

DEVELOPMENT OF AN INSTRUMENT TO ASSESS COLLEGIATE RODEO  
ATHLETES' TREATMENT-SEEKING BEHAVIOR

By

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## **DEDICATIONS**

I would like to dedicate my thesis to the rodeo athletes that made this research possible. Without your feedback and participation in this I would not have been able to conduct this study. I hope that with the information that I have gained will contribute to better medical services being provided to you. Thank you for allowing me to be a part of this culture and allowing me to broaden my knowledge of the sport. Without your feedback this study would never have been able to be conducted.

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## LIST OF ABBREVIATIONS

<b>Abbreviation</b>	<b>Description</b>
AIMS	Athletic Identity Measurement Scale
PBR	Professional Bull Riding

## ABSTRACT

**Context:** In order to successfully return to sport after sustaining an athletic injury seeking treatment from a medical professional is essential. Despite the current research related to the rate of treatment seeking behavior in the general population, rodeo athletes have not been included. In addition, to our knowledge, an instrument to evaluate treatment seeking behavior in collegiate rodeo athletes has not been created. **Objective:** To present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete's treatment seeking behavior. **Design:** Exploratory factor analysis **Setting:** Field-based study. **Participants:** 51 collegiate rodeo athletes. **Interventions:** Patient-oriented outcome measures. **Main Outcome Measurements:** Reliability and Validity for Athletic identity, benefits/behavioral beliefs/attitude, subjective normality, and perceived behavioral control scores. Cronbach Alpha scores were utilized to determine reliability and a factor analysis was utilized to determine validity. **Results:** Acceptable Cronbach Alpha reliability estimates were observed for all four scales: athletic identity (.799), attitudes (.846), social normality (.839), and perceived behavioral control (.765). A series of confirmatory factor analyses indicate that the factor structure of the developed instrument is best expressed as a 42-item 4-factor model. **Conclusion:** The preliminary results from this study revealed acceptable reliability and validity scores of the created items in the instrument. These findings provide a framework for further research to evaluate treatment seeking behavior within collegiate rodeo athletes utilizing the developed instrument.

## I. INTRODUCTION

Treatment seeking behavior is seen throughout the general population that provides a limiting factor for medical professionals to demonstrate optimal care.<sup>1-12</sup>

Treatment seeking behavior can be described as the process of committing an action that individuals will accept to benefit ill-health.<sup>13</sup> Ill-health can include both physical and psychological issues that athletes may face after sustaining an injury, treatment seeking is necessary to avoid these issues. Research emphasis is being placed on the various factors associated with the general population and athlete's treatment seeking behavior; however, factors related to treatment seeking behavior among rodeo athletes remains unexplored. Factors such as athletic identity, perceived benefits and barriers, knowledge, and time constraints have an influence on whether people seek treatment. Perceived stigma and various barriers are associated with avoidance of seeking treatment.<sup>4</sup> Barriers include but are not limited to medical costs, knowledge of care available, support from community and family, perceived stigma, loss of athletic identity and self-motivation.<sup>2-5,7,8</sup> The various combinations of factors and differences within each category provide a complex reasoning to determine a person's treatment seeking behavior or lack thereof.

One significant factor associated with not seeking medical treatment is athlete's belief that by doing so they will be eliminated from play.<sup>3</sup> Removing the athlete from athletic participation can not only alter their perceived athletic identity but also affect their financial support that is vital in the professional setting. A disturbance in athletic identity can pose an emotional disturbance after injury occurs because they may feel a lack of self-worth or loss of a stable sense.<sup>14</sup> Athletes who have a high athletic identity tend to have an increased pain tolerance as well.<sup>14</sup> Due to injury, an athlete may lose their perceived athletic identity that may increase their treatment seeking behavior or have a

negative effect on seeking treatment. In addition to intrinsic factors such as athletic identity, extrinsic factors also are a contributing factor.

Although factors that originate from within the athlete are important, extrinsic factors such as motivation from family and clinicians, education, and scheduling play an important role in adherence to treatment seeking. Motivation from coaches, teammates, and clinicians can provide a stable environment and good rapport between the two groups.<sup>15,16</sup> Motivation can be defined as the sum total of all influences that make a behavior more or less likely. Therefore, various groups of people and the combination of groups may have an influence on the level of behavior. The comradery of the competitors create a family atmosphere between competitors that compose a team.<sup>17</sup> Additionally, athletes who are educated about their severity of injury and the benefits of seeking treatment they will be more apt. to report their symptoms.<sup>3</sup> Athletes' perceptions of treatment seeking may be altered by providing a rationale for symptom reporting and treatment. Influences from peers, perceived severity, and athletic identity varies between athletes, especially rodeo athletes.

Rodeo athletes are a unique type of athlete in that maintaining a high athletic identity and machoism characteristic is important for success in their sport.<sup>17</sup> In addition, these athletes have a high level of independence, goal-orientation and stress.<sup>18</sup> Compared to college norms, collegiate rodeo athletes have a significantly higher vigor and extraversion as well as significantly lower depression, fatigue, confusion, total mood disturbance and conformity.<sup>18</sup> These athletes tend to dismiss or ignore obvious pain and view a physical setback as a weakness.<sup>17</sup> Although the athletes health may be at risk they continue to take risks that can lead to fatality each time they participate in an event.<sup>17</sup> In

order to maintain a high athletic identity and avoid being viewed as weak, rodeo athletes may not seek treatment due to fear of being unable to participate.

### **Statement of the Problem**

No research study to date has evaluated the treatment seeking behavior in collegiate rodeo athletes or the factors that have a strong influence on the rate of seeking treatment. The lack of treatment seeking cannot be ignored due to limited care a medical professional can provide without this behavior. Therefore, the focus of creating an instrument to evaluate the behavior is warranted. Additional research may be conducted to further evaluate the certain situational and personal factors that affect the rodeo athletes.

### **Purpose of the Study**

The purpose of this study was to present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete's treatment seeking behavior. assess the reliability and validity of the preliminary results of a developed instrument to assess collegiate rodeo athlete's treatment seeking behavior. The instrument contained 4 scales, including: (a) Athletic Identity Measurement scale (AIMS); (b) three created scales that possibly pertained to the contributing factors that affect treatment seeking behavior, and (c) several open-ended questions.

### **Research Questions**

The following research questions were formulated:

1. Will the constructed instrument yield data with acceptable reliability estimates for all 4 construct scales?

2. Will data collected with the constructed instrument demonstrate acceptable construct validity for all 4 constructs?

### **Delimitations**

The following delimitations in the interpretation of the data were acknowledged:

1. Each subject participating in this study must have sustained an injury within the past 10 years.
2. Subjects who previously worked with an athletic trainer or other medical professional were permitted to participate in the study.
3. Subjects that are a member of the National Intercollegiate Rodeo Association were permitted to participate in the study.

### **Limitations**

The following limitations were acknowledged:

1. The amount of times an athlete sought treatment and from who varied among subjects, as they have been treated at different facilities as well as different medical staff.
2. The time allowed to collect data is limited to 1 year.
3. Sample size was limited, subjects were only included from the collegiate rodeo team that provide medical coverage for the sport.

### **Definitions**

1. Athletic identity: A person that perceives physical activity as a central factor in identifying their personal identity.<sup>19</sup>
2. Self-stigma: Perceived ability to view oneself in a negative capacity.<sup>2</sup>

3. Treatment seeking behavior: The process of committing an action that individuals will accept to benefit ill-health.<sup>13</sup>

### **Assumptions**

1. The researcher assumed that each subject completing the questionnaires was currently or has previously sustained an injury.
2. The researcher assumed that each athlete who was injured had a thought process to either seek treatment or not to do so at some point during their sports related injury.
3. The researcher assumed that each athlete had factors that relate to if they have/had an issue with seeking treatment.

### **Summary**

Current literature suggests injuries are both common and severe within rodeo athletes, however, treatment seeking behavior remains controversial and differs between individuals. The goal for any injury is that the athlete seeks medical help, however, each individual and sport type has different factors that influence their behavior. Although there has been a wide variety of research conducted on the different factors and viewpoints of treatment seeking behavior in the general population and few on the athletic population; development of an instrument to assess treatment seeking behavior in collegiate rodeo athletes was warranted. This study presents the methodology used and preliminary findings for developing and validating an instrument to assess collegiate rodeo athlete's treatment seeking behavior.

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## **II. Manuscript**

Development of an Instrument to assess Treatment Seeking Behavior in  
Collegiate Rodeo Athletes

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## **Abstract**

**Context:** In order to successfully return to sport after sustaining an athletic injury seeking treatment from a medical professional is essential. Despite the current research related to the rate of treatment seeking behavior in the general population and the contributing factors, rodeo athletes have not been included. In addition, to our knowledge, an instrument to evaluate treatment seeking behavior in collegiate rodeo athletes had not been created. **Objective:** To present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete's treatment seeking behavior. **Design:** Exploratory factor analysis **Setting:** Field-based study. **Participants:** 51 collegiate rodeo athletes were recruited. **Interventions:** Patient-oriented outcome measures. **Main Outcome Measurements:** Reliability and Validity for athletic identity, benefits/behavioral beliefs/attitude, subjective normality, and perceived behavioral control scores. Cronbach Alpha scores were utilized to determine reliability and a factor analysis was utilized to determine validity for each scale. **Results:** The four scales had acceptable Cronbach Alpha scores suggesting a high reliability. Cronbach Alpha scores for each scale were; athletic identity (.799), attitudes (.846), social normality (.839), perceived behavioral control (.765). A series of confirmatory factor analyses indicate that the factor structure of the developed instrument is best expressed as a 42-item 4-factor model. **Conclusion:** The preliminary results from this study revealed acceptable reliability and validity scores of the created items in the instrument. These findings provide a framework for further research to evaluate treatment seeking behavior within collegiate rodeo athletes utilizing the developed instrument.

**Key Words:** Treatment Seeking Behavior, Rodeo, Instrument Development

## **Introduction**

Treatment seeking behavior is seen throughout the general population that provides a limiting factor for medical professionals to demonstrate optimal care. Treatment seeking behavior can be described as the process of committing an action that individuals will accept to benefit ill-health.<sup>13</sup> Ill-health can include both physical and psychological issues that athletes may face after sustaining an injury, treatment seeking is necessary to avoid these issues. Research emphasis is being placed on the various factors are associated with the general population and athlete's treatment seeking behavior; however, factors related to treatment seeking behavior among rodeo athletes remains unexplored.

Factors such as athletic identity, benefits/behavioral beliefs/attitude, subjective normality, and perceived behavioral control, have an influence on whether people seek treatment. Perceived stigma and various barriers are associated with avoidance of seeking treatment.<sup>4</sup> Barrier include but are not limited to medical costs, knowledge of care available, support from community and family, loss of athletic identity and self-motivation.<sup>2-5,7,8</sup> The various combinations of factors and differences within each category provide a complex reasoning to determine an individual's treatment seeking behavior or lack thereof.

One significant factor associated with not seeking medical treatment is athlete's belief that by doing so they will be eliminated from play.<sup>3</sup> Removing an athlete from athletic participation can alter their perceived athletic identity but also affect their financial support that is vital in the professional setting. A disturbance in an athlete's

athletic identity can pose in emotional disturbance after injury occurs because they may feel a lack of self-worth or loss of a stable sense.<sup>14</sup> Athletes who have a strong athletic identity tend to have an increased pain tolerance as well.<sup>14</sup> Due to injury, an athlete may lose their perceived athletic identity that may increase their treatment seeking behavior or have a negative effect on seeking treatment.

Although factors that originate from within the athlete are important, extrinsic factors such as motivation from family and clinicians, education, and scheduling play an important role in treatment seeking behavior. Motivation from coaches, teammates, and clinicians can provide a stable environment and good rapport between the two parties.<sup>15,16</sup> Motivation can be defined as the sum total of all influences that make a behavior more or less likely. Therefore, various groups of people and the combination of groups may have an influence on the level of behavior. The comradery of the competitors create a family atmosphere between competitors that compose a team.<sup>17</sup> Additionally athletes who are educated about their severity of injury and the benefits of seeking treatment they will be more apt. to report their symptoms.<sup>3</sup> Athletes' perceptions of treatment seeking may be altered by providing a rationale for symptom reporting and treatment.

Rodeo athletes are a unique type of athlete in that maintaining a high athletic identity and machoism characteristic is important for success in their sport.<sup>17</sup> Due to the uniqueness of these athletes, specific protocols such as the Concussion return to play protocol has been developed.<sup>20</sup> Existing protocols and other instruments that can be used with other athletes may not be utilized by the rodeo athlete. These athletes tend to dismiss or ignore obvious pain and view a physical setback as a weakness.<sup>17</sup> Although the athletes health may be at risk they continue to take risks that can lead to fatality each time

they participate in an event.<sup>17</sup> Analyzing the most frequent factors that promote or limit treatment seeking behavior is necessary to provide optimal care for these athletes. The purpose of this study was to present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete's treatment seeking behavior.

No research study to date has evaluated the reliability and validity of a developed instrument to assess' treatment seeking behavior in collegiate rodeo athletes. Additional research must be conducted to further evaluate the certain factors that affect the rodeo athlete's treatment seeking behavior.

Due to the lack of literature, we were able to explore reliability and validity of the proposed instrument that could be used by clinicians to assess collegiate rodeo athlete's treatment seeking behavior.

## Methods

### *Participants*

A total of 51 collegiate male and female rodeo athletes in the National Intercollegiate Rodeo Association (NIRA) including bareback riding, steer wrestling, team roping, saddle bronc riding, tie-down roping, barrel racing, and bull riding were recruited. Volunteers were initially evaluated for eligibility though several inclusion and exclusion criteria for participation in the study. The inclusion and exclusion criteria that must have been met for participation is included (See Table 1).

Once a volunteer qualified for participation in the study, and provided written consent via a signature, the participant was directed towards the first set of items. Upon completion of the developed instrument, a self-reported questionnaire was utilized regarding demographic information and previous medical history. In addition, items to confirm the athletes have worked with medical professional for a sport related injury were included. Participants who met the inclusion criteria and completed the preliminary questionnaires were included in the study.

**Table 1: Inclusion and Exclusion Criteria**

Rodeo Athletes	
Inclusion Criteria	Exclusion Criteria
National Intercollegiate Rodeo Association athlete	Not a member of the National Intercollegiate Rodeo Association
Worked with a medical professional previously for a rodeo related injury	Have never worked with a medical professional previously for a rodeo related injury

### ***Data Collection***

Questionnaires were distributed to the athletes via a re-usable hyper-link that was e-mailed to either their coach or athletic trainer to complete the questionnaire paperless. After preliminary questions were completed and inclusion criteria was met, the athletes began to fill out the following items: Athletic Identity Measurement scale (10 items), the developed items (36 items), and open-ended questions (5).

### ***Instrument Development***

A Likert scale 1-7 was primarily used throughout each questionnaire comprehensively. However, several questions utilized a Likert scale from 1-5. Within the Athletic Identity Measurement Scale and the developed instrument those athletes who choose “1” were strongly associated with agree and those who choose “7” were strongly associated with disagree. Within the several items that utilized a 1-5 Likert scale, athletes who selected “1” were strongly associated with the statement to the left and those who selected “5” were strongly associated with the statement to the right.

### ***Athletic Identity Measurement Scale (AIMS)***

Athletic identity was measured and analyzed using the AIMS. This is a 10-item scale used to evaluate the athletes social, cognitive, and the affected elements of a person’s athletic identity. The purpose of the self-reported unidimensional measure evaluates both the strength and extent to which a person identifies themselves in an athletic role.<sup>21-23</sup> Participants were asked to answer each question to the best of their ability and to the Likert scale 1-7 from strongly agree (1) to strongly disagree (7). The participants score ranged from 10 to 70. For instance, higher scores on the attitude scale

indicated a more positive attitude toward treatment seeking whereas lower scores indicated a more negative attitude toward treatment seeking treatment.

### ***Developed Instrument***

Treatment seeking behavior was measured and analyzed using the developed instrument. There were 36 items included in the instrument and were separated into 2 categories: perceived barriers and benefits. The purpose of the self-reported questionnaire was to identify indicators that may contribute to an athlete's behavior to seek treatment. Participants were asked to answer each question to the best of their ability by using the Likert scale from 1-7 and 1-5. The participants scored 10 to 70 or from 10 to 50. Initially, eleven questions were utilized in the attitude scale, twelve questions were utilized in the social normality scale, and thirteen questions were utilized in the perceived behavioral control group. Upon removing several items to improve component matrix factors; eleven questions were utilized in the attitude scale, nine questions were utilized in the social normality scale, and twelve questions were utilized in the perceived behavioral control scale.

### ***Open-ended Questionnaire***

Participants could demonstrate their opinion of why they have or have not sought treatment that may not have been acknowledged in previous questions they answered. The purpose of the questionnaire was to identify the various factors that may contribute to an athlete's treatment seeking behavior. Participants were asked to describe their perceived benefits and barriers that prevent or assisted in seeking treatment.

### ***Research Design***

Utilizing a 67-item instrument, which was developed to assess treatment seeking behavior in collegiate rodeo athletes. This study employed an exploratory factor analysis to investigate desired variable measurement of the underlying constructs for the items selected. The purpose of this study was to present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete's treatment seeking behavior.

The independent variables for this study were Cronbach alpha values and component matrix measures. Athletic Identity, past behavior, benefits/behavioral beliefs/attitude, subjective normality, and perceived behavioral control were included. Primary outcome measures were analyzed using the created instrument; Athletic Identity Measurement Scale (AIMS) and proposed questions.<sup>1,14,21,22</sup> In addition, several open-ended questions were asked.

Although the Athletic Identity Measurement Scale had been used in previous literature, evaluation of this instrument in order to be applied to rodeo athletes was necessary. Reliability and validity analysis were conducted in previous studies to conclude content validity in high school and collegiate student athletes.<sup>21,22,24</sup> Questions that have been used in previous studies ensured intrarater reliability.

Instrument development begins with identifying the constructs that will be measured utilizing the items in the instrument as well as clearly defining the goals of the survey.<sup>25</sup> By doing so it will encourage measuring what we want to measure, reduce the likelihood to forget to measure a concept, and ask questions that measure what they are intended to measure.<sup>26</sup> Therefore, utilizing the constructs in the Theory of Planned

Behavior and Health Behaviors, items were created in order to measure the constructs. The development of the instrument was utilized by the outline in the Standards for Educational and Psychological Testing<sup>27</sup> and Dillman's 4 stages of pretesting<sup>26</sup> as a validation framework. According to Dillman et al., development of a question must be able to be answered by the respondent, willing to answer, willingness to provide an accurate answer, and interpretation of the respondent's answer would be clear.<sup>26</sup> Assessment of the psychometric properties are determined through validity, reliability, and acceptability.<sup>25</sup>

The second step in instrument development is identifying the test specifications. According to the Standards for Educational and Psychological, the test specifications determine the format of the items, the response format, and scoring procedure.<sup>27</sup> A combination of Likert scale, open-ended questions, and check all that apply were utilized in this study. A bipolar scale was used in the Likert scale items. The bipolar gradient scale measures two opposite dimensions where zero falls within the middle or the point in which positive switches to negative.<sup>26</sup> Item format was determined by previous literature of assessment of athletic identity and the Health Belief Model to assess the created constructs. Issues of fairness and bias were limited due to having a panel of experts that reviewed the instrument for offensive or disturbing language, content, and questions. In order to reduce bias, both positive and negative sides were represented in the question stem as suggested by Dillman et al.<sup>26</sup> Also, with the use of the Qualtrics system, a comprehensive list of all reasonable possible answers was used. In addition, the instrument was reviewed to provide equal opportunity of responders regardless of various races, ethnicity, or sex.

A review of the instrument developed to assess collegiate rodeo athlete's treatment seeking behavior, along with the Theory of Planned Behavior and health behaviors guided the selection and development of the items for the initial pool. The authors strategically selected items from the Athletic Identity Measurement Scale and modified items from the Theory of Planned Behavior and health behavior and Dillman's tailored design method was used to construct additional items for the instrument.<sup>26</sup> The initial pool consisted of 67 items. 10 items measured athletic identity, 11 items measured attitudes, 12 items measured social normality, and 13 items measured perceived behavioral control, three were volunteer screening questions, eight were demographic questions, and five open-ended questions.

Following approval from the Texas State University Institutional Review Board, the initial pool of items was subjected to Dillman's 4 stages of pretesting.<sup>26</sup> The pretesting stages provide evidence that the items produce valid and reliable scores.<sup>28</sup> Instrumentation and results are outlined and demonstrated below.

A panel of 3 experts was utilized to review and approve the use of the items included in the questionnaire. Areas of expertise for these professionals include but are not limited to survey research, survey development, psychological factors, health and human performance, athletic training education, and Theory of Behavior. The principal investigator met with and collaborated with the panel of experts regarding the item's content validity, avoiding bias, and design of instrument. Questions that the principal investigator asked the panel was (1) Are there any questions that should be deleted? (2) Are there any other questions that should be included? (3) Are there any questions that ask about the same topic? (4) Does each item measure an aspect of treatment seeking

behavior in athletic training? and (5) Does the language used align with collegiate rodeo athletes? The panelists were also encouraged to provide constructive criticism and comments on the design and distribution of the instrument.

### ***Statistical Analysis***

Statistical analyses were collected for the Athletic Identity Measurement Scale to ensure that the scale can be applied to rodeo athletes. The Athletic Identity Measurement Scale that was used had been previously used in previous studies. Reliability and validity analysis were conducted in previous studies to conclude content validity.<sup>21,22,24</sup> Questions that have been used in previous studies ensured intrarater reliability.

In addition, a statistical analysis was conducted for the developed instrument, as the instrument had not been previously used in previous studies. Reliability and validity analysis were evaluated to conclude content validity. Due to limited sample population a pilot study was not conducted, however should be warranted in future research.

According to Brown et al. sample size for a pilot study should have 30 participants to achieve statistical power.<sup>29</sup> According to the National Intercollegiate Rodeo Association, there are approximately 2,546 athletes that participate based upon the roster from the 2017 and 2018 season.<sup>30</sup> Upon initial calculation, with a 95% confidence level and .05 confidence interval, the target sample size was 334 participants, however, the sample size was limited to 51 participants.

### ***Exploratory Factor Analysis***

An exploratory factor analysis was used to identify validity of the various variable measures within a group to assess treatment seeking behavior in collegiate rodeo athletes

for sections 1 and 2. A factor analysis was completed in the first section for all of the items (10 athletic identity, 11 attitude, 12 social normality, and 13 perceived behavioral control). Section 2 was completed to improve the component matrix and a factor analysis was completed after removal of certain items (10 athletic identity, 11 attitude, 9 social normality, and 12 perceived behavioral control). Although the items were selected based on the constructs of the Theory of Planned Behavior and Health Behavior, Dillman's 4 stages, and the athletic identity measurement scale that was previously used in research, the authors did not have any expectations or how the constructs would be measured utilizing collegiate rodeo athletes as subjects, therefore an exploratory factor analysis was completed for this population. As stated previously, the four outcome measures are; Athletic Identity Measurement Scale (AIMS), Benefits/Behavioral Beliefs/Attitudes, Social Normality, and Perceived Behavioral Control. In this way we were able to determine the number of components and how heavily each question correlates with a certain component. Treatment seeking behavior associated with 5 factors was estimated by using the Likert scale to determine the hierarchy of each factor that influences treatment seeking behavior. In this way we were able to determine which factors most likely contributed to the lack of acting or lead the athletes to seek treatment.

In order to complete the statistical analysis required for the development of this instrument, JMP (Cary, NC, USA) was used. Construct validity was carried out by the exploratory factor analysis for the 4 scales (athletic identity, attitudes, social normality, and perceived behavioral control). The exploratory factor analysis was conducted to determine reliable generalization of the results to collegiate rodeo athletes for this sample. In addition, only premature use of this instrument is warranted due to the small

sample size. Further research is warranted if the instrument is used with other populations. Reliability was carried out by the Cronbach alpha scores for the 4 scales as well.

### ***Cronbach $\alpha$***

Cronbach  $\alpha$  scores were used to identify reliability of the various factors to determine treatment seeking behavior. Cronbach  $\alpha$  coefficients between 0.70 and 0.90 are considered acceptable.<sup>31</sup> Values below 0.70 determine that there is an item that does not measure the correct values for the group.<sup>31</sup> Values between 0.70 and 0.90 determine that majority of the items do measure the correct values for the group.<sup>31</sup> Four outcome measures; Athletic Identity Measurement Scale (AIMS), Benefits/Behavioral Beliefs/Attitudes, Social Normality, and Perceived Behavioral Control were analyzed for reliability in the developed instrument that contribute to treatment seeking behavior.

### ***Summary***

Within collegiate rodeo athletes, treatment seeking behavior, to our knowledge has not been evaluated. We developed the instrument guided by previous research suggested in Dillman's 4 stages of pretesting for development of the items and Standards for Educational and Psychological Testing for testing specifications such as formatting, scaling, and scoring. In order to evaluate such behavior, we developed an instrument for the preliminary use by analyzing the reliability and validity. Utilizing the results from 32 participants we completed an exploratory factor analysis and Cronbach alpha scores. Such factors that were included in the analysis included athletic identity, attitude, social normality, and perceived behavioral control.

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## **Results**

### ***Descriptive Data***

Fifty-one athletes from 10 different National Intercollegiate Rodeo Association teams attempted the survey. Thirty-five athletes who completed the survey currently had a rodeo related injury and 15 athletes who completed the survey currently did not have a rodeo related injury. Upon completion of the inclusion and exclusion criteria thirty-nine athletes were able to successfully complete the entire survey. Thirty-seven athletes (32 males, 5 females) successfully completed the entire survey, however, although inclusion criteria was met, two participants did not finish the study due to unknown reasons. 97.30% of participants sustained a rodeo related injury and 91.89% of the participants sustained a rodeo related injury within the last year. 89.19% of the injuries prevented the athlete from participating in their event and 73.68% were prevented from one to fourteen days. 72.97% of the athletes sought treatment for their injury and if they did seek treatment 36.67% sought out an athletic trainer and 26.67% from a physician.

### ***Evaluation of Instrument***

Upon initial evaluation, minor modifications were made. No questions were removed, and several grammatical errors were corrected. In addition, the directions were altered. Initially the statement in the direction guided the participant to circle their answer which would have been completed for a pen and paper instrument, however, due to the electronic distribution of the instrument the directions were changed from “circle” to “select”. Lastly, the coding scales were reversed to better understand the values. Initially the statements were coded from 1-7, upon suggestions from the panel, the coding system was flipped to 7-1. Initially, a value of “1” aligned with a “strongly agree” statement and

a value of “7” aligned with a “strongly disagree” statement. After flipping the Likert scale for better understanding and evaluation by the panel, a low score such as “1” would align with a “strongly disagree” statement and a high score such as “7” would align with a “strongly agree” statement.

### ***Internal Consistency***

To determine reliability, Cronbach  $\alpha$  scores were determined. Table 1 represents the Cronbach alpha values for Athletic Identity (.790), Attitude (.829), Social Normality (.857), and Perceived Behavioral Control (.748). Perceived Behavioral Control demonstrated the lowest value and Social Normality demonstrated the highest value; all are within the acceptable scores. Therefore, reliability is acceptable for the four scales. Although the scores were all acceptable, values of .80 suggest that several questions within the category may be redundant. Therefore, several questions from Attitudes and Social Normality may be removed as they may not provide additional information that is necessary to include. After removing 3 items from the analysis of social normality; the Cronbach alpha value (.840) decreased. In addition, after removing 1 item from the analysis of Perceived Social Normality; the Cronbach alpha values (.765) increased. The items from each scale were removed in order to provide a clearer component matrix that could be described by the panel. By removing additional items for the Perceived Social Normality, the Cronbach alpha value would decrease below an acceptable value. After analyzing Cronbach alpha values, a factor analysis was completed.

A factor analysis was completed to determine validity. Upon the initial data analysis; total variance scores are explained for each scale in Tables 2-7. Athletic Identity measures demonstrated a total of 3 components; the first component accounted for

36.89% of the variance, the second component accounted for 18.44% of the variance, and the third component was accounted for 13.43% of the variance (Table 2). Attitudes demonstrated a total of 4 components; the first component accounted for 42.96% of the variance, the second component accounted for 19.60% of the variance, the third component accounted for 11.30% of the variance, and the fourth component accounted for 9.15% of the variance (Table 3). Social Normality measures demonstrated a total of 3 components; the first component accounted for 40.87% of the variance, the second component accounted for 23.07% of the variance, and the third component was accounted for 9.04% of the variance (Table 4). Lastly, Perceived Behavioral Control measures demonstrated 4 components; the first component accounted for 27.92% of the variance, the second component accounted for 16.45% of the variance, the third component accounted for 11.89% of the variance, and the fourth component accounted for 9.26% of the variance (Table 6).

### ***Athletic Identity***

A component matrix was used to determine the loading of the correlations between the estimated components. The component matrix for each scale was expressed for in Tables 8-13. Upon initial data analysis; in athletic identity, component 1 was primarily expressed in questions 3-5, component 2 was primarily expressed in question 6,8, and 10, and component 3 was primarily expressed in question 1-2,7 (Table 8). Similar to a previous study utilizing physical education undergrad students, 3 components were demonstrated in the athletic identity scale.<sup>23</sup> However, the items/questions included in each component varied between the studies. Proios et al. concluded that after 3 items were removed; items one, two and, nine had a positive loading towards the “social

identity” factor, four and five had a positive loading towards the “exclusive” factor, and items eight and ten towards the “negatively affected” factor.<sup>23</sup> Social identity can be interpreted as the way a person identifies themselves in society. Exclusive factor can be interpreted by the degree in which the person identifies solely as an athlete. Lastly negatively affected can be interpreted as how the degree in which a removal or decrease in athletic participation can have a negative effect on their athletic identity. In comparison, in our study, items three through five had a positive loading towards the proposed “importance of sport” factor, six, eight, and ten, had a positive loading towards the proposed “feeling” factor, and one, two, and seven, had a positive loading towards the proposed “personal identification” factor. Importance of sport can be interpreted by the degree in which one related the significance of sport in their lives. Lastly, feeling factor can be interpreted by how identifying as an athlete makes them feel. Standard deviations are shown in Table 14, all the participants answered within 2 standard deviations from the mean for all questions. Interpretation of this value determined that majority of the participants thought similar for the items included in Athletic Identity item.

### ***Attitudes***

Upon initial data analysis, in attitudes, component 1 was primarily expressed in questions 4, 6-8, component 2 was primarily expressed in questions 1-3, component 3 was primarily expressed in questions 5,10, and 11, and component 4 was primarily expressed in question 9 (Table 9). According to the Theory of Planned Behavior and Health Behaviors, 4 to 6 differentials for attitudes tend to show high internal reliability, therefore the four components in this scale were acceptable. Items 4, and 6 through 8 had a positive loading towards the proposed “influence of previous actions”, one through

three had a positive loading towards the proposed “behavioral beliefs” factor, and 5, 10 and 11 had a positive loading towards the proposed “affect” factor, and 9 had a positive loading towards the proposed “perceived severity” factor. Influence of previous actions can be interpreted as the degree in which one’s previous actions have an influence on if they seek treatment again or not. Behavioral beliefs can be interpreted by to which degree one believes they have control over their actions. The affect factor can be interpreted as to which degree one believes that seeking treatment will have a beneficial influence. Lastly, perceived severity can be interpreted to which degree one believes the severity of their injury is serious enough to seek treatment or not. Standard deviations are shown in Table 15, all of the participants answered within 2 standard deviations from the mean for all questions. Interpretation of this value determined that majority of the participants thought similar for the items included in the attitude item.

### ***Social Normality***

Social normality can be described by one component in that, the person’s subjective judgement concerning whether important people within their life would or would not want them to perform such actions. Upon initial analysis, component 1 was primarily expressed in questions 12,14-19, 21, and 23, component 2 was primarily expressed in questions 13, 20, and 22, and component 3 was not primarily expressed in any of the questions (Table 10). According to the Theory of Planned Behavior and Health Behaviors social normality should be measured by a single item. In efforts to improve the component matrix as suggested in the Theory of Planned Behavior, an additional statistical analysis was conducted by removing several items.

In order to more closely align with the Theory of Planned Behavior and Health Behaviors, 3 items were removed from Social Normality. By removing 3 items, the component matrix revealed 2 components. Although the Theory of Planned Behavior and Health Behaviors suggests one component, the two components suggested in this study align with the previous studied component. The three items that were removed were as followed; “Most people who are important to me think that (I should/I should not) seek treatment each time I get injured”, “Most people whose opinion I value would approve of my seeking treatment each time I get injured.”, and “Most of my teammates seek treatment each time they are injured.” These items were removed due to the additional component matrix that those questions added. Those questions correlated with factors that related to perceived level of importance of that person in addition to perceived approval from that person and their perceived thoughts. There were several factors within those three questions that added an additional component to the scale that is not suggested by previous research. Component 1 was primarily expressed in questions 18, 20-23 and component 2 was primarily expressed in questions 15-17, and 19 (Table 11). Items 18, and 20 through 23 had a positive loading toward the proposed “level of caring for the thoughts of other people” factor and items 15 through 17 and 19 had a positive loading toward the proposed “perceived thoughts of people” factor. Standard deviations are shown in Table 16, in which all of the participants answered within 2 standard deviations from the mean for all questions. Interpretation of this value determined that majority of the participants thought similar for the items included in the Social Normality item.

### ***Perceived Behavioral Control***

In Perceived Behavioral Control, component 1 was primarily expressed in questions 25-29, 31, 34, and 36, component 2 was primarily expressed in questions 24 32-33, and 35, component 3 was primarily expressed in question 30, and component 4 was not primarily expressed in any of the questions (Table 12). According to the Theory of Planned Behavior and Health Behaviors, it has commonly been measured by three items; control, degree of difficulty, and likeliness to comply. Control can be interpreted by to which degree one believes they have control over their actions. Degree of difficulty can be interpreted by to which degree one believes how hard it is for them to act. Lastly, likeliness to comply can be interpreted by to which degree one may or may not act. Items 25-29, 31, 34, and 36 had a positive loading toward the proposed “likeliness to comply” factor, 24 32-33, and 35 had a positive loading towards the proposed “control” factor, and 30 had a positive loading towards the proposed “degree of difficulty” factor.

In order to provide a clearer interpretation of the components of Perceived Behavioral Control, the first item was removed (Whether or not I seek treatment after each injury is completely up to me.). By removing the first item, the rotated component matrix remained revealing 4 components, however, the components became more clearly interpreted. The first item was removed because it added an additional component that did not align properly with the others that were clearer to interpret. The component aligned with perceived level of self-control. The suggested factor added an additional component to the scale that is not suggested by previous research and was not interpreted in the other items. Component 1 was primarily expressed in questions 27-29, and 36, component 2 was primarily expressed in questions 25 and 26, component 3 was primarily

expressed in questions 30-35 (Table 13). Items 27-29 and 36 had a positive loading towards the proposed “control” factor, items 25 and 26 had a positive loading toward the proposed “degree of difficulty” factor, and items 30-35 had a positive loading towards the proposed “likeliness to comply” factor. Perceived control and level of difficulty factor was similar to previous studies. However, the “likeliness to comply” factor varied in that in this study, the 3<sup>rd</sup> component aligned more with “perceived power”. Perceived power can be described as the degree in which the participants believe they could possess authority over their actions. Standard deviations are shown in Table 17, all of the participants answered within 2 standard deviations from the mean for all questions. Interpretation of this value determined that majority of the participants thought similar for the items included in the Perceived Behavioral Control item.

### ***Measurement Properties***

#### **Validity**

An exploratory factor analysis of 46 items to measure treatment seeking behavior in collegiate rodeo athletes resulted in 3 factors for athletic identity, 4 factors for attitudes, 2 factors for social normality, and 3 components for perceived behavior control, consisting of 42 items in addition to the demographic portion. In total, 4 items were removed that did not align with the suggested components of each factor scale. No items were removed from athletic identity and measured importance of sport (factor 1) and personal feelings (factor 2), and personal identification (factor 3). No items were removed from attitudes and measured influence of previous actions (factor 1), behavioral beliefs (factor 2), affect (factor 3) and perceived severity (factor 4). Three items were removed from social normality and measured level of caring for the thoughts of other

people (factor 1) and perceived thoughts of people (factor 2). Lastly, one item was removed from perceived behavioral control and measured perceived control (factor 1), perceived barriers (factor 2), and perceived power (factor 3). The results do support the framework provided by previous research.

### **Reliability**

Cronbach alpha values to determine reliability revealed high reliability in all four scales. However, initially values of .80 and higher suggested overlapping in 2 of the scales. Upon evaluation of the items in social normality and perceived behavioral control several items were removed due to overlapping and efforts to reduce number of components and reduce reliability. Upon removing 3 items from social normality, the reliability score did decrease from .857 to .840 with a decrease of .017. Although the value remained high suggesting redundancy of questions, the PI and panel of experts included the remaining items as they believed all were important. Redundancy may have been due to several items focusing on coaches, teammates, athletic trainers, and friends, however, the language and framework of the question provides various interpretations from the participants. Upon removing 1 item from perceived behavioral control, the reliability score increased from .748 to .765 with an increase of .016. Although the value increased, the value remained lower than .8 therefore eliminating the redundancy factor. Each item provided a unique aspect that could be evaluated and interpreted by the participant.

### **Summary**

In summary, the exploratory factor analysis was utilized to determine reliability and validity of the development of an instrument to assess treatment seeking behavior in

collegiate rodeo athletes. The 4 scales had acceptable Cronbach alpha scores suggesting a high reliability. Too high of Cronbach alpha scores were not demonstrated in the statistics, therefore, none of the items were redundant. In addition, after completing several component matrixes for the four scales, several questions were removed. No changes were made to the athletic identity measurement scale and several changes were made to the developed items for the selected population. While removing three items from social normality and one item from perceived behavioral control, the reliability of the scales were acceptable as determined by the Cronbach alpha scores. In addition, the instrument seems to appear to be a valid assessment tool for collegiate rodeo athlete's treatment seeking behavior. The results from this study provide reliability and validity for the instrument for the population evaluated, however, caution must be taken when applying this instrument to other populations.

**Table 2: Reliability Statistics**

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Athletic Identity	.790	.799	10
Attitudes	.829	.846	11
Social Normality	.857	.863	12
Social Normality with Items Removed	.840	.839	9
Perceived Behavioral Control	.748	.743	13
Perceived Behavioral Control with Items Removed	.765	.765	12

**Table 3: Athletic Identity Total Variance Explained**

Component	Initial Eigenvalue			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.689	36.887	36.887	3.689	36.887	36.887	2.830	28.298	28.298
2	1.845	18.445	55.332	1.845	18.445	55.332	2.223	22.228	50.526
3	1.343	13.445	68.764	1.343	13.431	68.764	1.824	18.238	68.764
4	.787	7.867	76.630						
5	.693	6.931	83.561						
6	.541	5.408	88.969						
7	.424	4.241	93.210						
8	.322	3.215	96.426						
9	.201	2.009	98.435						
10	.157	1.565	100.000						

**Table 4: Attitudes Total Variance Explained**

Component	Initial Eigenvalue			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.725	42.958	42.958	4.725	42.958	42.958	3.235	29.406	29.406
2	2.156	19.596	62.554	2.156	19.596	62.554	2.720	24.724	54.129
3	1.243	11.300	73.854	1.243	11.300	73.854	1.989	18.079	72.208
4	1.006	9.149	83.003	1.006	9.149	83.003	1.187	10.795	83.003
5	.716	6.505	89.509						
6	.388	3.524	93.034						
7	.316	2.872	95.906						
8	.190	1.726	97.632						
9	.110	.997	98.630						
10	.095	.860	99.490						
11	.056	.510	100.000						

**Table 5: Social Normality Total Variance Explained**

Component	Initial Eigenvalue			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.904	40.867	40.867	4.904	40.867	40.867	3.986	33.215	33.215
2	2.769	23.074	63.941	2.769	23.074	63.941	3.263	27.192	60.407
3	1.085	9.041	72.982	1.085	9.041	72.982	1.509	12.575	72.982
4	.910	7.585	80.567						
5	.628	5.230	85.796						
6	.505	4.206	90.002						
7	.453	3.773	93.775						
8	.254	2.121	95.895						
9	.192	1.599	97.494						
10	.139	1.157	98.651						
11	.099	.826	99.477						
12	.063	.523	100.000						

**Table 6: Social Normality with Items Removed Total Variance Explained**

Component	Initial Eigenvalue			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.007	44.519	44.519	4.007	44.519	44.519	3.165	35.164	35.164
2	2.253	25.037	69.556	2.253	25.037	69.556	3.095	34.392	69.556
3	.909	10.101	79.658						
4	.601	6.674	86.331						
5	.488	5.424	91.755						
6	.275	3.055	94.810						
7	.258	2.863	97.673						
8	.120	1.336	99.009						
9	.089	.991	100.000						

**Table 7: Perceived Behavioral Control Total Variance Explained**

Component	Total	Initial Eigenvalue		Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Total	% of Variance	Cumulative %
1	3.630	27.921	27.921	3.630	27.921	2.765	21.270	21.270
2	2.138	16.450	44.370	2.138	16.450	2.155	16.578	37.848
3	1.545	11.886	56.256	1.545	11.886	1.821	14.005	51.853
4	1.204	9.263	65.519	1.204	9.263	1.777	13.666	65.519
5	.901	6.933	72.453					
6	.877	6.748	79.200					
7	.617	4.749	83.949					
8	.590	4.536	88.485					
9	.560	3.890	92.376					
10	.432	3.320	95.696					
11	.262	2.018	97.714					
12	.190	1.463	99.177					
13	.107	.823	100.000					

**Table 8: Perceived Behavioral Control with Items Removed Total Variance Explained**

Component	Total	Initial Eigenvalue		Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Total	% of Variance	Cumulative %
1	3.621	30.176	30.176	3.621	30.176	2.936	24.470	24.470
2	1.974	16.453	46.629	1.974	16.453	1.828	15.233	39.703
3	1.536	12.799	59.428	1.536	12.799	1.808	15.065	54.768
4	1.079	8.988	68.416	1.079	8.988	1.638	13.648	68.416
5	.887	7.390	75.806					
6	.751	6.259	82.065					
7	.603	5.021	87.086					
8	.537	4.474	91.560					
9	.435	3.621	95.181					
10	.272	2.264	97.446					
11	.198	1.650	99.096					
12	.108	.904	100.000					

**Table 9: Athletic Identity Rotated Component Matrix**

	Component		
	1	2	3
1. I consider myself an athlete	-.071	.032	.831
2. I have many goals related to sport.	.347	.113	.628
3. Most of my friends are athletes.	.917	-.034	.124
4. Sport is the most important aspect of my life.	.885	.122	.169
5. I spend more time thinking about sport than anything else.	.882	.134	.110
6. I need to participate in sport to feel good about myself.	.398	.738	-.241
7. Other people see me mainly as an athlete.	.352	.204	.577
8. I feel bad about myself when I do poorly in sport.	-.077	.778	.029
9. Sport is the only important thing in my life.	.111	.720	.314
10. I would be very depressed if I were injured and could not compete in sport.	.052	.682	.437

**Table 10: Attitudes Rotated Component Matrix**

	Component			
	1	2	3	4
1. Seeking treatment after each injury will help me perform better.	.317	.839	.270	.164
2. Seeking treatment after each injury will help me recover more quickly	.286	.880	.149	.080
3. Seeking treatment after each injury will allow me to return to my event more quickly.	.170	.919	.072	-.036
4. Seeking treatment after each injury will cause me to miss events.	.636	.148	.065	.433
5. Seeking treatment after each injury will cause me to miss out on activities other than rodeo.	.437	.057	.768	-.297
6. For me, seeking treatment after each injury is	.926	.103	-.023	.102
7. For me, seeking treatment after each injury is	.874	.390	-.077	-.070
8. For me, seeking treatment after each injury is	.869	.353	.041	-.058
9. My injury is not severe enough to seek treatment.	.076	.052	.185	.855
10. Seeking treatment after my injury makes me feel weak.	-.202	.262	.728	.241
11. Seeking treatment after my injury makes me feel shameful.	-.066	.113	.849	.265

**Table 11: Social Normality Rotated Component Matrix**

	Component		
	1	2	3
12. Most people who are important to me think that _____ seek treatment each time I get injured.	.588	-.146	.568
13. Most people whose opinion I value would approve of my seeking treatment each time I get injured.	.396	.636	.521
14. Most of my teammates seek treatment each time they are injured.	.698	-.459	-.259
15. My fellow teammates think I should seek treatment after each injury.	.827	-.187	.043
16. My close friends think I should seek treatment after each injury.	.696	-.425	-.137
17. My coach(s) think I should seek treatment after each injury.	.589	-.494	.073
18. My athletic trainer thinks I should seek treatment after each injury.	.527	.392	.190
19. My parents think I should seek treatment after each injury.	.721	-.613	.223
20. Generally speaking, how much do you care what your parents think you should do?	.578	.589	.028
21. Generally speaking, how much do you care what your close friends think you should do?	.582	.516	-.282
22. Generally speaking, how much do you care what your fellow teammates think you should do?	.555	.719	-.195
23. Generally speaking, how much do you care what your athletic trainer think you should do?	.789	.115	-.440

**Table 12: Social Normality with Items Removed Rotated Component Matrix**

	Component	
	1	2
15. My fellow teammates think I should seek treatment after each injury.	.375	.763
16. My close friends think I should seek treatment after each injury.	.125	.833
17. My coach(s) think I should seek treatment after each injury.	.007	.798
18. My athletic trainer thinks I should seek treatment after each injury.	.611	.127
19. My parents think I should seek treatment after each injury.	-.028	.948
20. Generally speaking, how much do you care what your parents think you should do?	.813	.073
21. Generally speaking, how much do you care what your close friends think you should do?	.829	.076
22. Generally speaking, how much do you care what your fellow teammates think you should do?	.911	-.039
23. Generally speaking, how much do you care what your athletic trainer think you should do?	.675	.506

**Table 13: Perceived Behavioral Control Rotated Component Matrix**

	Component			
	1	2	3	4
24. Whether or not I seek treatment after each injury is complete up to me.	-.112	.532	.131	.523
25. For me, seeking treatment after each injury is	.559	.056	-.354	.122
26. I am confident that if I wanted to I could seek treatment after each injury.	.265	.170	-.576	-.226
27. How often do you encounter unanticipated events that place demands on your time?	.780	-.139	-.253	-.217
28. How often do unanticipated family events place demands on your time?	.727	-.456	.214	.033
29. How often do unanticipated work events place demands on your time?	.706	-.206	.272	.430
30. If I encountered unanticipated events that placed demands on my time, it would make it more difficult for me to seek treatment for each injury.	.510	.083	.685	-.121
31. If I felt ill or tired, it would make it more difficult for me to seek treatment for each injury.	.420	.329	.041	-.396
32. If I had family obligations that placed unanticipated demands on my time, it would make it more difficult for me to seek treatment for each injury.	.388	.428	.248	-.564
33. If my class schedule placed unanticipated demands on my time, it would make it more difficult for me to seek treatment for each injury.	.289	.755	-.143	.239
34. My class schedule prevents me from seeking treatment	.379	.540	-.081	.580
35. If I had a lack of finances, it would make it more difficult for me to seek treatment for each injury.	-.193	-.196	.563	.514
36. I am unaware that medical services are provided to me here at the college.	.758	.153	.074	.055

**Table 14: Perceived Behavioral Control with Items Removed Rotated Component Matrix**

	Component			
	1	2	3	4
25. For me, seeking treatment after each injury is	.358	.477	-.028	.318
26. I am confident that if I wanted to I could seek treatment after each injury	-.139	.781	.133	-.015
27. How often do you encounter unanticipated events that place demands on your time?	.537	.661	.219	-.051
28. How often do unanticipated family events place demands on your time?	.837	.169	.105	-.232
29. How often do unanticipated work events place demands on your time?	.863	-.066	-.006	.201
30. If I encountered unanticipated events that placed demands on my time, it would make it more difficult for me to seek treatment for each injury.	.536	-.269	.625	-.053
31. If I felt ill or tired, it would make it more difficult for me to seek treatment for each injury.	.105	.260	.551	.151
32. If I had family obligations that placed unanticipated demands on my time, it would make it more difficult for me to seek treatment for each injury.	.040	.154	.810	.059
33. If my class schedule placed unanticipated demands on my time, it would make if more difficult for me to seek treatment for each injury.	-.028	.063	.226	.898
34. My class schedule prevents me from seeking treatment.	.379	.540	-.081	.580
35. If I had a lack of finances, it would make it more difficult for me to seek treatment for each injury.	-.193	-.196	.563	.514
36. I am unaware that medical services are provided to me here at the college.	.758	.153	.074	.055

**Table 15: Athletic Identity Item Statistics**

	Mean	Std. Deviation	N
1. I consider myself an athlete.	6.31	.655	39
2. I have many goals related to sport.	6.13	.951	39
3. Most of my friends are athletes.	6.03	.873	39
4. Sport is the most important aspect of my life.	5.90	.912	39
5. I spend more time thinking about sport than anything else.	5.95	.887	39
6. I need to participate in sport to feel good about myself.	4.95	1.395	39
7. Other people see me mainly as an athlete.	5.72	.916	39
8. I feel bad about myself when I do poorly in sport.	5.38	1.115	39
9. Sport is the only important thing in my life.	4.85	1.565	39
10. I would be very depressed if I were injured and could not compete in sport.	5.49	1.335	39

**Table 16: Attitude Item Statistics**

	Mean	Std. Deviation	N
1. Seeking treatment after each injury will help me perform better.	5.47	1.084	38
2. Seeking treatment after each injury will help me recover more quickly.	5.61	1.079	38
3. Seeking treatment after each injury will allow me to return to my event more quickly.	5.29	1.393	38
4. Seeking treatment after each injury will cause me to miss events.	5.55	1.267	38
5. Seeking treatment after each injury will cause me to miss out on activities other than rodeo.	5.55	1.058	38
6. For me, seeking treatment after each injury is	4.95	1.643	38
7. For me, seeking treatment after each injury is	5.13	1.597	38
8. For me, seeking treatment after each injury is	3.63	1.025	38
9. My injury is not severe enough to seek treatment.	5.16	1.685	38
10. Seeking treatment after my injury makes me feel weak.	5.50	1.268	38
11. Seeking treatment after my injury makes me feel shameful.	5.16	1.424	38

**Table 17: Social Normality Item Statistics**

	Mean	Std. Deviation	N
15. My fellow teammates think I should seek treatment after each injury.	5.32	1.313	37
16. My close friends think I should seek treatment after each injury.	5.35	1.338	37
17. My coach(s) think I should seek treatment after each injury.	5.35	1.317	37
18. My athletic trainer thinks I should seek treatment after each injury.	5.86	.887	37
19. My parents think I should seek treatment after each injury.	5.81	1.050	37
20. Generally speaking, how much do you care what your parents think you should do?	3.97	.866	37
21. Generally speaking, how much do you care what your close friends think you should do?	3.65	.919	37
22. Generally speaking, how much do you care what your teammates think you should do?	3.49	.932	37
23. Generally speaking, how much do you care what your athletic trainer think you should do?	5.14	1.437	37

**Table 18: Perceived Behavioral Control Item Statistics**

	Mean	Std. Deviation	N
25. For me, seeking treatment after each injury is	5.03	1.554	37
26. I am confident that if I wanted to I could seek treatment after each injury	3.97	.833	37
27. How often do you encounter unanticipated events that place demands on your time?	3.27	1.097	37
28. How often do unanticipated family events place demands on your time?	3.22	1.004	37
29. How often do unanticipated work events place demands on your time?	2.97	1.040	37
30. If I encountered unanticipated events that placed demands on my time, it would make it more difficult for me to seek treatment for each injury.	5.46	1.120	37
31. If I felt ill or tired, it would make it more difficult for me to seek treatment for each injury.	5.70	.777	37
32. If I had family obligations that placed unanticipated demands on my time, it would make it more difficult for me to seek treatment for each injury.	5.73	.804	37
33. If my class schedule placed unanticipated demands on my time, it would make it more difficult for me to seek treatment for each injury.	5.43	1.303	37
34. My class schedule prevents me from seeking treatment.	4.92	1.382	37
35. If I had a lack of finances, it would make it more difficult for me to seek treatment for each injury.	6.03	.866	37
36. I am unaware that medical services are provided to me here at the college.	4.08	1.831	37

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## **Discussion**

Prior to assessing treatment seeking behavior in any athletic population, validity and reliability of the measures should be determined. The development of the instrument used to assess treatment seeking behavior in collegiate rodeo athletes was guided by current literature, several theories including the Theory of Planned Behavior, the Health Belief Model, and the tailored design method.<sup>26,32,33</sup> The instrument design framework presented by the conducted research provides readers and other health professionals with a complete step-by-step process for designing and pilot-testing instrument. Although the athletic identity measurement scale has been used in previous research<sup>14,22,23,34</sup>, utilization of that scale within rodeo athletes has not been evaluated. In addition, the scales for this assessment had not been tested for validity and reliability in a population of rodeo athletes; therefore, rigorous testing of the measurements was necessary. The purpose of this study was to present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete's treatment seeking behavior.

Although several instruments previously existed for treatment seeking behavior, limited research is available for the collegiate rodeo athletes. Overall, the preliminary results from this study suggest that the developed instrument can be utilized as a framework for further research within the collegiate rodeo population in order to measure treatment seeking behavior. Although the items in this scale may demonstrate redundancy as suggested by several of the participants, predictive validity is high due to that contributing factor. The discussion portion includes the measurement properties of the developed instrument, translation to practice, limitations of the study, and suggested further research.

### *Translation to Practice*

Although further research is deemed necessary, the developed questionnaire has been evaluated for reliability and validity for use with collegiate rodeo athletes. In order for the developed instrument to be distributed, further evaluation of reliability and validity is warranted. For instance, another study conducted on the same sample population would improve reliability accuracy and may foster changes within the developed instrument. Upon improving the instrument, determining hierarchy of factors may be evaluated.

The four scales included in this instrument may play a vital role in treatment seeking behavior and can be utilized to evaluate the hierarchy of a certain scale influencing the athlete acting or lack thereof. For instance, participants may determine that influence from their teammates has more of an influence than their coaches when seeking treatment. Also, how the participant identifies themselves may have an influence on their treatment seeking behavior and can be evaluated with this instrument. Further development of this instrument may include similar groups whose identity hinders their ability to seek treatment. For instance, someone who identifies with being injured frequently may not want to seek treatment as they may lose their perceived identity. One's perceived identity such as a strong athletic identity may influence the behavior.

The athletic identity measurement scale was utilized in this instrument to evaluate how the person identified themselves as. Athletic identity has been defined as the degree in which a person identifies in an athletic capacity.<sup>22,34</sup> Therefore, the degree in which someone aligns with importance of sport in their life, feelings towards athletics, and how they identify as a person has an influence on their athletic identity. For researchers, such

a measurement may be utilized as a format for other high-risk sports or further evaluated with a larger population. Nevertheless, the results of this study indicate that the framework of the developed instrument can encourage researchers, clinicians, and practitioners interested in assessing treatment seeking behavior in collegiate rodeo athletes to utilize this instrument.

## **Conclusion**

There is a lack of research regarding rodeo athletes in addition to lack of a measurement tool to assess treatment seeking behavior. Rodeo athletes are at a high risk for injury and require medical treatment for many of their injuries.<sup>17,18,35-39</sup> The “machoism” characteristic as well as having an athletic mindset has been noted within rodeo athletes, therefore with those characteristics in mind, we developed a measurement specifically for them that aligned with several well developed constructs. The purpose of this study was to present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete’s treatment seeking behavior. Several models and theories were used to guide the development of the instrument.

The Theory of Planned Behavior and the health belief model were used as constructs to develop the items in the instrument. Constructs such as psychological readiness, situation and personal factors, and environmental factors were developed through the health belief model. The constructs suggested within the health belief model were further developed and changed within several constructs included in the Theory of Planned Behavior such as attitude towards a behavior, social normality, and perceived behavioral control. Personal characteristics of these constructs that align with someone who seeks treatment are; heavily influenced by peers who think seeking treatment is

necessary, believe they can control their actions and outcomes, and ability to overcome barriers. Personal characteristics of the constructs that align with someone who does not seek treatment are; careless about peers' opinions of seeking treatment, believe their actions are out of their control, and unable to overcome barriers. The development of the instrument was utilized by the outline in the Standards for Educational and Psychological Testing<sup>27</sup> and Dillman's 4 stages of pretesting<sup>26</sup> as a validation framework. Utilizing previous literature as a foundation of the developed item we were able to develop a reliable and valid instrument.

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### **III. SUMMARY AND RECOMMENDATIONS FOR FUTURE RESEARCH**

The primary purpose of this study was to present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete's treatment seeking behavior, utilizing, the following subjective measures questionnaires based on a Likert scale: (a) Athletic Identity Measurement scale (AIMS); (b) developed items that pertains to the contributing factors that affect treatment seeking behavior, and (c) several open-ended questions.

Collegiate rodeo athletes were recruited to complete the developed patient-oriented outcome measure to evaluate treatment seeking behavior. Participants were also instructed to answer demographic questions that evaluated age, gender, event, how many times they were injured, current injury status, who they sought treatment from, etc. Upon completion, reliability and validity for Athletic identity, benefits/behavioral beliefs/attitude, subjective normality, and perceived behavioral control scores were statistically analyzed. Cronbach Alpha scores were utilized to determine reliability and a factor analysis was utilized to determine validity for each scale.

To our knowledge we have developed the first instrument to assess treatment seeking behavior in collegiate rodeo athletes. Through statistical analysis, we assessed acceptable reliability and validity scores for utilizing the instrument on the preliminary sample population. The developed instrument is easy to score and does not take an extended amount of time to complete. Based upon the results of this study, these findings provide a framework for further research to evaluate treatment seeking behavior within collegiate rodeo athletes utilizing the developed instrument.

Several limitations to this study must be acknowledged. The low response rate provides limiting generalizability of the preliminary results in addition to increased sampling bias. In addition, recruitment of patients may have posed biased results. The sample was taken from several schools within Texas. Not only would a larger sample size increase strength of the study but also increased locations across the country would also play a contributing role. Small sample size also limited the generalizability of these results to a greater population. The results can only be generalized to the collegiate rodeo population of several schools in the state of Texas. Results from this study may not be generalized to athletes other than collegiate rodeo athletes and collegiate rodeo athletes from various schools other than the contributing ones. The component matrix was also affected by the small sample size as clarity of the comments was a challenge to determine. An increased number of respondents may have had an influence on the clarity of the component matrix. Additional limitations include but are not limited to lack of response from medical personal and coaches, lack of resources available, and events within driving distance. Initial limitations that were hypothesized before the duration of study, were as followed; the amount of times an athlete sought treatment and from who varied among subjects, as they have been treated at different facilities as well as different medical staff, the time allowed to collect data is limited to 1 year, sample size was be limited, subjects were only be included from the collegiate rodeo team that provide medical coverage for the sport, incentives cannot be given to motivate athletes to take survey due to participation in a collegiate event.

The proposed limitations hypothesized did play an influential role in the duration of the study. Although limitations existed in this study, to our knowledge the

development of this instrument is the first to assess treatment seeking behavior in collegiate rodeo athletes. This initial testing of the instrument provides insight into the constructs that measure treatment seeking behavior in collegiate rodeo athletes that could impact future investigation of this type of behavior and provide a framework for determining treatment seeking behavior in other high intensity sports.

We believe that a larger longitudinal study would improve reliability of the study. In order to do so, additional research to further refine the created instrument is suggested. After development of the instrument is sound, the instrument may be used by coaches and medical staff that works directly with the collegiate rodeo athletes and may help guide individual patient care and provide a more welcoming atmosphere.

When utilizing this instrument, the presence of similar responses should be evaluated to better understand the treatment seeking behavior of collegiate rodeo athletes in order to provide optimal care for the athletes. In addition, further research may be warranted for use on other high-risk populations such as military, hockey, football etc. as they are not identical and may produce varying results. Reliability and validity should be assessed in order to utilize this instrument in those populations. Additional items that could be added to this instrument include but are not limited to; time in season such as in or out of season, and status in school such as passing vs failing classes. The proposed additional questions were not evaluated in the created instrument; however, further research may include these elements as they may propose varying and influential results. Lastly, although open ended questions were asked in the instrument, they were not taken into consideration in the results section as only reliability and validity were assessed. The created questions posed interesting responses and may have a significant impact on the

patient's treatment seeking behavior. For instance, several of the participants stated that more "rodeo related people" provide medical treatment for them. Not knowing the sports specificities and requirements can hinder optimal care for not only rodeo athletes but all sports.

**APPENDIX SECTION**

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## APPENDIX A

### INSTITUTIONAL REVIEW BOARD

In future correspondence please refer to 5293

August 16, 2018

Kimberly Casper  
Texas State University  
601 University Drive  
San Marcos, TX 78666

Dear Ms. Casper:

Your application titled, "Treatment Seeking Behavior in Rodeo Athletes" was reviewed by the Texas State University IRB and approved. It was determined there are: (1) research procedures consistent with a sound research design and they did not expose the subjects to unnecessary risk. (2) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (3) selection of subjects are equitable; and (4) the purposes of the research and the research setting are amenable to subjects' welfare and produced desired outcomes; indications of coercion or prejudice are absent, and participation is clearly voluntary.

1. In addition, the IRB found you will orient participants as follows: (1) informed consent is required; (2) Provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data; (3) Appropriate safeguards are included to protect the rights and welfare of the subjects. (4) Compensation will not be provided for participation.

**This project was approved at the Expedited Review Level until July 31, 2019**

2. Please note that the institution is not responsible for any actions regarding this protocol before approval. If you expand the project at a later date to use other instruments, please re-apply. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office of Research Integrity and Compliance.

Report any changes to this approved protocol to this office. Notify the IRB of any unanticipated events, serious adverse events, and breach of confidentiality within 3 days.

Sincerely,



Monica Gonzales  
IRB Regulatory Manager  
Office of Research Integrity and Compliance  
Texas State University  
CC: Dr. Darcy Downey

This email message is an approved request for participation in research that has been approved or declared exempt by the Texas State Institutional Review Board (IRB).

Dear athletic trainers,

Do you have rodeo athletes that you or your staff provides medical coverage for? You may be a potential participant.

You are invited to participate in a research study to determine the most influential factors that contribute to treatment seeking behavior. The results of this study may provide vital information to you and your medical professional staff working towards successful treatment seeking with rodeo athletes.

You will have your athletes complete a short 15 minute survey that includes both multiple choice and short answer questions. This survey is only approved for research purposes and not for use of the general public.

The athletes can participate if they are a male or female collegiate rodeo athlete that has sustained a rodeo related injury or currently injured due to a rodeo injury. They will not be allowed to participate in the study if they have never sustained a rodeo related injury.

To participate in this research or ask questions about this research please contact us at:

Kimberly Casper, ATC, LAT  
Phone: 315-395-0490  
Email: [k\\_c486@txstate.edu](mailto:k_c486@txstate.edu)  
Darcy Downey, Ed.D.  
Phone: 512-245-2980  
Email: [dd09@txstate.edu](mailto:dd09@txstate.edu)

This project 5293 was approved by the Texas State IRB on August 16, 2018. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Denise Gobert 512-716-2652 – ([dgobert@txstate.edu](mailto:dgobert@txstate.edu)) or to Monica Gonzales, IRB Regulatory Manager 512-245-2314 – ([meg201@txstate.edu](mailto:meg201@txstate.edu)).

Kimberly Casper, a graduate student at Texas State University, is conducting a research study to obtain and evaluate the hypothesized factors for rodeo athletes that effect their rate to seek medical treatment. You are being asked to complete this survey because you are a rodeo athlete in the National Intercollegiate Rodeo Association (NIRA).

Participation is voluntary. The survey will take approximately 15 minutes or less to complete. You must be at least 18 years old to take this survey.

This study involves no foreseeable serious risks. We ask that you try to answer all questions; however, if there are any items that make you uncomfortable or that you would prefer to skip, please leave the answer blank. Your responses are anonymous.

If you have any questions or concerns feel free to contact Kimberly Casper or her faculty advisor:

**Kimberly Casper, Graduate student**  
**Health and Human Performance**  
**(315) 395-0490**  
**K\_c486@texasstate.edu**

**Darcy Downey, Professor**  
**Health and Human Performance**  
**(512) 245-2980**  
**dd09@texasstate.edu**

This project 5293 was approved by the Texas State IRB on August 16, 2018. Pertinent questions or concerns about the research, research participants' rights, and/or research related injuries to participants should be directed to the IRB chair, Dr. Denise Gobert 512-716-2652 – (dgobert@txstate.edu) or to Monica Gonzales, IRB Regulatory Manager 512-245-2334 - (meg201@txstate.edu).

If you would prefer not to participate, please do not fill out a survey.

If you consent to participate, please complete the survey.



Kimberly Casper, un estudiante de posgrado en Texas Universidad Estatal, está llevando a cabo una investigación Estudio Para obtener y evaluar los factores hipotéticos para los atletas del rodeo que efectúan su tarifa para buscar el tratamiento médico. Se le pide que complete esta encuesta Kuz usted es un atleta de rodeo en la Asociación Nacional de rodeo Intercolegial (NIRA).

La participación es voluntaria. La encuesta tendrá aproximadamente 15 minutos o menos para completar. Debes estar en Este 18 años de edad para tomar esta encuesta.

Este estudio no implica riesgos serios previsibles. Le pedimos que trate de responder a todas las preguntas; Hembargo, si hay alguna Artículos Que hacerte sentir incómodo o que usted preferiría saltar, por favor deje la respuesta en blanco. Sus respuestas son anónimas.

Si tiene alguna pregunta o Preocupaciones no dude en contactar con Kimberly Casper o su Asesor docente:

**Kimberly Casper, Estudiante de posgrado**  
**Salud y rendimiento humano**  
**(315) 395-0490**  
**K\_c486@texasstate.edu**

**Darcy Downey, profesor**  
**Salud y desempeño humano**  
**(512) 245-2980**  
**dd09@texasstate.edu**

Este proyecto 5293 fue aprobado por Lla Tejas Estado IRB en 16 de Augusto 2018. Las preguntas o preocupaciones pertinentes sobre la investigación, los derechos de los participantes en la investigación y/o las lesiones relacionadas con la investigación a los participantes deben dirigirse a la Cátedra IRB, Dr. Denise Gobert 512-716-2652 – (dgobert@txstate.edu) o a Monica Gonzales, IRB Gerente de regulación 512-245-2334 -(meg201@txstate.edu).

Si prefiere no participar, por favor no llene una encuesta.

Si usted acepta participar, por favor complete la encuesta.



## INFORMED CONSENT

**Study Title: Treatment Seeking Behavior in Rodeo Athletes**

**Principal Investigator: Kimberly Casper Co-Investigator/Faculty Advisor: Darcy Downey**

**Email: k\_c486@txstate.edu**

**Email: dd09@txstate.edu**

**Phone: (315) 395-0490 Phone:**

**(512) 245-2980**

This consent form will give you the information you will need to understand why this research study is being done and why you are being invited to participate. It will also describe what you will need to do to participate as well as any known risks, inconveniences or discomforts that you may have while participating. We encourage you to ask questions at any time. If you decide to participate, you will be asked to sign this form and it will be a record of your agreement to participate. You will be given a copy of this form to keep.

### **PURPOSE AND BACKGROUND**

You are invited to participate in a research study to learn more about the hypothesized factors for rodeo athletes that effect their rate to seek medical treatment. The information gathered will be used to provide vital information to the medical professional staff working towards successful treatment seeking with rodeo athletes compared to the athletes they may work with on a regular basis at a typical athletic training setting. You are being asked to participate because due to the current lack of knowledge on how medical professional should promote and support treatment seeking behavior in rodeo athletes.

### **PROCEDURES**

If you agree to be in this study, you will participate in the following:

- 15-minute survey

### **RISKS/DISCOMFORTS**

The survey will include a section requesting demographic information. However, individual person will not be able to be identifiable because name and contact information will not be requested. We will make every effort to protect participants' confidentiality. If you are uncomfortable answering any of these questions, you may leave them blank.

In the event that some of the survey or interview questions make you uncomfortable or upset, you are always free to decline to answer or to stop your participation at any time. Should you feel discomfort after participating, you may contact the South Austin Counseling Services, LLC for counseling services (512) 280-5315. They are located 1715 Farm to Market 1626 #102, Manchaca, TX 78652.

**BENEFITS/ALTERNATIVES**

There will be no direct benefit to you from participating in this study. However, the information that you provide will be used to benefit the medical professional staff working towards successful treatment seeking with rodeo athletes compared to the athletes they may work with on a regular basis at a typical athletic training setting.

**EXTENT OF CONFIDENTIALITY**

Reasonable efforts will be made to keep the personal information in your research record private and confidential. Any identifiable information obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. The members of the research team and the Texas State University Office of Research Compliance (ORC) may access the data. The ORC monitors research studies to protect the rights and welfare of research participants. Your name will not be used in any written reports or publications which result from this research. Data will be kept for three years (per federal regulations) after the study is completed and then destroyed.

**PAYMENT/COMPENSATION**

There will be no payment or compensation.

**PARTICIPATION IS VOLUNTARY**

You do not have to be in this study if you do not want to. You may also refuse to answer any questions you do not want to answer. If you volunteer to be in this study, you may withdraw from it at any time without consequences of any kind or loss of benefits to which you are otherwise entitled.

**QUESTIONS**

If you have any questions or concerns about your participation in this study, you may contact the Principal Investigator, Kimberly Casper: (315) 395-0490 or [k\\_c486@txstate.edu](mailto:k_c486@txstate.edu).

This project was approved by the Texas State IRB on August 16, 2018. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB Chair, Dr. Denise Gobert 512-716-2652 – ([dgobert@txstate.edu](mailto:dgobert@txstate.edu)) or to Monica Gonzales, IRB Regulatory Manager 512-245-2334 - ([meg201@txstate.edu](mailto:meg201@txstate.edu)).

**DOCUMENTATION OF CONSENT**

I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement and possible risks have been explained to my satisfaction. I understand I can withdraw at any time.

\_\_\_\_\_  
Printed Name of Study Participant

\_\_\_\_\_  
Signature of Study Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Person Obtaining Consent

\_\_\_\_\_  
Date



APPROVED:  
8/16/2018

EXPIRES:  
7/31/2019

## Consentimiento Informado

**Título del estudio: Tratamiento que busca comportamiento en atletas de rodeo**

**Investigador principal: Kimberly Casper**

**Co-investigador: Darcy Downey**

**Correo electrónico: k\_c486@txstate.edu**

**Correo electrónico: dd09@txstate.edu**

**Teléfono: (315) 395-0490**

**Teléfono: (512) 245-2980**

Este formulario de consentimiento le dará la información que necesitará para entender por qué se está realizando este estudio de investigación y por qué está siendo invitado a participar. También se describe lo que tendrá que hacer para participar, así como cualquier riesgo conocido, inconvenientes o molestias que pueda tener mientras participa. Le animamos a hacer preguntas en cualquier momento. Si usted decide participar, se le pedirá que firme este formulario y será un registro de su acuerdo para participar. Se le dará una copia de este formulario para conservarlo.

### Propósito y fondo

Usted está invitado a participar en un estudio de investigación para aprender más sobre los factores presumidos para los atletas del rodeo que efectúan su tarifa para buscar el tratamiento médico. La información recolectada se usará para proporcionar la información vital al personal médico del profesional que trabaja hacia el tratamiento acertado que busca con los atletas del rodeo comparados a los atletas que pueden trabajar con sobre una base regular en un ajuste atlético típico del entrenamiento. Se le pide que participe porque due a la falta de conocimiento actual sobre cómo el profesional médico debe promover y apoyar el tratamiento que busca comportamiento en Rodeo atletas.

### Procedimientos

Si usted acepta estar en este estudio, participará en los siguientes:

- Encuesta de 15 minutos

### Riesgos

La encuesta incluirá una sección solicitando información demográfica. Sin embargo, la persona individual no será capaz de ser identificable porque la información de nombre y de contacto no será solicitada. Haremos todo lo posible para proteger la confidencialidad de los participantes. Si le incomoda contestar alguna de estas preguntas, puede dejarlas en blanco. En acontecimiento que algunas de las preguntas de la encuesta o de la entrevista le hacen incómoda o enojada, usted es siempre libre de declinar contestar o de parar su participación en cualquier momento. Si se siente malestar después de participar, puede ponerse en contacto con el South Austin Counseling Services, LLC para servicios de consejería (512) 280-5315. Están ubicados 1715 granja al mercado 1626 #102, Manchaca, TX 78652.

### Ventajas/Alternatives

No habrá ningún beneficio directo para usted de participar en este estudio. Sin embargo, la información que usted proporciona se utilizará para.

Ventaja el personal médico profesional que trabaja hacia el tratamiento acertado que busca con los atletas del rodeo comparados a los atletas que pueden trabajar con sobre una base regular en un Atlético típico configuración de entrenamiento.

### **Amplitud de la confidencialidad**

Se harán esfuerzos razonables para mantener la información personal en su expediente de investigación privada y confidencial. Cualquier información identificable obtenida en relación con este estudio seguirá siendo confidencial y será divulgada solamente con su permiso o según lo requerido por la ley. Los miembros del equipo de investigación y el Texas Oficina de cumplimiento de la Universidad Estatal de investigación ORC) puede acceder a los datos. El ORC monitorea estudios de investigación para proteger los derechos y el bienestar de los participantes en la investigación. Su nombre no será utilizado en ningún informe escrito o publicaciones que resulten de esta investigación. Los datos se mantendrán por tres años (según las regulaciones federales) después de que el estudio se completó y luego destruida.

### **Pago/compensación**

No habrá pago o compensación.

### **La participación es voluntaria**

No tienes que estar en este estudio si no quieres. También puede rehusarse a contestar cualquier pregunta que no quiera contestar. Si usted es voluntario para estar en este estudio, usted puede retirarse de él en cualquier momento sin consecuencias de cualquier tipo o pérdida de beneficios a los cuales usted tiene derecho de otra manera.

### **Preguntas**

Si tiene alguna pregunta o inquietud acerca de su participación en este estudio, puede contactar al investigador principal, Kimberly Casper: (315) 395-0490 o [k\\_c486@txstate.edu](mailto:k_c486@txstate.edu). Este proyecto fue aprobado por el IRB del estado de Texas en 16 de Agosto 2018. Pertinente las preguntas o inquietudes sobre la investigación, los derechos de los participantes en la investigación y/o las lesiones relacionadas con la investigación a los participantes deben dirigirse al IRB Presidente, Dr. Denise Gobert 512-716-2652 – ([dgobert@txstate.edu](mailto:dgobert@txstate.edu)) o a Monica Gonzales, IRB Gerente de regulación 512-245-2334- ([meg201@txstate.edu](mailto:meg201@txstate.edu)).

**Documentación de consentimiento**

He leído este formulario y he decidido que voy a participar en el proyecto descrito anteriormente. Sus fines generales, el datos de la implicación y los posibles riesgos se han explicado a mi satisfacción. Entiendo que puedo retirarme en cualquier momento.

\_\_\_\_\_  
Nombre impreso del participante  
del estudio

\_\_\_\_\_  
Firma del participante del estudio

\_\_\_\_\_  
Fecha

\_\_\_\_\_  
Firma de la persona que obtiene el consentimiento

\_\_\_\_\_  
Fecha



APPROVED:  
8/16/2018

EXPIRES:  
7/31/2019

## APPENDIX C

### REVIEW OF LITERATURE

Seeking treatment for any injury in the athletic setting can hinder optimal clinical outcome. Treatment seeking behavior can be described as the process of committing an action that will accept to benefit ill-health.<sup>13</sup> Several can provide a framework to determine which factors to include in an instrument that contributes to certain behavioral actions an athlete may take to seek treatment from a medical professional. As defined, the health belief model identifies psychological readiness, situation and personal factors, and environmental factors that contribute to a person taking action.<sup>40,41</sup> Psychological readiness can be described as one's belief of the severity of their injury and if they should or should not seek treatment.<sup>40</sup> Environmental factors can be described as a factor that cannot be changed by one's self but is rather a factor they must work with as either that may provide a barrier or a benefit.<sup>40</sup> Although environmental factors may be out of one's control, perceptions can be modified and methods can be created to mitigate the impact of the environment. Situational and personal factors can be described as a factor that will influence to or not to take action.<sup>40</sup> In addition to situational and personal factors, a patient's perception of the level of control of certain factors is also influential in their actions. A patient's perception of benefits, barriers, and self-efficacy have an important influence on the likelihood they will seek treatment to better their overall health.<sup>41</sup> The influence on one's belief of lack of control or barriers can prevent them from engaging in a certain behavior that may be beneficial to their health. The behavioral action produced is based off determining the hierarchy of pros and cons of executing the behavior.<sup>42</sup> People who perceive that the benefits of an action outweigh potential negatively

consequences are more likely to take action. For instance, seeking treatment may provide beneficial results that strongly outweigh the potential barriers a patient must overcome. Factors such as approval or disapproval from peers can be a facilitating factor or a barrier the athlete may face.<sup>42</sup>

There are various psychological factors that provide barriers that influence someone to act include but are not limited to a lack there of; self-awareness and confidence, motivation, scheduling and education. Key factors that have a vital role in treatment seeking include positive task and coping self-efficacy as well as having a patient-clinician relationship.<sup>43,44</sup> To measure such factors, scales such as the Athletic Identity measurement scale (AIMS) and developed items were utilized in the development of the instrument. Rodeo athletes by nature attempt to ignore injury and continue participating, therefore health care professionals must understand the reasoning behind their actions. By utilizing an instrument that can assess treatment seeking behavior, athletic trainers can provide an environment that meets the needs of each individual sport and athlete.

Therefore, the purpose of this study was to: (a) present the methodology and preliminary findings to develop and validate an instrument to assess collegiate rodeo athlete's treatment seeking behavior A comprehensive search was conducted to include literature from 1992 to 2017 using multiple research databases such as Medline, EBSCOhost, CINAHL, SPORTdiscus and PubMed. Additional resources were found using references lists.

## **Treatment Seeking Behavior**

There are various groups that have been included in the literature related to treatment seeking behavior. The general population, military, and athletic population have been groups that have been highly researched in the current literature. Various constructs are seen within both groups and can overlap within several groups. However, despite literature in regard to injuries and characteristics of the rodeo athlete, to our knowledge there is no literature that includes rodeo athlete's treatment seeking behavior.

### ***General Population Treatment Seeking Behavior***

There are many contributing factors that influence people to seek treatment for various issues such as mental health and general health issues. A widely studied group is active military and veterans regarding mental health disorders.<sup>2,4,6,7,10</sup> The lack of treatment sought out from military members or veterans have been studied throughout literature due to the alarming rates found throughout the cohort. Self-stigma and self-reliance are important factors to determine motivation or lack thereof to seek treatment.<sup>5</sup> These factors and many more have been concluded to cause a lack of treatment seeking in the general population.

### ***Athletic Population Treatment Seeking Behavior***

Treatment seeking behavior of an athlete may differ from that of the general population. The athletic population is vulnerable to many psychological disorders as well as physical injuries.<sup>1</sup> Compared to non-athletes, athletes have less belief in social self and essential self.<sup>1</sup> Non-athletes have a more positive outlook on seeking treatment compared to athletes.<sup>1,12</sup> The athletic group has a different personality that sets them apart from the

general population as they identify physical activity as a central personality trait. Barriers that may prevent an athlete from seeking treatment may include but are not limited to self-stigma, public-stigma, lack of knowledge, not accepting the injury/disorder, and lack of emotional support.<sup>9,11</sup> According to Delaney et al., athletes tend to hide their symptoms from medical professional because they are worried that by revealing their injury, they may be prevented from participating in sport.<sup>3</sup> Being removed from participating can be detrimental to an athlete's athletic identity therefore creating a barrier for them to seek treatment. Certain cases have revealed that some individuals both seek treatment and do not, depending on the importance of their practice or game. During important athletic contests, athletes are less apt to seek treatment as they perceive that they will be taken out of play.<sup>3</sup> Components of creating good rapport with the athlete include listening to the athlete, providing empathy, confidence, and knowledge.<sup>3</sup> By educating the athlete that seeking treatment there will be a greater positive benefits long term than potentially missing several games.

Providing education on the severity of symptoms of injuries and potential hazard with playing with a severe injury such as concussions are important to take into consideration when motivating an athlete to seek treatment.<sup>3</sup> An athlete must be aware of their symptoms and the severity of them for the athlete to decide if their injury/disorder is severe enough to seek treatment.<sup>3</sup>

Sports such as football and ice hockey tend to hide their symptoms and resist seeking treatment due to the "masculine persona" they must maintain to socially succeed in their sport.<sup>1,3</sup> Contrarily, female athletes have a more positive rate of seeking treatment compared to their male counterparts due to the lack of "masculine persona" they do not

need to uphold.<sup>1</sup> By seeking treatments, athletes may feel as they are letting their team down.<sup>3</sup> Losing an athletes athletic identity may make them feel a loss of self and stigma to seek treatment from a medical professional. To avoid losing a sense of self athletes high in athletic identity tend to avoid seeking treatment.

### **Construct of Treatment Seeking Behavior in the General Population**

There are several suggested factors that may provide a barrier to treatment seeking behavior. Those factors include but are not limited to; self-efficacy, perceived behavioral control, perceived benefits, and perceived severity. A lack in self-efficacy, lack in perceived behavioral control, lack of perceived benefits, and perceived level of severity can alter a person's treatment seeking behavior. In order to seek treatment a person is most likely to perceive that they will have a beneficial outcome in doing so. The various benefits may outweigh the barriers in order to seek treatment.

Perceived benefits can be described as a belief an individual has that by acting, there will be positive results.<sup>41</sup> By seeking treatment a person must belief that in doing so they will have a positive outcome. The benefits must outweigh the barriers for an individual to act.<sup>41</sup> Although barriers may exist, if there are greater benefits the person will be more apt to seek treatment.

Cues to action are factors that encourage an individual to seek a certain action. If a person has had a positive experience or has seen someone acted and had a positive outcome, they are more apt to taking the same action.<sup>41</sup> Contrarily, if an individual has had a negative experience or has seen someone have a negative experience when they acted, they are less likely to take the same action.<sup>41</sup> Importance of providing a welcoming

environment as well as good report between the individual and professional is necessary for them to seek treatment.

### ***Self-Efficacy***

Self-efficacy can be described as a person feeling confident in their abilities to take a certain action.<sup>41</sup> In military service members, majority of the members “strongly disagreed” or “disagreed” that in order to overcome a mental disorder, psychological treatment should be completed by themselves.<sup>4</sup> As a person is confident in their abilities and acknowledges that seeking treatment is beneficial they are more capable of seeking treatment.

Self-stigma can also be associated with treatment seeking.<sup>2,4</sup> Self-stigma can be defined as, a perception of oneself in a positive or negative capacity.<sup>2</sup> In active military members, a lack of treatment seeking behavior and dropout from treatment is correlated with a negative self-stigma.<sup>2</sup> In addition, patient with post-traumatic stress disorder with a decrease in self-stigma, believe that seeking treatment leads them to feel weak, ashamed, and a loss of self-respect.<sup>6</sup> People who have a positive self-stigma tend to believe that they can self-treat or do not need help from outside resources.<sup>5</sup> These self-reliant individuals would rather take on the role of self-treating rather than looking weak in front of their peers although that in doing so, their optimal recovery time may not be met. In active military members, their perception of how others think of them can have an impact if they seek treatment or not.<sup>2</sup> Encouragement from one’s family and friends can help negate a negative stigma towards feeling ashamed for seeking treatment.<sup>4,6,40</sup> Motivation from peers as well as from within one’s self is important to seek treatment for any injury.

Actions that are seen as expensive, damaging, or an inconvenience are seen as barriers that a person may face.<sup>41</sup> The influence of health care professionals provides a determining factor if people seek treatment.<sup>8</sup> A health care professional is a vital source of information that must be portrayed with their patient in order to influence a working relationship between the two.<sup>8</sup> Communication with the person must be provided otherwise treatment will not be sought out.<sup>8</sup> For a person to seek treatment they must believe that management and detection of their injury will be beneficial.<sup>40</sup> If the patient does not agree or trust the medical professional they are working with, that patient is less likely to seek treatment.

### ***Perceived Behavioral Control***

Environmental factors may also contribute, as available resources may be scarce therefore action cannot be taken.<sup>40</sup> Resources may include lack of medical care available, cost of medical care, and overall time available.

A lack of time due to scheduling has also been concluded as a barrier people may face that deters them from seeking treatment.<sup>2</sup> A persons must have a schedule that aligns with the availability of the medical professional otherwise they will be less likely to seek treatment.

### ***Perceived Severity***

Perceived severity can be described as a belief an individual has that by acting, potential harm could be resulted.<sup>41</sup> In comparison, an athlete must be knowledgeable if their injury is severe enough to seek treatment.<sup>3</sup> An individual who has sustained an injury previous in life may have been able to recover without seeking treatment previously, therefore, if their symptoms are the same or similar they believe they do not

need to seek treatment for a new injury.<sup>3</sup> Although an individual may believe what they are doing is correct, education must be provided on the severity of the individual's injury to improve reporting of symptoms.<sup>3</sup>

### **Constructs for Treatment Seeking Behavior in the Athletic Population**

In addition to the constructs of treatment seeking behavior described with the general population, there are several additional possible constructs that contribute to treatment seeking behavior with the athletic population. The influence of a person's athletic identity and perceived barriers can provide a determining factor as well.

#### ***Athletic Identity***

Athletic identity can be defined as a person that perceives physical activity as a central factor in identifying their personal identity.<sup>14,19</sup> As a person becomes injured their athletic identity has become limited as they cannot partake in their activity to the same capacity that they once did.<sup>9</sup> As part of an athletic identity, athletes must obtain the capability to avoid stress while they participate. By blocking out stressful mindsets an athlete can continue to be successful. Athletes can apply this characteristic to seeking treatment to block perceived barriers in their life that may hinder a successful outcome. An athlete may feel a loss of their athletic identity because as they are injured they may feel disconnected from the team, not recognized as an elite athlete, and not receiving as much attention from coach.<sup>14</sup> Taking away an athlete's athletic capacity can make them feel as if they are not themselves anymore and they may do anything to achieve their previous state of identity. Therefore, treatment to achieve perceived recovery may be seen in athletes that have a high athletic identity. To preserve the athlete's self-worth, they want to return to their sport as quickly as possible by seeking treatment. The Athletic

Identity Measurement Scale (AIMS) has been used to identify ones designation with an athletic identity.<sup>1,14,22</sup>

While injured an athlete that has a high athletic identity may become depressed and feel a loss of self-due to being unable to play.<sup>14,15,45</sup> Within limited self-presentation the athlete feels athletically untalented, concerned physical appearance, and lack of energy.<sup>21</sup> Motivation to seek treatment and encouragement to maintain an athletic identity are necessary to communicate to the athlete from the coach.<sup>3,9</sup> In addition, coaches and medical professional can educate the athlete on a more comprehensive and successful return to play is a benefit of seeking treatment.<sup>3,9</sup> Due to the high “masculinity” characteristics of rodeo athlete’s, they may be more apt. to ignore their injury and avoid seeking treatment due to the potential of losing their athletic identity.

### ***Perceived Barriers***

There are many factors and situations that an athlete may believe is either helpful to seeking treatment or harming their treatment seeking. Athletes must overcome certain barriers that are hindering them to seeking treatment. Two types of perceived barriers that are seen in athletes are self-stigma and public stigma also known as subjective normality. The two categories have been determined as primary predictors for athletes to avoid seeking treatment.<sup>11</sup> Public stigma can be defined as a person’s belief of how others will perceive them if they act and self-stigma is how a person views themselves if they act.<sup>11</sup> Public stigma has a large influence on treatment seeking behavior because coaches, fans, teammates, and peers are all incorporated into the athletes lives.<sup>11</sup> A lack of encouragement from coaches, fans, teammates, and peers have been viewed as significant barriers that prevent athletes from seeking treatment.<sup>11</sup> Communication between the

athlete and coaches are vital for overcoming barriers of a negative public-stigma.<sup>11</sup> In the athletic world, athletes are believed to hold a strong and stoic persona and becoming injured or mentally unstable negates that persona.<sup>11</sup> A great amount of social pressure is placed on athletes to uphold to a certain standard and by seeking treatment they are not viewed in the same capacity as they once were.<sup>11</sup> To decrease the amount of negative stigma placed on the athlete, encouragement from extrinsic factors such as family and teammates can deter the negative views on seeking treatment.<sup>11</sup> In addition, sensation seeking has been determined as a trait that may hinder or facilitate treatment seeking. One trait that may be included is sensation seeking.<sup>46</sup> Sensation seeking may be defined as the willingness to partake in physical and social risk to act.<sup>46</sup> Athletes with higher levels of sensation seeking may seek treatment more than others with lower levels.<sup>46</sup>

### **Rodeo Athletes Injuries**

The injury rates among rodeos are some of the most alarming rates in sports. In the most recent data conducted by the Justin Sports Medicine Team, total number of injuries in all rodeo events has been determined as 2,876 throughout the years of 2011-2014. In bull riding, incidence of injury has been reported as 32.2 injuries per 1000 competitors.<sup>37</sup> More recent statistics conclude that there is a one in twelve likelihood that a rider will become seriously injured.<sup>47</sup> In perspective, in a two day professional bull riding (PBR) event, research suggests that 7.9 serious injuries will occur.<sup>47</sup> Sports such as boxing, hockey, and football that also have a high incidence have the highest incidence rate compared to more traditional sports. Due to the inclusion of animals in rodeo, there is an added influence to the high rate of incidence.<sup>17</sup> According to Brandenburg et al., in bull riding alone injury incidence accounts for 1400 injuries per 1000 hours.<sup>48</sup> In

comparison, bull riding injury incidence had 1.56 greater than amateur boxing, 1.75 times greater than semi-professional rugby, 10.3 times greater than American football, and 13.3 times greater than ice hockey.<sup>48</sup>

Rodeo is similar to other contact sports whereas injuries are ignored and thought of as a sign of weakness.<sup>17</sup> The rodeo cowboy by nature has a masculine characteristic that contributes to working through an injury or ignoring pain.<sup>17</sup> Ethics of the sport contribute to one core belief to commit to the sport by avoiding the athlete's health and well-being.<sup>17</sup> The athlete is seen as courageous by their peers and spectators if they ignore pain and return to their event despite injury.<sup>17,38</sup> The issue of injuries is often ignored as pain and injury are celebrated and accepted by the rodeo community.<sup>47</sup> After a severe accident the athlete may downplay the severity of physical, emotional, and psychological trauma.<sup>17</sup> Self-talk is a strategy used by many athletes and the term "cowboy up" is used to motivate them to avoid pain.<sup>17</sup> Although health-care is utilized at events, rodeo athletes themselves seldom seek medical treatment for minor injuries.<sup>37</sup> In several studies that collected injury rates, limitations that were suggested that was due to a volunteering reporting system, the injury rates may be underestimated.<sup>39,49</sup>

The psychological mindset of the rodeo athlete includes high levels of stress, independence, anxiety and goal seeking.<sup>18</sup> In addition, psychological traits of rodeo athletes included increased levels of toughness and outwardness as well as lower levels of depression, altered mood state, and fatigue compared to other athletes previously studied.<sup>18</sup> A positive correlation between the higher level of athleticism and commitment to the sport and higher levels of toughness and lower levels of becoming mental unstable.<sup>18</sup> The mood state patterns and traits align with those athletes that participate in

football, body-builders, and triathletes.<sup>18</sup> Although there is a large body of evidence regarding injury rates, currently there is no research involving treatment seeking behavior in collegiate rodeo athletes.

### **Development of an Instrument**

Instrument development begins with identifying the constructs that will be measured utilizing the items in the instrument.<sup>25</sup> Utilizing previous literature for the general and athletic population, common constructs were utilized in the development of this specific instrument. For instance, common constructs of athletic identity, perceived benefits and barriers, social normality, and attitudes were commonly noted in the literature and expressed in the items of the developed instrument. After determining the constructs to be included, evaluation of the constructs internal consistency is suggested. The Standards for Educational and Psychological Testing suggests that assessment of the psychometric properties are determined through validity, reliability, and acceptability.<sup>25</sup> By providing validity, reliability, and acceptability, the use of the instrument can be encouraged to be used by future researchers. Validity refers to the extent in which the measure achieves the purpose for what is intended and is determined through the degree of previous evidence and theories suggest to be true.<sup>27</sup> In order to assess validity, a factor analysis can be used. Reliability refers to the extent in which the instrument can be repeatedly used in a given population and reveal similar outcome measures.<sup>27</sup> In order to assess' reliability, Cronbach alpha scores can be utilized. Acceptability refers to the extent in degree of ease of the instrument.<sup>50</sup> Degree of ease can vary from various clinicians and researchers, however, duration of time to completion, ease of grading/de-coding, and language can have an influence on acceptability of the instrument by the individual.

## Summary

The literature examining treatment seeking behavior is an ongoing topic and will continue to cause issues for both athletes and clinicians working with them. This review focuses on various factors such as athletic identity, personal and situational factors, motivation, education, and scheduling that lead to treatment seeking in athletes. The factors and characteristics work in synonomous to determine if a person will or will not seek treatment. The current body of knowledge suggests that various factors influence the results and if a potential barrier is foreseen, the athlete will be discouraged from seeking treatment. Greater knowledge of factors that hinder treatment seeking is vital for a practitioner to conducting a successful environment for their athletes to enter.

The outcome of this study provided an instrument to assess collegiate rodeo athlete's treatment seeking behavior. Although the sport of rodeo is one of the most dangerous sports in the world, it has received minimal attention in literature. Within the treatment seeking behavior literature collegiate rodeo athletes have not been included. Moreover, few instruments have been developed and validated for administration with collegiate athletes. Medical professional provide care for rodeo athletes on the same level as other athletes, however, rodeo athletes were not taken into consideration in the literature that was reviewed. This study utilized preliminary findings to develop and validate an instrument to evaluate treatment seeking behavior in collegiate rodeo athletes. Further examination of these factors could contribute to athletic trainer's strategies on providing a comprehensive and feasible environment that is welcoming to the rodeo athletes.

To our knowledge, this study was the first to look at treatment seeking determinants within collegiate rodeo athletes. Although research has described the general population and various athletic groups, rodeo athletes have not been considered. Therefore, use of this instrument could provide medical staff information on how to avoid or minimize the lack of treatment seeking behavior in rodeo athletes. Ultimately aiding in the optimal care and promote treatment seeking within the sporting events of rodeos.

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**APPENDIX D  
INSTRUMENT**

**Volunteer Screening Questionnaire**

Are you currently a rodeo athlete in the National Intercollegiate Rodeo Association (NIRA)?

- Yes
- No

Do you currently have a rodeo related injury?

- Yes
- No

Have you ever had a rodeo related injury?

- Yes
- No

**ATHLETIC IDENTITY (AIMS)**

**Please read before answering.**

- Please an answer that best reflects the extent to which you agree or disagree with each statement in relation to your own sports participation.
- For example, if you always consider yourself an athlete at 100% choose closest to "strongly agree" and if you do not consider yourself an athlete at 100% choose closest to "strongly disagree".
- Please provide an answer for every question.

1. I consider myself an athlete.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

2. I have many goals related to sport.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

3. Most of my friends are athletes.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

4. Sport is the most important aspect of my life.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

5. I spend more time thinking about sport than anything else.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree

- Somewhat disagree
- Disagree
- Strongly disagree

6. I need to participate in sport to feel good about myself.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

7. Other people see me mainly as an athlete.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

8. I feel bad about myself when I do poorly in sport.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

9. Sport is the only important thing in my life.

- Strongly agree

- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

10. I would be very depressed if I were injured and could not compete in sport.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

## DEVELOPED INSTRUMENT

### Please read before answering.

- Please select the statement that most closely represents your perception.
- For example, if you 100% believe seeking treatment after each injury will help you perform choose "extremely likely" and if you 100% disagree with the statement choose "extremely unlikely".
- Please provide an answer for every question.

1. Seeking treatment after each injury will help me perform better.

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

2. Seeking treatment after each injury will help me recover more quickly.

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

3. Seeking treatment after each injury will allow me to return to my event more quickly.

- Extremely likely
- Moderately likely
- Slightly likely

- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

4. Seeking treatment after each injury will cause me to miss events.

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

5. Seeking treatment after each injury will cause me to miss out on activities other than rodeo.

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

6. For me, seeking treatment after each injury is

- Extremely easy
- Moderately easy
- Slightly easy
- Neither easy nor difficult
- Slightly difficult
- Moderately difficult
- Extremely difficult

7. For me, seeking treatment after each injury is

- Extremely good
- Moderately good
- Slightly good
- Neither good nor bad
- Slightly bad
- Moderately bad
- Extremely bad

8. For me, seeking treatment after each injury is

- Extremely effective
- Very effective
- Moderately effective
- Slightly effective
- Not effective at all

9. My injury is not severe enough to seek treatment.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

10. Seeking treatment after my injury makes me feel weak.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree

- Disagree
- Strongly disagree

11. Seeking treatment after my injury makes me feel shameful.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

12. Most people who are important to me think that \_\_\_\_\_ seek treatment each time I get injured.

- I should
- I should not

13. Most people whose opinion I value would approve of my seeking treatment each time I get injured.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

14. Most of my teammates seek treatment each time they are injured.

- Definitely true
- Probably true
- Neither true nor false
- Probably false

Definitely false

15. My fellow teammates think I should seek treatment after each injury.

Extremely likely

Moderately likely

Slightly likely

Neither likely nor unlikely

Slightly unlikely

Moderately unlikely

Extremely unlikely

16. My close friends think I should seek treatment after each injury.

Extremely likely

Moderately likely

Slightly likely

Neither likely nor unlikely

Slightly unlikely

Moderately unlikely

Extremely unlikely

17. My coach(s) think I should seek treatment after each injury.

Extremely likely

Moderately likely

Slightly likely

Neither likely nor unlikely

Slightly unlikely

Moderately unlikely

Extremely unlikely

18. My athletic trainer thinks I should seek treatment after each injury.

Extremely likely

Moderately likely

Slightly likely

- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

19. My parents think I should seek treatment after each injury.

- Extremely likely
- Moderately likely
- Slightly likely
- Neither likely nor unlikely
- Slightly unlikely
- Moderately unlikely
- Extremely unlikely

20. Generally speaking, how much do you care what your parents think you should do?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

21. Generally speaking, how much do you care what your close friends think you should do?

- A great deal
- A lot
- A moderate amount
- A little
- None at all

22. Generally speaking, how much do you care what your fellow teammates think you should do?

- A great deal

- A lot
- A moderate amount
- A little
- None at all

23. Generally speaking, how much do you care what your athletic trainer thinks you should do?

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

24. Whether or not I seek treatment after each injury is complete up to me.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

25. For me, seeking treatment after each injury is

- Extremely easy
- Moderately easy
- Slightly easy
- Neither easy nor difficult
- Slightly difficult
- Moderately difficult
- Extremely difficult

26. I am confident that if I wanted to I could seek treatment after each injury
- Definitely true
  - Probably true
  - Neither true nor false
  - Probably false
  - Definitely false
27. How often do you encounter unanticipated events that place demands on your time?
- Always
  - Most of the time
  - About half the time
  - Sometimes
  - Never
28. How often do unanticipated family events place demands on your time?
- Always
  - Most of the time
  - About half the time
  - Sometimes
  - Never
29. How often do unanticipated work events place demands on your time?
- Always
  - Most of the time
  - About half the time
  - Sometimes
  - Never
30. If I encountered unanticipated events that placed demands on my time, it would make it more difficult for me to seek treatment for each injury.
- Strongly agree
  - Agree
  - Somewhat agree

- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

31. If I felt ill or tired, it would make it more difficult for me to seek treatment for each injury.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

32. If I had family obligations that placed unanticipated demands on my time, it would make it more difficult for me to seek treatment for each injury.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

33. If my class schedule placed unanticipated demands on my time, it would make it more difficult for me to seek treatment for each injury.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree

- Disagree
- Strongly disagree

34. My class schedule prevents me from seeking treatment.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

35. If I had a lack of finances, it would make it more difficult for me to seek treatment for each injury.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

36. I am unaware that medical services are provided to me here at the college.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

37. During the past 4 weeks, I have sought treatment for injuries \_\_\_\_\_ times.

38. In the past, when I sought medical treatment I had a negative outcome.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

39. In the past, my injuries were not severe enough to seek treatment.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

40. In the past, why or why did you not seek medical treatment?

41. In the past, if you have been treated by a medical professional for your injury, do you believe it was beneficial to do so?

42. Is there anything that you would change about the medical services provided to you that would influence you to seek treatment more often?

43. Can you give any advice to fellow athletes who struggle with seeking treatment and how to overcome this barrier?

## Participant Demographic Questionnaire

*To be completed by all study participants who have been determined to be eligible to participate in this study and have provided consent.*

**Sex:**

- Male
- Female

**Age:**

Have you had a rodeo related injury in the past year?

- Yes
- No

Have you ever had a rodeo related injury?

- Yes
- No

Did your injury prevent you from participating in your event?

- Yes
- No

How long did your injury prevent you from participating in your event?

- 1-2 days
- 1-2 weeks
- 1 month
- Greater than 1 month

Did you seek treatment for your rodeo related injury?

- Yes
- No

If you sought treatment, from what type of medical professional did you do so? (May choose more than one)

- Athletic Trainer (AT)
- Chiropractor (DC)
- Occupational Therapist (OT)
- Nurse Practitioner (NP)
- Physical Therapist (PT)
- Physician (MD, DO)
- Physician Assistant (PA)
- Registered Nurse (RN)
- Emergency Medical Technician (EMT)

Were there any questions that you did not understand? Please provide a brief explanation if yes.

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