequency) for the independent variables using SPSS. The impact of gender, job setting, years of clinical practice, position of authority and number of direct reports, and organizational structure have an impact on both locus of control and work locus of control was collected and found no statistical significance. To compare LOC and WLOC scores, we used a chi-squared analyses. The significance level is set to $p < 0.05$ for all statistical analyses.

Results

The study included 213 participants (age: 34.9 ± 9.7 y, White/Caucasian $N=192$, 90.1%) ranging from 23 to 68 years old. There were 118 female and 95 male participants with 1-48 years of experience (mean = 12 ± 9 years). Nearly all ($n=206$, 96.7%) participants were full-time employees. The most common level of education for participants was the professional master's degree ($n=96$, 45.1%) and post-professional master's degree ($n=68$, 31.9%), while the most common work settings were the secondary ($n=81$, 38.8%) and college/university ($n=76$, 35.7%). Demographic information can be found in Table 1. There were no significant differences between any independent variables and LOC or WLOC ($p > 0.05$). There was a statistically significant difference ($p < 0.05$) in the external LOC in athletic trainers' personal lives ($n=108$, 50.7%) and their internal LOC view at work ($n=197$, 92.5) presented in Figure 1. The mean scores for LOC was 4.4 (lowest score possible 0 and a max of 10) and the mean score for WLOC was 20.1 (lowest score possible 8 and a max of 48). The midway point of possible scoring for each survey was the cut off point for a participants score to be considered internal or external.

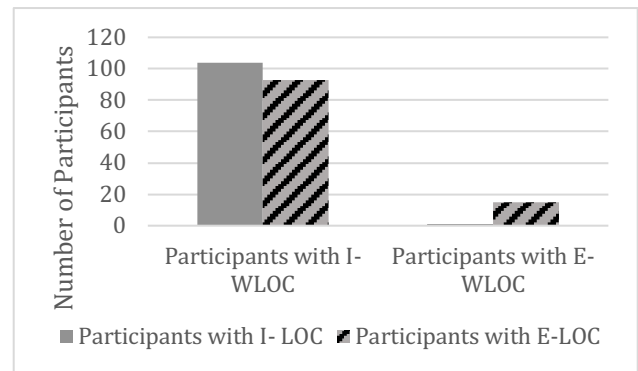


Figure 1. Internal and External Work Locus Of Control and Internal External Locus Of Control

Discussion

Athletic trainers have been cited in the literature as having a high burnout rate and little control over their work barriers.^{3,5} For these reasons, we hypothesized that our study would demonstrate a high rate of reported external WLOC. However, our findings suggest the contrary, where athletic trainers reported an external LOC in their personal lives while simultaneously reporting an internal WLOC. Interpreting and understanding the disconnect between these findings and other topics in athletic training such as, burnout is a way we can begin to elevate the practice. Since other research has shown that workers with an external WLOC perceive less job satisfaction on many fronts than those with an internal WLOC, one would expect the same to be true for athletic trainers.^{10-13,15,23} However, this study found the opposite of what we would expect. Athletic trainers report having low job satisfaction¹⁰ and athletic trainers in the current study report having a sense of internal WLOC. Having a better understanding how athletic trainers perceive their own control over their lives and work situations can help focus staff development or clinical practice changes in a way that meets their perception of control.

Research in similar fields, such as nursing or first responders, shows how ownership, WLOC, and autonomy can play a role in job satisfaction, burnout, and stress.^{13,19}

One article found that those who had higher levels of job commitment, satisfaction, performance, and initiation while having lower levels of burnout, absenteeism, psychological strain, and role ambiguity had higher internal WLOC.¹⁵ Overall, the findings of previous research concluded that there needs to be a degree of personal internal LOC (perceived control) to cope with the stress that often leads to burnout and less job satisfaction.^{8,12,20} However, this is not what we found in the present study, as we found athletic trainers had higher internal WLOC and lower internal LOC. Research in athletic training suggests that athletic trainers report high emotional exhaustion at a rate of 20.4%, high depersonalization of patients 23.3%, and lower levels of personal accomplishment at 15.5%.²¹ The previous research suggests a connection between internal WLOC and lower burnout rates and higher job satisfaction.^{11,12,15} An individual's LOC may also influence their relationships and collaboration at work; for example those with internal WLOC and LOC may be more effective at influencing people and executing changes.^{15,22} Another future research opportunity could examine the connection between the perception of control at work and ownership of personal clinical practice by athletic trainers when exploring how to implement best practices for clinical care.

The perceptions of others could play a large role in progress and barriers, no matter how the people in the profession perceive themselves. Leaders and managers tend to be more effective when they themselves have an internal LOC.²³⁻²⁵ While leadership and managers can affect their employees, it is important to remember that the LOC of the employees can also impact the leadership.²³ When the LOC between supervisor and subordinates align the research suggests that it is when the most production and job satisfaction occur.^{23,25} Those with external LOC often prefer management that is directive and very structured as it requires little

independent action or initiative.^{23,25,26} So, the relationship between the supervisors' and subordinates' LOC could play a role in the overall ability to impact barriers and create change.

The connection between high burnout, high work stress, and WLOC and LOC in athletic training and other healthcare professionals needs to be further explored. In addition, the reasons why athletic trainers have internal WLOC but still do not change their practice is still not clear. One area for future investigation should be to examine the differences in burnout, stress, WLOC, and LOC in different types of supervisory relationships in athletic training. For example, is there a difference among athletic trainers who are supervised by other athletic trainers, those who are supervised by another healthcare provider, and those who are supervised by a non-healthcare provider. This might help to understand how to align workers' perceptions of self and their perception of ownership in their profession and work. These investigations may help explain why athletic trainers have high internal LOC but still have significant issues addressing and mitigating barriers in their practice. A meta-analysis found that, internal locus was positively associated with favorable work outcomes, such as positive task and social experiences, and greater job motivation.⁸ There needs to be the same assessment for these aspects in athletic trainers to discover the other aspects of job satisfaction and perception to help understand the findings in this research. This study provides foundational information that could allow us to explore why athletic trainers with internal WLOC claim lack of control in implementing changes into their individual clinical practice and organization along with high burnout rates.

Implications for Clinical Practice

Overall, in athletic training there is a breadth of literature identifying the barriers facing the profession. However, there is a need to start examining solutions to these barriers and

identify solutions for effective changes in clinical practice. Our research showed that, athletic trainers, reported higher perceived control over their workspace than personal lives which would appear contradictory to previous literature examining burnout in the profession. The implication of our findings is that more research should be done to generalize these findings and gain more depth of understanding about the contradiction between LOC, WLOC, and previous explanations of barriers to implementing best practice, so clinical practice can reflect research and best practices.

Limitations

The number of participants was smaller than expected and a low level of racial diversity is always something to be cautious of because it can demonstrate a lack of representation in the outcomes. The COVID-19 pandemic may have played a role in the decreased participation and response rate as our data collection occurred in the Fall of 2020, while athletic trainers were navigating a changing sport-related landscape. The effect of the pandemic on research cannot be discarded and has contributed to the low response rate in research during this time.²⁷ Another limitation is the lack of understanding the stability of the WLOC construct, and whether it can be influenced or changed by the circumstances of the participants day in which they completed the survey. Another factor that could have influenced the LOC besides the pandemic was the divisive political climate at the time of our data collection which was only weeks before the 2020 United States Presidential election. Respondents may have felt an increase in their external LOC in their personal lives because of the rhetoric around the election, which carried over to their work lives and affected their answers to the survey questions.

Conclusion

We found that more often athletic trainers held an external LOC view in their personal lives, and they held an internal LOC view at

work. This is different from our hypothesis as we expected athletic trainers would report an external WLOC since that is often linked to poor job satisfaction, higher burnouts rates, and lack of workplace control. The takeaway from this research was that while athletic trainers have reported difficulty implementing changes to their practices, their internal or external LOC and WLOC may not play a role in the issue.²⁸

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