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Psychosocial Development of Junior Hockey Players

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Psychosocial Development of Junior Hockey Players

Alexander John Sturges

**Dissertation submitted
to the College of Physical Activity and Sport Sciences
at West Virginia University**

in partial fulfillment of the requirements for the degree of

**Doctor of Philosophy in
Sport & Exercise Psychology**

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**Psychosocial development; adolescence; elite sport development; athletic identity
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ABSTRACT

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Alexander John Sturges

Junior hockey is an elite sport development model that impacts over twenty thousand adolescent male athletes each year. Participation in junior hockey commonly requires adolescents, 16 to 21 years of age, to move away from home, disrupt academic plans, and participate in an intense elite sport development model during critical developmental years. The influence of junior hockey on long-term psychosocial development is widely unknown. The present research measured developmental outcomes of college-enrolled former junior hockey player utilizing the Student Development Task and Lifestyle Assessment (SDTLA) and the Athlete Identity Measurement Scale (AIMS). Statistical analyses examined the impact of various measures of the junior hockey experience on measures of athletic identity and psychosocial development, with comparisons also being made to a representative population of male college students. Findings indicate junior hockey's potential contribution to increased measures of athletic identity as well as delays in specific aspects of adolescent psychosocial development when compared to a normative population of male college students. Recommendations are provided for junior hockey shareholders towards improving the developmental outcomes associated with a junior hockey experience.

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Introduction

Junior hockey is an elite sport development system providing athletic opportunities for over 20,000 participants annually. Selection to join a junior hockey team represents a watershed moment in a player's career, as they are following in the footsteps of the many thousands of great professional players who taken the same path. The junior hockey system is widely celebrated across Canada and the United States as it is viewed as a shaper of men, a mold of professionals, and as a symbol of community prosperity and opportunity. However, despite its prominent role in advancing the careers of talented hockey players, little is known about the influence of this experience on adolescent psychosocial development. Junior hockey is unique compared with other mainstream North American sports in that it systematically challenges traditional academic, family, and social institutions. Furthermore, success in junior hockey is measured primarily through athletic outcomes (e.g. achieving a college scholarship or being drafted into the National Hockey League) and professionalized competitive forces hold substantial influence over the structuring of the system and therefore the experience for participants. Because of this, little attention is paid to the intricate process of adolescent development taking place throughout and after the junior hockey experience. To date, research on junior hockey has focused primarily on team and individual performance variables, and little work has been done to consider the potential impact of junior hockey on athletes moving through the system or transitioning to advanced developmental stages.

The modern junior hockey system is rooted in the growth and professionalization of Canadian ice hockey throughout the 20th century (Kidd & MacFarlane, 1972). Junior hockey's earliest form involved regional sponsors hosting local senior league teams that would compete for distinction across Canada and some Northern sections of the United States. Through the

initial years of organized ice hockey, teams were stocked with local talent and embraced the ideology of amateur competition (viewing sport as leisure instead of a legitimate vocational option). However, as the popularity of ice hockey grew, so did opportunities for money to be made by sponsors, promoters, and organizers. The introduction of new revenue streams and financial sponsorship led to private and community investments in larger, more spectator-friendly arenas, as well as the recruitment and payment of hockey talent brought in to help teams win (Whitson & Gruneau, 2006). As the sport of ice hockey grew and elite professional leagues began to organize, top franchises needed a system of identifying and developing young talent to eventually play for their elite teams, and therefore began sponsoring junior organizations. Conceived as a stepping stone to the pro ranks, junior hockey embodies characteristics of professionalized sport, emphasizing performance and athletic advancement to serve the interests of professional sport organizers. From small-town beginnings, junior hockey expanded exponentially, evolving to ideally suit the needs of higher level programs making selections from the junior hockey talent pool. Through this growth, junior hockey has become a major financial and social institution, as well as a source of pride for many communities across the United States and Canada.

The junior hockey landscape is diverse, involving over 600 registered teams in 60 different leagues. Although most leagues and teams are affiliated with national governing bodies of sport for either Canada or the United States, very little oversight or standardized regulation exists. Most of the operational and cultural norms of junior hockey are guided by traditions that have been passed down through generations of the sport, making junior hockey a unique but unifying experience for those who participate in the system. Despite diversity in locations, competitive levels, and offered resources of junior hockey teams and leagues, four fundamental

components can be identified that encapsulate the lived experience for participants within the junior hockey system. For the purposes of this study, these common factors have been established to conceptualize junior hockey and its key developmental influences. The four identified fundamental factors of junior hockey included: 1) athlete relocation, 2) new primary support systems, 3) academic disruption, and 4) the professionalized nature of the junior hockey environment.

First, the full-time relocation of junior hockey participants is a long-accepted practice of junior hockey. Junior hockey relocation involves moving adolescents away from their immediate families, established peer groups, and familiar community support systems, and placing them in unfamiliar environments subject to forces of highly competitive sport. Advocates for junior hockey have historically embraced the process of athlete relocation and see it as a benefit to the cultural integration of the athlete to the sport (Mason, Duquette, & Sherer, 2005). However, the impact of youth athlete relocation and the environments participants are being asked to integrate into have not been critically examined. Junior hockey often represents an individual's first experience living away from home. While relocation has long been viewed as a necessary step towards maturity, junior hockey's lack of oversight, and inconsistent policy regarding relocation and housing make this fundamental process worthy of further examination.

Second, physically relocating for junior hockey introduces personal challenges for participants as they are introduced to new towns and teammates to which they have limited if any social or emotional connection. This period of transition can have a range of behavioral and developmental consequences, including the formation of a strong emotional attachment with teammates, team personnel, and overall junior hockey culture (Finn & McKenna, 2010). Traditionally, the process for relocating junior hockey players involves the assignment of billet,

or host families (local families willing to house junior hockey players, often compensated by the team). Players live in their billet's home, share meals and experiences, and even take responsibility for chores and helping around the house. Familiarizing with a billet's rules and values can be a very impactful experience for junior hockey participants, especially because this may be their first experience living away from their own families (Dubé & Schinke, 2008). Junior hockey and its relocation practices have the potential to significantly impact an individual's development by means of exposure to unique social and interpersonal challenges.

The third feature of a junior hockey experience is the regular feature of academic disruption. Junior hockey participation typically occurs during the transition between high school and college. While many junior hockey players are required to maintain high school academic progress, players who have completed high school may not be enrolled in any schooling at all. While most current junior hockey teams and leagues encourage the continuation of academic progress, no enforceable guidelines exist, and no public data is available regarding individual or team academic progress. Furthermore, junior hockey requires a commitment to strenuous training and competition schedules, often conflicting with classes and/or participation in the school environment (Koshan, 2004). Overall, the fundamental structure of junior hockey lacks congruency with the academic goals and interests of participants, and long-term consequences of this process remain widely unknown.

The fourth fundamental experience of junior hockey is the professionalized approach in structuring this elite sport development system. Franchises and leagues are privately funded, and their primary purpose is to serve the financial interests of management and ownership groups, who yield substantial power and influence (Whitson & Gruneau, 2006). Teams are not required to make long-term commitments to players, despite holding considerable control over their

hockey careers. Players can be cut or traded at any time based on subjective performance standards, and franchises that fail to produce financial viability can fold or relocate, even after a single season. This instability contributes to a competitive, high-pressure environment that is found consistently throughout junior hockey's varying levels. Overall, junior hockey's competitive structure, together with required relocation, and social and academic disruptions represent four foundational factors that are found at all levels of junior hockey and have strong developmental implications.

Junior hockey occurs during the developmentally dynamic stage of adolescence. Adolescence is a period of intense change and identity exploration in which numerous meaningful developmental challenges must be overcome (Steinberg & Morris, 2001). Along with the challenge of establishing a stable and authentic sense of self-identity, adolescents also must navigate social interactions of ever-increasing complexity and significance. Normative adolescent development also calls for the healthy formation of career ambitions, ability to form proper interpersonal relationships, and to solidify oneself as an autonomous feature of the environment (Demos & Demos, 1969; Eccles et al., 1993). Taking into consideration the timing and potential intrusiveness of the junior hockey experience, an established understanding of the influence of junior hockey on adolescent development is crucial.

The transition from high school to college is a well-documented developmental process that has a significant impact on the lifespan trajectory of individuals. Development within the college environment is seen as constant, cumulative, and occurs on a continuum that can provide insight as to potential developmental outcomes (Winston, Miller, & Cooper, 1999). Research in this domain has identified specific developmental tasks associated with proper psychosocial development. Chickering and Reisser's (1993) seven developmental vectors (which include

developing competence, interdependence, mature interpersonal relationships, emotional management, sense of purpose, and integrity) have played a major role in shaping the accepted notion of appropriate college student development. The unique demands placed by junior hockey on academic progress produces many non-traditional college students, a population known to adapt differently to the college environment, and therefore may require specialized programming and accommodations (Macari, 2003). Given the long-term developmental significance of the college and university, factors that influence this experience are worthy of inquiry. Overall, the presence of junior hockey in key transitional periods of adolescence, as well as its potential influence on the transition to the college setting, emphasizes the importance of research on the development of individuals participating in this system.

Statement of Purpose

The present study explored the psychosocial development of college-enrolled former junior hockey players. The study also examined long-term developmental implications of junior hockey and offers recommendations to improve programming and participant experiences. Junior hockey is unique from other major sport development structures in North America in its scale (over 20,000 annual participants) and its cultural norms, (e.g., expected participant relocation) which actively disrupt sources of adolescent stability and support. Junior hockey's intense and professionalized system influences participants lives during a developmentally sensitive period in which the formation of a stable and secure identity is a primary feature. Furthermore, the role of junior hockey in normalizing the delay of college enrollment as well as its potential influence on college selection may play a role in altering the college experience and potentially in subsequent development. Overall, the present study examined the influence of

junior hockey on identity formation and subsequent psychosocial development in the college setting.

Primary research questions

The following three research questions were developed to address the primary purpose of the study and to guide the methodology:

1. What is the relationship between measures of junior hockey participation and measures of athletic identity in college-enrolled former junior hockey players?
2. In what ways does junior hockey participation influence measures of psychosocial development when compared to the normative sample population of male college students?
3. Are measures of athletic identity predictive of measures of psychosocial development in a population of college-enrolled former junior hockey players?

Hypotheses

The following represent the three primary research hypotheses, although methodology tested null hypotheses.

1. Measurements of junior hockey participation are related to measurements of athletic identity in college-enrolled former junior hockey players.
2. Junior hockey participation influences measurements of psychosocial development when compared to a normative sample population of college students.
3. Measurements of athletic identity are predictive of measurements of psychosocial development in college-enrolled former junior hockey players.

Methods

Introduction

The selected methodology examined the relationship between the junior hockey experience and developmental processes in a sample of college-aged, former junior hockey participants utilizing the collection and analysis of data from validated measurements of athletic identity and psychosocial development. Two primary measurement instruments were featured: The Athletic Identity Measurement Scale (Brewer, Van Raalte & Linder, 1993) to measure participant athletic identity, and the Student Development Task and Lifestyle Assessment (Winston, Miller, & Cooper, 1999) to measure aspects of psychosocial development within the college setting. The following chapter outlines the selected research parameters and methods of statistical analysis applied to address the primary research questions pertaining to the developmental impact of junior hockey. Theoretical underpinnings, data collection procedures, and aspects of research integrity are also discussed.

Theoretical Orientation

The present research adopted a positivist theoretical stance. A positivist perspective aims to test a theory or describe a unique experience through observation and measurement to establish the ability to predict and/ or control a phenomenon (Campbell & Stanley, 1963; Mackenzie & Knipe, 2006). A positivist perspective also assumes that observable phenomena are knowable through empirical and reductionist scientific inquiry, and that methodology should be constructed with precision and detail so that experimental conditions can be replicated by other researchers (O'Leary, 2004). Concepts of psychosocial development and athletic identity have generally agreed upon definitions previously established through the literature. However,

concrete understanding of these topics is an ongoing and fluid process, as evidenced by the varied theoretical positions and continued empirical work expanding to new and emerging contexts (Shutte & McNeil, 2015; Gucciardi, 2017; Hardy et al., 2017). The present research contributes to the literature by focusing on a specific realm of elite sport development system (junior hockey) and its potential impact on aspects of adolescent psychosocial development.

Previous Research

A pilot study utilizing an electronic version of the SDTLA on a sample of college-enrolled former junior hockey players was conducted by the principal investigator, testing the appropriateness of this methodology. SDTLA and demographic data was collected from a convenience sample of 45 male college students with varying levels of junior hockey experience. Participant scores were compared to the normative population of male college students on each developmental task. Results showed that standard scores produced by former junior hockey players were significantly lower on tasks of developing mature interpersonal relationships and establishing autonomy. Results were consistent with developmental principles proposed by Chickering and Reisser (1993) that college students display psychosocial development through time spent in college (scores for freshman were typically lower than seniors). Furthermore, the pilot study results suggested that junior hockey has a potential impact on former participants' ability to successfully transition and display appropriate psychosocial development in the college setting. Results of the pilot study generally supported the need for more research on the topic of psychosocial development on this population.

Research Design

The present study utilized a descriptive, correlational research design to address the research questions. Descriptive correlational design refers to research in which the size and direction of a relationship between variables is observed, however no direct attempt is made to control for or randomize participant experience (Shadish, Cook & Campbell, 2002). Descriptive correlational research evaluates connections between various behavioral outcomes and illuminates potential paths of inquiry that may provide a deeper understanding of the observed phenomenon (Lappe, 2000). Correlational designs are well-suited for studies that apply validated measures to novel contexts, especially when the observed behaviors are social and exploratory in nature. Furthermore, descriptive data collection can help formulate new research questions or guide future research (Anderson, 1998).

Sample inclusion criteria. College-enrolled males with experience playing junior hockey, whether they are still competing in the sport or not, were eligible to participate. The construct of junior hockey experience was defined (for this study) as time spent within any level of junior hockey for any duration of time. Participants were required to be currently enrolled in a college or university continuously for at least four weeks to ensure adequate acclimation to the environment (Winston, Cooper, Miller, 1999). Participants also had to be at least 18 years of age. No additional participant exclusion criteria regarding race, ethnicity, or nationality were featured.

Sampling procedure. The present study utilized non-probability purposive sampling. Purposive sampling, the deliberate choice of participants based on inherent characteristics, best meets the goals of the study in understanding a specific population through a theoretical framework (Tongco, 2007). Presently, no collective database of former junior hockey players exists, and therefore purposive sampling allows for data to be collected from the desired population in a timely manner (Battaglia, 2008).

Participant contact information was accessed by networking with hockey shareholders willing to provide contact information of potential participants. Current and former junior and collegiate hockey coaches/ organizers were contacted through email and phone to discuss possible inclusion of former junior hockey player contacts. Snowball sampling was also used in limited cases in which participants were willing to connect other individuals within their network to the research study (Goodman, 1961). Electronic correspondence in the form of email was established directly with potential participants, or indirectly through a coach/ organizer. This initial contact was followed by delivery of an anonymous and unique access code for the testing instrument (See Appendix F, G, & H for email correspondence templates). One initial email, and two follow-up emails were distributed individually to all participants to maximize survey completion (McPeake, Batterson & O'Neill, 2014).

Limitations to this method of participant recruitment included: a) potential selection bias (Ahern, 2005) towards successful junior hockey players (indicated by actualized opportunities to continue competing after junior hockey), b) surveying of a potentially non-representative sample (Jones, Murphy & Edwards, 2008) through exclusion of junior hockey participants who do not continue on to college, c) non-randomized participant sampling (Reeves, Deeks, Higgins & Wells, 2008) and d) potential for lower response rates (Robson, 2011) due to the format of the survey instrument. To counteract bias and establish trustworthiness, connections were established with as large and diverse a population of former junior hockey participants as possible, and specific inclusion/ exclusion criteria were followed to increase the generalizability of findings (McPeake, Batterson & O'Neill, 2014; Higgins et al., 2013; Hopkins, Marshall, Batterham & Hannin, 2008).

Electronic surveys. Electronic surveys were utilized for data collection. Online surveys can be an effective data collection tool that yield meaningful responses regarding a phenomenon within a specific target population with near universal internet access (Crawford, Couper & Lamias, 2001; Aldridge & Levine, 2001; Creswell, 2003). Electronic surveying has been found to be a reliable and efficient way to reach a large proportion of the sample population and is considered a valid form of data collection (Schleyer & Forest, 2000). For the present study, use of electronic surveying allowed for the most convenient data collection procedure, reaching the maximum possible sample population.

Both the SDTLA and the AIMS are approved and validated for use in electronic form by their authors (Winston, Milller & Cooper, 1999; Brewer, Van Raalte & Linder, 1993). Furthermore, both the SDTLA and AIMS have been successfully utilized in online versions in research settings with similarly aged populations (Coe-Meade, 2015; Turton, Goodwin, & Mayer, 2017; Wisdom, 2006). Benefits of employing these measures in an online format include ordered presentation of questions, reduction of non-responses, increased convenience for participants, lower cost, and faster data analysis (Aldridge & Levine, 2001; Granello & Wheaton, 2004).

Data collection procedures. Prior to data collection, approval was obtained from the West Virginia University Institutional Review Board for the Protection of Human Subjects to ensure ethical protection of all participants. Study procedures, outline of participant rights, and informed consent were presented to participants for approval prior to accessing the survey instrument. The full survey instrument (see Appendices B, C, & D) was administered to participants utilizing the Qualtrics software platform (Qualtrics, Provo, UT). Each participant received a unique and anonymous link to the instrument that was accessed at their convenience. All possible efforts

were made to ensure confidentiality and minimize collection of identifying information through the survey instrument, and no identifying information as included in data analysis proceedings. Data was secured and accessible through one password protected account, only accessible to the researcher. Downloaded data sets were stored on a password protected computer.

Sample size. Data collection remained open until desired sample size was reached. Estimates utilizing the GPower software suite (Faul, Erdfelder, Lang & Buchner, 2007) indicated that for a low-to-medium effect size, with power set at .95, and a .05 Pearson's coefficient, that approximately 210 participant responses would be required to obtain significant results. Desired sample size has further been determined through recommendations from similar studies as well as parameters in the literature regarding appropriate sampling procedures (Bartlett, Kotrlik & Higgins, 2001).

Statistical Analyses

Statistical analysis of the data was conducted in three separate steps and addressed each research question individually. All data analyses were conducted through the SPSS statistical software suite (SPSS Inc.) and Microsoft Excel. First, participant scores on the AIMS and SDTLA were calculated as defined by official assessment manuals and published data calculation procedures. Prior to conducting any statistical analyses, the data set was examined for missing/ incomplete responses, and multicollinearity (Schroeder, Lander & Levine-Silverman, 1990). Cook's distance measure was conducted to test for and remove unduly influential outliers in the data set. In addition, SDTLA task and subtask data missing more than 12% of responses were not included in the data analysis, as recommended by the authors (Winston, Miller, & Cooper 1999). AIMS measures missing any of the seven question responses were also excluded (Brewer, Van Raalte & Linder, 1993). Participant total scores on the AIMS were reflected by a

cumulative score of the seven answered questions, ranging from a minimum of 7 to a maximum of 49. Scores on each of the SDTLA's five tasks/scales were converted to standard scores, allowing individual scores to be compared to the normative population.

Research question 1 variables. Research question one examined the relationship between junior hockey experience and athletic identity. To address this question, two demographic variables and two questions related to perceived enjoyment and benefit of the junior hockey experience were collected through the survey instrument and served as independent variables. The four independent variables included: a) number of years of junior hockey participation, b) number of junior hockey teams played for, c) "I enjoyed my junior hockey experience", and d) "junior hockey was beneficial to my college experience". The two questions regarding perceived enjoyment and benefit of the junior hockey experience were scored on five-point Likert scales. The dependent variable was represented by cumulative athletic identity scores assessed by the AIMS, ranging from 7 to 49 (Brewer, Van Raalte & Linder, 1993).

Research question 1: Junior hockey experience and athletic identity. Research question one addressed the relationship between measures of junior hockey participation and the athletic identity measurement scale (Brewer, Van Raalte & Linder, 1993). Junior hockey experience was measured by four variables; number of years played, number of teams played for, and rating of perceived enjoyment and benefit. Pearson product correlation coefficient, r , was calculated to determine the relationship between two key demographic variables (i.e., years in junior hockey and number of teams played for) and athletic identity. Bivariate correlations are used to assess the degree of relationship between two continuous variables (Tabachnick & Fidell, 2001). Results of this test are intended to assess the relationship between athletic identity and factors

associated with junior hockey experience, including years played, and number of teams played for, and ratings of perceived enjoyment and benefit.

Research question 2 variables. Research question two examined the relationship between college-aged former junior hockey players and non-junior hockey playing college students on measures of psychosocial development through the SDTLA (Winston, Cooper, & Miller, 1999). Comparisons were drawn between former junior hockey players and a normative population of male college students categorized by academic class standing. Between each academic class standing (freshman, sophomore, junior, and senior), four developmental measures of psychosocial development were assessed. The four SDTLA tasks/ scales included; a) academic autonomy, b) mature interpersonal relationships, c) clarifying sense of purpose, d) salubrious lifestyle scale.

Research question 2: Psychosocial development compared to normative population.

Research question two examined the relationship between psychosocial development in former junior hockey players in comparison to normative scores for male college students. Participant SDTLA data was stratified based on academic class standing to allow for comparison to normative data. Comparisons of converted T-scores were conducted between participant SDTLA task and subtask scores with normative sample population scores provided by the authors. This comparison determined if mean score on specific tasks for the research sample were significantly different than established norms for male college students (Tambachnick & Fidell, 2001).

Research question 3 variables. Research question three examined the relationship between psychosocial development and levels of athletic identity in former junior hockey players. To address this question, participants were stratified according to their AIMS scores into low, medium, and high athletic identity groups. The middle group was formed based on +/- 0.5

standard deviation from the sample mean. High athletic identity was represented by scores more than 0.5 standard deviations above the sample mean, and low athletic identity was represented by scores more than .05 standard deviations below the sample mean. The research question was addressed by comparing the stratified groups of athletic identity (measured through the AIMS), with participant aggregate scores on the Student Development Task & Lifestyle Assessment (SDTLA) for the established primary developmental tasks.

Research question 3: Athletic identity and psychosocial development. Participants were stratified according to their AIMS scores into low, medium, and high athletic identity groups. The middle group was formed based on ± 0.5 standard deviation from the sample mean. High athletic identity was characterized by scores more than 0.5 standard deviations above the sample mean, and low athletic identity was characterized by less than scores more than .05 standard deviations below the sample mean. The stratified groups of AIMS scores were used as independent variables and run in a one-way Multivariate Analysis of Variance (MANOVA), testing mean differences between athletic identity and the four scales/ task measures of the SDTLA (Tabachnick & Fidell, 2001). This test explored the predictive value of athletic identity scores and specific aspects of psychosocial development in college-enrolled former junior hockey players.

Summary

The present methodology was determined to be the best means to address the primary research questions based on a thorough empirical review of the literature. The methodology addressed the examined relationships between junior hockey experience, athletic identity, and psychosocial development in a college-aged population. The sample population was defined as college-enrolled former junior hockey players, having been in college for at least four weeks. The

electronic survey instrument for this study included demographic questions, the AIMS, and the SDTLA. Data analyses was conducted to make comparisons between the data sets and to address the three primary research questions outlined previously. Responsible and ethical research practices were observed as defined by the Institutional Review Board, and participant rights to confidentiality were enforced throughout the data collection and analysis process.

Results

Data Preparation

Data collection conducted through the Qualtrics online platform was closed when pre-determined sampling thresholds were reached. From a potential audience size of 563 participants, 344 participants accessed the survey and 258 surveys were submitted (75% completion rate for surveys opened by participants). Collected data was converted and downloaded through Qualtrics to SPSS v.25 for analysis. All remaining identifying information was removed from the data set in preparation for analysis. In addition, score adjustments for individual items were entered according to the published SDTLA scoring key before scale, subtask, and task scores were calculated.

Following a preliminary review of participant data, specific factors were determined to be grounds for removing cases from the data set. Total sample size progressed through three adjustments based on the requirements of each of the three research questions. For research question one, participants were removed if they did not indicate having any junior hockey experience (based on years played or teams played for). Graduate students (N=10) were also removed from the sample prior to analysis. A final exclusion criterion implemented prior to analysis for research question one involved the SDTLA response bias scale. The SDTLA includes a six-item response bias scale within the instrument, through which the authors

recommend removal of participant scores on this scale equal to or exceeding 3 of a possible 6 (Winston, Miller, & Cooper, 1999). Although research question one did not involve the SDTLA instrument, the indication of a high participant social desirability rating was determined to be a threat to AIMS and demographic measurements, both administered at the same time as the SDTLA. Analysis for research question one included N=215 participants.

The data set from research question one was established then adjusted in preparation for analysis with research question two. Exclusion criteria for this question included participant responses that fell below 75% completion due to their inability to provide complete SDTLA task or subtask scores. Although the authors of the SDTLA provide instructions for customized scoring of assessments with missing data, it was determined that all participants would be scored the same. If a participant's subtask or subsequent task score was incomplete, that measure was excluded in the final analysis. Surveys with 75%-100% completion were retained for analysis only on task/ subtasks where all required items were completed, and scores were able to be calculated. Analysis for research question two included N=203 participants.

One final exclusion criterium was utilized for research question three. Incomplete participant responses (below 100%) were not included in the MANOVA analysis, which reduced the sample to N=199 participants.

Overview of Data Analysis

The purpose of the study was to investigate the impact of junior hockey participation on identity formation and psychosocial development in a population of college-enrolled former junior hockey players. Research question one was examined by running bivariate correlations between junior hockey experience (as measured by years of junior hockey played, number of

junior hockey teams played for, and personal ratings of enjoyment and benefit) and athletic identity (as measured by the seven item AIMS). Research question two was addressed by comparing differences on standardized scores between former junior hockey players and the norm sample population on task and subtask measures of the SDTLA. Research question three was addressed through mean score comparisons of task measures of psychosocial development through the SDTLA and athletic identity scores as measured by the AIMS.

The following results are presented in this chapter: (a) description of participants, (b) description of AIMS scores, (c) description of SDTLA task and subtask scores, and (d) the results of a one-way multivariate analysis of variance (MANOVA).

Demographic Characteristics of the Participants

The utilized sample population was comprised of 215 college-enrolled former junior hockey players. All participants were male and over the age of 18. The average participant was 22 years old. Demographic summaries of ethnicity, age, class rank, and international status are provided in tables 1-4.

Table 1

Number of Participants by Ethnicity

<u>Ethnicity Label</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
White	207	196	192
Black	1	0	0
American Indian or Alaskan Native	0	0	0
Asian	5	5	5
Native Hawaiian or Pacific Islander	1	1	1
Hispanic	1	1	1
Totals (N)	215	203	199

Table 2

Number of Participants by Age

<u>Age</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
19	5	4	4
20	29	27	27
21	43	41	39
22	57	55	54
23	41	39	38
24	24	23	23
25	9	8	8
26	1	1	1
27	1	1	1
Totals (N)	215	203	199

Mean age = 22

*Five participants did not register age information

Table 3

Number of Participants by Class Rank

<u>Class Rank</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
Freshman	42	40	38
Sophomore	57	51	51
Junior	61	59	58
Senior	55	53	52
Totals (N)	215	203	199

Table 4

Number of Participants by International Student Status

<u>Classification</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
International Student	36	35	35
Not International Student	179	168	164
Totals (N)	215	203	199

Hockey Experience. Demographic information pertaining to experience within the sport of hockey was measured through self-reported current hockey status (level of participation), number of years spent playing junior hockey, number of junior hockey teams played for, number of school changes due to junior hockey, and number of residence changes due to junior hockey.

Two additional questions were included regarding participant perception of enjoyment and benefits of their junior hockey experience (“I enjoyed my junior hockey experience”, and “junior hockey was beneficial to my college experience”). These questions were scored on five-point Likert scales ranging from “strongly disagree” to “strongly agree”. Frequency and mean scores for these questions are provided in Tables 5-11.

Table 5

Number of Participants by “Current Hockey Status”

<u>Status</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
Competing in college (NCAA/ CCAA level)	114	113	112
Competing in college (Club level)	94	84	82
Participating in college (rec./ intramural)	3	2	1
Not participating in hockey	4	4	4
Totals (N)	215	203	199

Table 6

Number of Participants by “Junior Hockey Years”

<u>Years</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
0-1	22	19	19
1-2	74	71	69
2-3	54	49	49
3-4	42	41	39
4-5	23	23	23
Totals (N)	215	203	199

Mean years = 2.9

Table 7

Number of Participants by “Number of JH Teams Played For”

<u>Teams</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
1	76	71	70
2	64	60	60
3	38	36	34
4	20	20	20
5	17	16	15
Totals (N)	215	203	199

Mean number of teams = 2

Table 8

Number of Participants by "School Changes Due to JH"

<u>Changes</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
0	7	6	6
1	97	92	91
2	64	61	60
3	24	23	23
4	18	16	14
5	5	5	5
Totals (N)	215	203	199

Mean school changes = 1.8

Table 9

Number of Participants by "Residence Changes Due to JH"

<u>School Changes</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
0	1	1	1
1	51	47	46
2	38	36	36
3	44	42	42
4	37	34	33
5	44	43	41
Totals (N)	215	203	199

Mean residence changes = 2.9

Table 10

Participant Rating of "Enjoyment" of Junior Hockey Experience

	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
Strongly disagree	2	2	1
Somewhat disagree	5	5	5
Neither agree nor disagree	10	9	9
Somewhat agree	55	49	48
Strongly agree	143	138	136
Totals (N)	215	203	199

Table 11

Participant Rating of "Benefit" of Junior Hockey Experience

	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
--	------------	------------	------------

Strongly disagree	2	2	1
Somewhat disagree	5	4	4
Neither agree nor disagree	17	15	15
Somewhat agree	44	43	42
Strongly agree	147	139	137
Totals (N)	215	203	199

Participant frequency scores and descriptive statistics for the AIMS are provided in Tables 12-13.

Table 12

Descriptive Statistics for Participant AIMS Scores

	<u>N</u>	<u>Min</u>	<u>Max</u>	<u>Mean</u>	<u>SD</u>
RQ1	215	18	49	40	5.4
RQ2	203	18	49	40	5.4
RQ3	199	21	49	40	5.2

Table 13

Frequency Distribution of Participant AIMS Scores

<u>AIMS Score</u>	<u>RQ1</u>	<u>RQ2</u>	<u>RQ3</u>
18-21	2	2	1
22-25	1	1	1
26-29	8	6	6
30-33	18	13	13
34-37	32	28	27
38-41	76	61	60
42-45	65	60	59
46-49	37	32	32
Totals (N)	215	203	199

Analysis: Research Question One

Research question one addressed the relationship between the athletic identify (measured by the AIMS) and junior hockey experience (measured by years spent in junior hockey, number of teams played for, and personal perception of benefit and enjoyment of the experience).

Because junior hockey experience was a requirement for participation in this study, the lowest value for participation was one year (i.e., participant years included time spent up to or equaling

that number). Significant positive correlations were observed between AIMS score and the variables representing time, perceived enjoyment, and perceived benefit. Bi-variate correlation results are presented in Table 14.

Table 14

Bivariate Correlation: AIMS and Junior Hockey Experience

		<u>Time (years)</u>	<u># of teams</u>	<u>“Enjoyable”</u>	<u>“Beneficial”</u>
<u>AIMS</u>	Pearson	.2*	.083	.2*	.18*
	Correlation				
	Sig. (2-tailed)	.004*	.228	.003*	.009*
	Sum of Squares and Cross-products	260.2	117.7	176.1	166
<i>N = 215</i>					

Significance marked at the .05 level.

Analysis: Research Question Two

Data collected for the SDTLA was sorted by current academic standing and then converted into standard scores according to the published scoring instrument provided by the SDTLA authors. Means and standard deviations derived from the normative sample population were used to compute individual standard T scores for each participant for each sub-scale and scale of the SDTLA. The purpose of converting participant raw scores to T scores was for comparison to the normative sample population, represented as 50 for each category. Participant scores .5 standard deviations above or below the published norm (+/- 5) are considered significant findings according to the SDTLA technical manual (Winston, Brewer, & Cooper, 1999). Average scores for each academic class standing are presented below (See Table 15).

Analyses revealed significant differences between the sample population and the norm in two subtask categories and on the Salubrious Lifestyle Scale. On the Academic Autonomy

subtask, sophomores, juniors, and seniors scored below the published norms. For the Instrumental Autonomy subtask, scores for sophomores also fell below the expected range, while scores for the other three class ranks neared falling significantly below. Both subtasks containing significantly lower participant scores fell within the Developing Autonomy Task.

Table 15

SDTLA Subtask Standard T Scores by Class

Class	Career Purpose	Peer Relationships	Lifestyle Planning	Tolerance	Cultural Participation	Educational Involvement	Academic Autonomy	Interdependence	Instrumental Autonomy	Emotional Autonomy
FR	48.1	51.4	46.5	49.1	54.8	45.2	46.4	48.8	45.3	50.9
SO	46.3	47.1	46.7	46.4	53.9	46.3	43.9*	48.9	44.3*	48.3
JU	46.5	49.7	46.3	50.0	52.1	45.7	43.4*	49.1	45.1	52.0
SR	46.1	50.6	46.0	47.2	53.4	48.2	44.5*	47.7	45.7	51.7

* Indicates score $>.5$ +/- standard deviations from the normative sample

Significant differences were also found in the Salubrious Lifestyle Scale, one of the instruments primary measurements (See Table 16). Cumulative scores from Freshman and Seniors on this measure fell below the expected range.

Table 16

SDTLA Task Standard T Scores by Class

Class	Salubrious Lifestyle Scale	Establishing and Clarifying Purpose Task	Mature Interpersonal Relationships Task	Developing Autonomy Task
<u>FR</u>	43.1*	47.9	50.1	47.3
<u>SO</u>	48.2	47.7	45.8	45.9
<u>JU</u>	48.3	46.9	49.6	47.3
<u>SR</u>	44.7*	48.1	48.2	47.1

* Indicates score $>.5$ +/- standard deviations from the normative sample

Discussion

Introduction

Junior hockey is an influential sport development system that impacts thousands of adolescent hockey players prior to their developmental transition to college and early adulthood. Despite the size of this system (approximately 20,000 annual participants in 250 teams in 40 leagues across North America), very little work has been done to understand the effect of a junior hockey experience on participants. Unique from other sport development models, junior hockey embraces a series of non-traditional organizational norms, including the requirement of participants to move away from home, change schools, and alter educational trajectory. Thus, the purpose of the present research was to better understand developmental outcomes of a junior hockey experience through measurements of athletic identity and psychosocial development in a population of college-enrolled former junior hockey players.

Research Question One Discussion

Research question one hypothesized that the junior hockey experience would influence the amount of athletic identity reported by former junior hockey participants. Junior hockey experience was represented by time spent (in years) within the system, number of teams played for, as well as personal reflection on enjoyment and benefits of the junior hockey experience. The hypothesis was partially supported, as significant positive correlations were found in self-reported “time spent” ($r = .2$), ratings of personal enjoyment ($r = .2$), and ratings of perceived benefit of junior hockey ($r = .18$) yielded a significant correlation of at the .01 level. Number of teams played for was not significantly correlated with scoring on the AIMS. These findings indicated that more time spent in junior hockey is associated with the greater athletic identity

formation when transitioning to the college setting. Results also indicated that higher enjoyment and perceived benefit of junior hockey were both associated with greater athletic identity formation.

Results indicating a positive relationship between athletic identity and time spent within elite sport settings are consistent with other findings on athletic identity in elite sport settings. In a sample of over 1000 nonathletes, recreational athletes, and current collegiate athletes, Nasco and Webb (2006) found that numerous factors, including length of participation, played important roles in the formation of the athletic identity. Athletic identity formation involves powerful socialization forces, the development of which can be attributed to two main factors. First, the early presence of athletics in a child's life forges a personal bond with the physical activity (Harter, 1990). Second, evaluations of athletic performances (or the application of an athletic identity) are public events in which failure or success are immediately apparent (Brewer, Van Raalte & Linder, 1993). Additional environmental factors such as team selection and group membership also may play roles in influencing the domain specific self-conceptualizing process of athletic identity (Grove, Fish & Eklund, 2004). Therefore, feelings of collective identity can serve as a source of great personal meaning, positive affect, as well as self-esteem (Krane, Barber & McClung, 2002). Access to team membership (or being selected for a desirable team) serves to reinforce a strong athletic identification, whereas being cut from a team has been found to significantly decrease athletic identity within a two-week period (Grove, Fish & Eklund, 2004).

Athletic identity can also serve as a self-enhancement/self-protective measure in the challenging context of sport. According to Snyder and Higgins (1988), individuals consistently engage in a process called "reality negotiation" in which they work to promote personal standing

and protect the sense of self from social threats. The fluid nature of athletic identity has been linked to this process of reality negotiation in that athletes are often challenged to preserve not only their self-view, but also the impression delivered to others of competence and control (Taylor & Brown, 1988). Athletes consistently find themselves in situations that threaten perceived or actual competence and control. Therefore, it would be practical to anticipate heightened measures of athletic identity in a population of adolescent athletes placed in environments of high-stakes social groupings in which evaluations of deeply personally important activities are conducted in very public settings. As is the case with junior hockey, a player's self-protective processes are working to compensate for public evaluations of athletic performance as well as perceived judgements of their choice to invest so heavily in enhancing their athletic career.

Implications of high athletic identity scores found in athlete populations have been studied extensively (Brewer et al., 1993; Cornelius, 1995). High athletic identity scores have been associated with mood disturbances following athletic injury, identity foreclosure, academic disengagement, proneness for use of performance enhancing drugs, unrealistic sport expectations, and problems with transition following career termination (Perna, Zaichkowsky & Bocknek, 1996). High athletic identity of former junior hockey players appears problematic given the difficult transitions college students go through, specifically college student athletes. However, some research examining the AIMS and developmental outcomes in student athletes have challenged previous findings, and been unable to distinguish the effects of strong athletic identity from other prevalent sources of identity formation. Horton and Mack (2000) examined athletic identity in relation to other identity forms including family, friend, romantic, and extracurricular, and found that high athletic identity was not necessarily an indication that other

life-roles were being neglected. Rather, they concluded that overidentification with one role, regardless of what role that is, could lead to long-term problems with coping and life-transitions.

Adolescent athletes are vulnerable to overemphasizing their sport involvement and its importance in their lives. Pressures of competitive sport and emphasis on group conformity provide substantial reinforcement of the “dedicated successful athlete” ideal. Junior hockey players are furthermore encouraged to orient themselves with their competitive environment, as they are typically making great personal sacrifices to participate in the system. This investment also involves parents and family members who may be similarly impacted by the junior hockey system and the changes it implements. Moreover, junior hockey disrupts and limits typical sources of adolescent identity exploration and formation by uprooting players from their communities (and established peer groups), and schools (sometimes isolating them from the education system completely), while the intense training and competitive schedule makes participation in other hobbies, clubs, or interests virtually impossible. The environmental constraints placed by the junior hockey system on its participants appears to be actively discouraging alternative identity exploration, and therefore encouraging strong alignment with the athletic role. Better understanding of cultural norms as well as factors contributing to the construction of a “junior hockey identity” will be important for future research on conceptualizing the junior hockey experience.

Participants in this study produced a mean score of 40 of a possible 49 on the AIMS, considered high (although the AIMS does not yet have an established normative score). While it cannot be definitively stated that strong athletic identity is bad for athletes or student athletes, there are relevant concerns for developmental outcomes of college students identifying closely with their athletic role. Given the results of this analysis, junior hockey programs may best serve

their team members/ participants through expanding opportunities for identity exploration and encouraging experiences that facilitate the development of diverse problem-solving skills and critical thinking.

Research Question Two Discussion

Psychosocial development of college-enrolled former junior hockey players relative to the normative sample population for male college students revealed significant differences in three specific aspects of psychosocial development. After converting participant task, sub-task, and scale scores to standard scores (following instructions from the SDTLA scoring instrument), former junior hockey players were shown to score significantly lower ($>.5$ standard deviations below) the expected norm in six measures. Subtask scores for academic autonomy in three class ranks (sophomore, junior, and senior) and instrumental autonomy in one class rank (sophomore), as well as task scores for salubrious lifestyle in two class ranks (freshman and seniors) yielded measures significantly below the normative sample population established by the SDTLA authors (Winston, Miller & Cooper, 1999).

Academic Autonomy Subtask. Academic Autonomy is a subtask that contributes to the Developing Autonomy Task of the SDTLA (See Appendix I). The importance of autonomy in the psychosocial development of college students is that it describes the importance of individual agency, and ability to independently navigate challenges (Winston, Miller & Cooper, 1999). Adolescent development and subsequent transition to early adulthood, of which college plays a key role in facilitating, is largely defined by the individual's shift away from reliance on the primary family unit and towards independence, developing a sense of personal agency when faced with challenges (Kegan, 1994).

Academic autonomy refers specifically to emergent academic skills and behaviors important to college students and necessary for meeting increased expectations of higher education. Individuals scoring high in academic autonomy are described as able to process ambiguity and manage their behaviors in ways that allow for goals and personal responsibilities to be fulfilled (Winston, Miller, & Cooper, 1999). Furthermore, high achievers in this area tend to show capacity for developing effective study schedules, performing at an academic level consistent with perceived abilities, and requiring minimal direction from superiors. Another important characteristic of individuals scoring high in academic autonomy is the ability to recognize when help is needed, and capacity in directing questions towards proper resources. This can be represented by going to a teacher or advisor for help or utilizing campus library resources. Overall, individuals high in academic autonomy tend to be self-disciplined, independent learners who have clear and realistic expectations of their academics.

College is first and foremost an academic endeavor, and college students are expected to experience cognitive improvements through their interaction with the university system. However, college students are also expected to increase capacity for learning independently and engaging in the academic environment (Baxter Magolda, 1999; Baxter Magolda, 2004). Just as important as a scoring well on a test or a class project is a student's ability to enroll in the correct classes or utilize a professor's office hours. The academic autonomy subtask on the SDTLA takes into consideration a diverse range of behaviors and attitudes that speak strongly to one's capacity to act in structuring their life without relying on reassurances from others. As described by Minnich (2003), well-developed students are usually open-minded, reflective, and fully engaged in the learning process.

Former junior hockey players scoring significantly below the norm sample population on the subtask of academic autonomy in three out of four class ranks (sophomore, junior, and senior) suggested a specific developmental deficit within this population. Furthermore, the findings indicated that junior hockey may be inhibiting a healthy formation of an academic identity, essential to a successful college experience. Junior hockey participation places barriers on normal educational experiences through requiring school changes, abbreviating academic schedules due to training or competitions, and delaying college enrollment by up to three years. Junior hockey also places participants in settings and peer groups with varying levels of importance being placed on academics. Whereas some teammates may be enrolled in a local high school together, other teammates may not have any schooling. Overall, the junior hockey experience may encourage overreliance on athletic skills and coping strategies, while under-developing perceived competence and sense of accomplishment in academic settings.

Junior hockey organizations appear to not highly prioritize educational programming, nor do they provide clear academic objectives for teams and athletes to meet. Low prioritization and lack of intention allows teams to structure academic experiences by convenience, and without consideration of the principles of adolescent development. This leads to diverse range of individualized academic plans in a sport setting that values conformity and shared experience. Although junior hockey cannot be determined to be the cause of low ratings of academic autonomy, structural components of this system may be contributing to an under reliance of academic-specific skills and attitudes that have been determined to be valuable in college student development.

Instrumental Autonomy Subtask. The SDTLA's subtask of instrumental autonomy is a component of the Developing Autonomy task and shares similar features to the academic

autonomy subtask (See Appendix J). Instrumental autonomy is described as the ability to function and display effective independence in all aspects of life (not limited to academics). It is assumed that individuals scoring high in instrumental autonomy can plan ahead, complete obligations, meet expectations, and fulfill both family and community responsibilities. Furthermore, individuals scoring high in instrumental autonomy are considered resourceful and self-sufficient in their approach to everyday problems (Winston, Miller & Cooper, 1999).

Potential benefits gained through moving away from home to pursue athletic goals at an early age appear to be disrupted by the restrictive features of the junior hockey system. Although living independent of the primary family unit, junior hockey players do not have wide-ranging freedoms as they are subject to rules of a new household as well as the organization sponsoring them. Despite the opportunity to experience living in a new place, activities outside of hockey are greatly limited, and little incentive is placed on venturing beyond team approved activities. Furthermore, junior hockey players are limited in their ability to support themselves financially and are primarily reliant on parents to fulfill basic material needs. Living independent of the family unit before entering college, former junior hockey players may not be developing relevant life skills outside of the context of hockey, and therefore may be ill-equipped for challenges that await them in college.

Furthermore, junior hockey players successfully gaining opportunities to compete in college hockey are likely to face an environment that places even more restrictions on their independence and autonomy. For example, intercollegiate athletic participation is a primary influencer on a range of important student athlete decisions including class scheduling, major selection, roommate placement, and peer group membership (McCormick & McCormick, 2006). Former junior hockey players competing in college hockey may then become stuck in a holding

pattern of team expectations and controls until they eventually transition out of the sport. This can be detrimental to identity achievement, as described by Marcia (1980), resulting in prolonged states of exploration or even identity foreclosure on the dominant experience of athletics. Establishing opportunities to develop and display independence and autonomy outside of the competitive sporting context appear to be necessary in promoting normal psychosocial development in the junior and college hockey development systems.

Overall, junior hockey players appear to have little say over the structuring of their junior hockey experience. The expectations placed on a junior hockey player are to perform well and to stay out of trouble. The power dynamics within intense team environments prioritize conformity and reward individuals best able to embody team dictated cultural ideals (i.e. conformity, self-sacrifice, blending in, avoiding causing disturbances, etc.). Individuals seen violating these spoken and/ or unspoken terms can suffer consequences such as being cut, getting traded, losing playing time, or being mistreated by teammates or coaches. However, this is not to say that junior hockey players are not learning valuable life skills. Undoubtedly, the pressure being placed on these young athletes requires incredible physical, social, and emotional capacity. However, the generalizability of these highly-specialized skills may require closer consideration. Learning to survive or thrive in the junior hockey system may not be relevant when an individual eventually transitions to the college setting. Furthermore, an over-developed capacity for conformity and following team rules may in fact limit ability to act independently and manage life-situations outside of hockey-specific contexts.

An additional factor potentially contributing to the present study's findings on both academic and instrumental autonomy is the demand for older college hockey recruits with lengthy experiences in the junior hockey system. This emphasis by college hockey coaches

ultimately perpetuates the identified developmental norms of the junior hockey system, by rewarding players who spend more time playing. College hockey coaches at all levels cite the benefits in recruiting players out of junior hockey who are two, sometimes three years older (and thus more physically mature) than a typical 18-year-old freshman. However, while expectations exist for older incoming players to excel physically and competitively over what may be expected of an 18-year-old freshman, those same expectations do not exist when considering academic or social performance relative to their classmates. As the data revealed, former junior hockey players, that are on average two years older than their peers, fall behind their younger classmates in attitudes and behaviors related to their ability to independently function in both academic and general life settings.

Salubrious Lifestyle Scale. The final set of significant findings from research question two involve the Salubrious Lifestyle Scale. The Salubrious Lifestyle Scale is one of the key elements of psychosocial development defined by the SDTLA instrument and represents the degree to which a student's lifestyle is consistent with or promotes good health and wellness (Winston, Miller, & Cooper, 1999). The seventeen-item scale includes questions on moderating (or abstaining from) alcohol consumption, abstaining from tobacco products, structuring of a well-balanced diet, maintenance of consistent exercise routines, and more (See Appendix K). As college is a period of change and new-found independence, it is important that individuals learn to take care of themselves, and establish self-directed routines promoting health.

Former junior hockey players scoring significantly below normative sample scores on the salubrious lifestyle scale indicates surprising health and wellness shortcomings in a sample of former and current athletes. Results of the present research are consistent with findings from studies on health and wellness behaviors and attitudes (specifically related to alcohol use) in

college students. For example, over 40% of college students self-report “high risk” levels of alcohol consumption (over five drinks) in the past two weeks (Kuhn, Swartzwelder & Wilson, 2008). Binge drinking behaviors (heavy episodic alcohol use) are common in college-aged individuals (Schulenberg & Maggs, 2002), particularly in certain campus groups or organizations (fraternity/ sorority, sports team) in which heavy drinking may be normalized (Larimer, Turner, Mallett, & Geisner, 2004). Furthermore, varsity intercollegiate athletes are more likely to binge drink than their non-student athlete peers (Ford, 2007).

Further evidence connecting the findings to the literature relates to coping strategies. Content analysis of several focus groups conducted by Davies and colleagues (2000) found male college students to be aware of both physical and emotional health concerns stemming from stressors of the college experience, but unlikely to act to address these concerns. The authors found that the greatest barrier to help-seeking behaviors in males were perceptions of needing to appear independent while also concealing vulnerability. Furthermore, alcohol and illicit substance use were cited in the study as the most prominent issues for males on college campuses. Overall, the preferred coping strategies of male college students, coupled with the strong influence of peer groups within this population raises concerns regarding health and well-being of male college students. This is especially concerning for populations of student athletes, whose ability to utilize physical exercise for emotional well-being may be negated by competitive stressors associated with exercise (Thorne & Espelage, 2004).

Findings from this study’s sample population of college-enrolled former junior hockey players on salubrious lifestyle implies limited capacity for impulse control and self-awareness. During mid-adolescence, a period when hockey players are increasing their investment in sport development, anti-social peer influence reaches its peak, while cognitive-control of decision-

making abilities in high-risk situations still has years of development remaining (Steinberg, 2007). Furthermore, the presence of peers can increase risk taking behavior by double in teens, and by over 50% in college students (Gardner & Steinberg, 2005). The developed ability to manage impulses is therefore important in avoiding risky or unhealthy behaviors in adolescents. Presence of risk-taking behaviors, drinking heavily in social situations, and using controlled substances to cope with stress are all behaviors and attitudes involving self-discipline or delayed gratification, and all represent limitations to actualizing a healthy lifestyle (Brougham, Zail, Mendoza & Miller, 2009). Therefore, specific aspects of the college experience may be challenging for former junior hockey players to manage, particularly when complex decisions involving health and wellbeing are being made in the presence of teammates.

Research Question Three Discussion

Research question three hypothesized that participant measures of athletic identity through the AIMS would be predictive of scores on psychosocial development. A one-way MANOVA was conducted by grouping AIMS scores into categorical groupings of high, medium, and low utilizing groups $\pm .5$ standard deviations from the mean AIM score. Results of the MANOVA revealed that the three different levels of AIMS score did not significantly differ ($F(2,206) = 1.61, p=.119$) on overall SDTLA scores. Between subject effects indicated a significant finding between AIMS categorical grouping and the establishing and clarifying purpose (PUR) task ($F(2,206) = 3.25, p=.041$). However the significance of this finding was not maintained when controlling for participant class rank. Overall, these findings suggest that the AIMS is not a useful predictor of overall SDTLA scoring. Nevertheless, there are important considerations to be made regarding the relationship of athletic identity and psychosocial development.

Indications of a statistical relationship between AIMS classification and the PUR task were consistent with literature related to athletic identity and future planning/ transitioning out of sport. Murphy, Petitpas and Brewer (1996) found in an assessment of 124 intercollegiate athletes that athletic identity as well as identity foreclosure were both inversely related to measures of career maturity. Individuals scoring high in athletic identity were more likely to have unrealistic career expectations due to their over-reliance on their role as an athlete in comparison to other activities (Good, Brewer, Petitpas, Van Raalte, & Maher, 1993). Furthermore, high-athletic identifiers have been found to be less interested in their academics and may develop unrealistic expectations regarding their ability to continue athletic pursuits at professional levels (Wiechman & Williams, 1997). Lastly, heightened athletic identity has been associated with lack of preparation for life-transitions encountered through events such as injuries, deselection, or sport career termination (Brewer, Van Raalte, & Petitpas, 2000). These findings from the literature align with tentative findings of the present research by suggesting that categorization of athletic identity (high, medium, or low) may be predictive of psychosocial development through the clarifying or establishing a sense of purpose task.

Summary of findings. Three key findings from the present study were: 1) a significant positive correlation exists between years spent in junior hockey, perceived enjoyment, perceived benefit, and athletic identity, 2) class groupings of former junior hockey players score lower than the normative sample population in key indicators of psychosocial development (academic autonomy, instrumental autonomy, and salubrious lifestyle), and 3) categorical ranking of athletic identity scores is not a significant predictor of overall psychosocial development, but indicates a relationship to the Establishing and Clarifying Purpose task.

Findings suggest that structural features of the junior hockey system influence identity formation of participants, encouraging a close alignment of identity with hockey involvement. High cost of membership, emphasis on conformity, and limited exploration of alternate identity forms delays growth in key developmental areas that may have implications in capacity to face future challenges. Features of enhanced athletic identity can be perpetuated in the college setting for athletes who continue to compete, as they remain embedded in an influential peer group with similar junior hockey experiences to their own. Individuals overemphasizing their athletic identity throughout college may be limiting their ability to meaningfully engage in academic settings, as well as establish independence that will serve them in future stages of development. Overall, athletic identity and psychosocial development provide indications of long-term success in a range of developmental categories, and are therefore important factors to take into consideration for junior hockey organizers.

An additional implication of the findings is that the hockey development system places non-equivalent expectations on outcomes associated with junior hockey participation. The demands placed on experienced junior hockey players by college hockey coaches comes with the expectation that chronologically older freshman have actualized physical benefits having spent extended periods of time within the junior hockey system. However, the same expectations of growth and development do not apply to academic and social standards, which are kept in line with the student's class rank. The lowering of developmental expectations by college and professional teams, who rely on junior hockey talent, relieves the junior hockey system of responsibility to improve valuable aspects of psychosocial development such as academic autonomy, instrumental autonomy, or a salubrious lifestyle. By maintaining a developmental

double standard, the hockey development system may be delaying long-term achievement by stunting necessary life skills and coping strategies of participants.

Recommendations. The implications of this study yielded six recommendations for the improvement of the junior hockey system in relation to the long-term psychosocial development of its participants.

1. Junior hockey leagues and organizers should establish and implement specific objectives regarding the holistic development of their participants. Sport programs such as junior hockey can effect meaningful change in adolescent athletes, specifically when providing experiences conducive to positive development. Specific objectives can include promoting meaningful group membership, enhancing individual sense of worth, and cultivating problem-solving habits (Carnegie Council, 1995). Effective interventions promoting life-skills development can include community service projects, team building exercises/ mini-camps, and workshops focused on helping athletes develop strategies towards accomplishing future goals (Petitpas, Van Raalte, Cornelius & Presbrey, 2004; Gould & Carson, 2008).
2. The long-term athlete development model (LTAD) should be expanded to include more emphasis on the late-adolescent stages of development, as well as the transition to collegiate athletics. The current emphasis of the LTAD is placed on youth and early-adolescent athlete participation, but there are very few policy recommendations or individual guidelines for developmental expectations once athletes reach the competitive level of junior hockey. Long-term exposure to a highly competitive systems that promotes adolescent sport specialization goes against recommendations put forth by the LTAD model, which aims to prevent issues such as burnout, overuse injuries, and

overtraining (Brenner, 2016). Furthermore, developmental autonomy granted to junior hockey organizers potentially undermines the well-established principles and goals of the national governing bodies and professional organizations that provide structure to the sport of hockey (Garland, 2017). The lack of emphasis by the LTAD in considering the unique context of junior hockey has provided a pathway for junior hockey leagues and their members to independently develop performance-focused developmental strategies that may not deliver long-term benefits to participants.

3. Parents and billet families should be better informed regarding their expectations and roles in the development of junior hockey participants. Authoritative parenting styles that encourage individual expression, foster independence, and enforce clear behavioral expectations and consequences have been found to be most effective in promoting academic achievement in (Steinberg, Elmen & Mounts, 1989), and developing autonomy in adolescents (Hare, Szewedo, Schad & Allen, 2015). Education that helps parents and billets work together in balancing control and permissiveness during this nontraditional period of junior hockey development can help limit risk and encourage positive long-term developmental outcomes for players as they transition out of junior hockey. Educating junior hockey parents helps in expanding the definition of a successful junior hockey experience beyond just athletic performance and offers informed critical oversight of the system that can further benefit retention and lower attrition (Kanters, Bocarro & Casper, 2008). Furthermore, it should be a reasonable expectation for junior hockey parents that appropriate psychosocial development is occurring throughout their child's participation in this system.

4. Policy should be developed to incentivize college hockey coaches to make recruiting decisions based on the best developmental interests of players. This can include changing the age structure of junior hockey participation (i.e., decreasing the age range of involvement), or placing a cap on the amount of time a player can spend in the junior hockey system (limiting educational disruptions). Currently, many college coaches covet older, more physically mature, freshman for their teams, and therefore have created demand for long junior hockey careers (sometimes even sending players back to juniors after an initial enrollment). The demands for older players by coaches at levels above junior hockey, especially in college hockey, have been a driving force in establishing unorthodox junior hockey norms involving education. College hockey could play a pivotal role in improving long-term psychosocial outcomes for junior hockey participants by adopting developmentally-conscious recruiting practices. These changes would furthermore improve the transition and integration of former junior hockey players to the college setting, allowing for an appropriate increase in developmental expectations for this population.
5. Risk factors associated with problem behaviors in junior hockey participants should be anticipated and appropriate decision-making programming should be considered. According to recommendations by Steinberg (2010), adolescent populations experiencing peak risk-taking behavioral impulses while simultaneously limited in their cognitive capacity to counteract those urges must first and foremost be limited in their exposure to high-risk situations. This can include closely monitoring curfews (Grossman, Jernigan & Miller, 2016), limiting non-team sanctioned activities, and creative uses of technology to improve athlete accountability (Ang, 2015). While adolescents and late adolescents are

typically well-informed regarding “good” and “bad” decisions, psychologically, they still need time to develop applied decision-making capacity. Experience in good decision making can prove difficult, as junior hockey players, and those who transition to college, are often flooded with opportunities to engage in risky behavior involving sex, alcohol, illicit substances, or even violence, especially due to the influence of older peer groups (Roy & Camiré, 2017). For these reasons, emphasis of junior hockey participant behavioral programming, specific to limiting high-risk situations and promoting positive decision-making capacity should be implemented at all levels of the junior hockey experience.

6. Universities should officially identify former junior hockey participants as non-traditional college students given that their unique experiences and potential delayed enrollment qualify them for the categorization (see Chung, Turnbull & Chur-Hansen, 2014). Accommodations for non-traditional students, particularly those with significant athletic backgrounds should include opportunities to discuss concerns with an advisor knowledgeable of adolescent development and transition theory, as well as being encouraged to utilize campus resources designed to ease their transition to the college setting (Arbuckle & Gale, 1996). Better informed universities working to appropriately integrate former junior hockey players to the college environment can facilitate continued identity exploration and help these non-traditional students better navigate the college environment.

Limitations

Several limitations regarding the conceptualization, design, and interpretation of findings were present in this study. First, utilizing electronic recruitment and surveying limited direct

interaction with participants, and therefore created difficulties in verifying eligibility for the study. Additionally, some surveys were turned in with missing items, or were not completed by the time data collection was closed. The 174-item length of the survey may have further influenced participation, possibly deterring participants from volunteering their input or completing the instruments. Surveys collected self-report data which can be vulnerable to social desirability or response bias. While the SDTLA is equipped to filter responses rating high in response bias, the demographic questions and AIMS did not include such measures.

Further limitations related to methodology were: a) the time of year and b) process of data collection. Surveys were completed near the end of the Spring semester, when teams were considered “out of season”. Participant recruitment could have been limited by this timing, as some student athletes take breaks immediately after the season ends to focus on priorities outside of hockey team obligations. Furthermore, most participants were partially introduced to the study through members of their coaching staff who initiated the contact between the researcher and the participants. Varying levels of encouragement and/ or pressure to complete the survey may have influenced the size and demographic composition of the sample.

The design of the study was a single-shot case study, lacking longitudinal design or control groupings, which limited the application and generalizability of the findings (Campbell & Stanley, 1963). Although comparisons were made to an established normative sample population for research question two, the application of those findings may be limited by unaccounted for factors differentiating the sample population and male college students. Generalization of the findings was also limited by the study’s design, collecting data on only one occasion. This prevented the assessment of changes in psychosocial development likely to occur through the college experience. Furthermore, age differences between the normative and sample

populations served as limitations in interpreting the dataset. On average, former junior hockey players were two years older than class rank peers. Although age was not determined to be a significant predictor of psychosocial development by the SDTLA authors, the application of the SDTLA on this sample of non-traditional student may have impacted the findings (Winston, Miller & Cooper, 1999).

A further limitation relates to the demographics of the sample. Most participants of the study were presently involved in the sport of hockey at the collegiate level. A true representative sample of former junior hockey participants would offer insight to the psychosocial development of a diverse range of athletic outcomes, including those who do not continue playing after their junior hockey experience. Furthermore, the sample population being predominantly white, with American or Canadian nationality, further limits generalization of the findings as well as replication of the methodology with European populations (where the sport of hockey is also popular). Overall, increased size and diversification of the sample would serve to improve the significance of the present findings.

Future Directions

The present research has implications regarding the future study of junior hockey and elite sport development systems, as well as suggests organizational changes that may improve outcomes associated with the junior hockey experience. Alternative research designs, building off the present study, may prove beneficial to the overall goal of conceptualizing the junior hockey experience. Future research should consider utilizing longitudinal designs to measure progress in psychosocial development while enrolled in college as well as include current junior hockey players to establish baseline measures of psychosocial development and identity formation. Longitudinal research, whether with current or former junior hockey players, may

also present the opportunity to objectively measure interventions aimed at improving the developmental experience of junior hockey. Test-retest conditions would provide a framework for improving elite sport development systems and long-term outcomes for participants.

An additional future consideration, derived from the recommendation of participants of this study, is for qualitative methods (such as interviews or focus groups) to be implemented towards improved understanding of the junior hockey experience. Personal interactions with participants would provide the opportunity for elaboration on specific topics, and for the inclusion of personal meaning in describing junior hockey. Each player's experience with junior hockey is unique, as are their developmental outcomes. Utilization of qualitative methods may reveal underlying developmental mechanisms of the junior hockey experience, as well as consistent features influencing development.

Conclusion

The present research introduced a new way of understanding the junior hockey experience from the perspective of adolescent development and provides guidance to further evaluate junior hockey and its merits as an elite sport development model. Given the timing of the junior hockey experience, and its potential for disrupting established social and educational norms, junior hockey outcomes must continue to be studied beyond athletic measures. Hence forward, junior hockey should be considered and evaluated as a holistic developmental system, in which teams and leagues are held accountable to a range of developmental outcomes for participants. Junior hockey can considerably influence an individual's self-concept and identity, a responsibility that should not be taken lightly. The current number of junior hockey participants is at an all-time high, as more junior teams than ever are operating to serve a growing interest in elite hockey. Further research and improved understanding of the junior

hockey may lead to not only improved experiences while participating, but also raise individual capacity to face future life transitions and challenges. Furthermore, an improved junior hockey experience, more attuned with principles of adolescent development, may increase retention of players as well as help families be more willing to enter their child into the junior hockey system. In conclusion, junior hockey produces a population of individuals sharing a unique experience that often sets them apart from their peers. Consideration of the influence of the junior hockey experience is essential in improving this sport development system, as well as improving the long-term outcomes of its participants.

APPENDIX A

Extended Review of the Literature

Extended Review of the Literature

Junior Hockey

Introduction to junior hockey. Junior hockey is a comprehensive elite sport development system that includes experiences that can be both long lasting and life altering. Each year, thousands of junior hockey players are faced with the challenge of moving away from home, changing schools, living with new families, and integrating with complex social and team dynamics. Junior hockey players, regardless of level of participation, also face difficult competitive realities within a professionalized sport development system that exposes them to high performance expectations as well as a rigorous training schedule. Furthermore, junior hockey teams do not provide players much job-security, as their rights can be traded, or players can suddenly be cut in an authority structure that heavily favors coaches and team management (Edwards & Washington, 2013). Because the motivation driving junior hockey is primarily financial, success is almost exclusively measured and marketed in terms of athletic advancement, which serves to increase recruitment and perpetuate financial viability. To date, very little research exists regarding the developmental outcomes associated with junior hockey participation. The following review identifies and describes fundamental characteristics of the junior hockey experience and offers perspective on potential outcomes associated with participation in this system.

Junior hockey history. In 2016, over 600 junior hockey teams operated in North America, featuring a range of competitive levels, structure, and player experiences (USA Hockey, 2016; Hockey Canada, 2016; Elite Prospects, 2018; The Internet Hockey Database, 2018). The competitive spectrum of junior hockey ranges from Tier I Junior A, and Major Junior, where participants are regularly selected for top college teams or drafted directly into the

National Hockey League, to various lower levels (Tier III Junior A, Junior B, or Junior C) where players look to advance to higher levels of juniors or move on to compete in low-level collegiate hockey. An additional feature of low-tier junior hockey not found in higher levels is that players are charged annual participation fees that can exceed \$10,000. This is a sharp contrast from top leagues (which make up only about 20% of all junior hockey participants) that are generally “tuition free”, with equipment, fees, and accommodations expensed to the team. The significant financial burdens placed on a Tier III and low-level junior hockey participants reflects recent trends in youth sports and a growth in pay-to-play programming (Baxter-Jones & Maffulli, 2003).

Research has indicated that increased financial demands of elite sport on families can impact personal, social, and family life choices (Kirk et al., 1997). For example, in Canada, it has been found that many parents are foregoing investing in savings for their children’s college in favor of investing in sport participation (Dorsch, Smith & McDonough, 2009). The rationale for this choice can arise from a fear of denying children a chance to realize their athletic dreams (Bean, Fortier, Post & Chima, 2014). Further encouraging junior hockey participation is that many low-tier junior hockey franchises are established as money-making endeavors for private ice rinks that can utilize a new tenant to book large time-blocks of ice sessions that would otherwise go unpurchased. Overall, the junior hockey system is large, loosely regulated, and comprised of inconsistent organizational structures. The competitive and financial forces currently acting on junior hockey are very much reflective of youth sport participation trends found in other sports, however, little research has established the impact of these forces on junior hockey specifically.

The origin of junior hockey can be traced back to ice hockey's explosive growth in popularity in Canada through the early 1900's. Organized hockey during this period was based locally and fiercely committed to defending the amateur status of participants. Amateurism as a sporting ethos refers to a set of ideals and values regarding the non-professional purpose and function of sport within civilized society (Baker, 2009). According to amateurism, competitive games were to be played for the game's sake, and never for material gains. While amateurism encouraged vigorous displays of athleticism, it avoided placing value on outcomes. Furthermore, true amateur athletes were not supposed to prepare excessively: casual (but revering) performances were preferred over flashy displays of dominance (Holt, 1981, p. 99). Although major tournaments were held annually to determine provincial and national champions, early participants in high-level hockey refrained from being paid or playing for teams outside of their hometowns. Paying players was seen as a violation of the agreed upon purpose of sport, which was supposed to be used for recreation and enjoyment and not considered a legitimate vocation (Holman, 2007).

Over time, the construction of indoor arenas and improvements to the spectator experience brought corporate sponsorship opportunities to ice hockey and provided financial incentives for owners to field successful teams. This subtle shift, from amateurism to professionalism, eventually gave rise to the concept of "professional hockey player" being a viable career choice, and an occupation quickly revered by the fans and young participants of the sport. Recognizing ice hockey's potential for growth, owners from the Quebec Bulldogs, Ottawa Senators, Montreal Canadiens, and Montreal Wanderers gathered in 1917 at the Windsor Hotel in Montreal, Quebec and came to an agreement to form what is now known as the National Hockey League, the premier professional league of the sport. As a myriad of newly

professionalized leagues and franchises rose to prominence throughout the early 1900's, owners quickly understood that their business models required a steady supply of young players to fill the ranks and keep their teams competitive on a yearly basis. To accomplish this, professional organizations became directly involved with the structure of youth hockey development across Canada and the United States, imparting their goals, values, and financial incentives to all levels of sport development (Kidd, 1972). During the 1950's, through lobbying with youth hockey organizers and government officials, professional hockey franchises even gained the ability to claim the competitive rights of a player from birth based on where they grew up. Although the player selection process would eventually shift to a junior draft, the treatment of young players as tradable commodities has long been established as a norm in the sport of hockey.

As ownership groups expanded marketing efforts and sponsored large tournaments, the popularity of hockey continued to rise, solidifying many local clubs as well-known fixtures in the sport. Competitive forces led to aggressive recruitment and relocation of promising young players, and towns were eager to receive these distinguished guests, viewed as potential professional stars about to make their big break (Kidd & MacFarlane, 1972). Small towns and communities across Canada and the United States were suddenly helping to raise young athletes, standing in for whole family units left behind during the competitive season. What became known as billets, or host families, would even develop a shared devotion to the athlete's dreams, hoping to one day watch them on the weekly feature, "Hockey Night in Canada" as a professional player (Gruneau & Whitson, 1993). Visiting an established junior hockey town today, the names of hockey stars who have passed through over the years can be readily recalled by the local populace. Autographs and memorabilia adorn basements that perhaps once housed a budding professional player. In these cases, junior hockey reveals itself as less of a development

system for hockey talent, and more of a cultural phenomenon impacting all involved. Examining norms and social expectations of the junior hockey experience provides insight to the sport's proud history and offers a nostalgic appreciation to ice hockey's rise to prominence.

Fundamental Experiences. Embedded within every junior hockey experience are four fundamental elements that signify what it means to participate in this system. These four elements include: 1) athlete relocation, 2) academic disruptions, 3) new primary support systems, and 4) the professionalized nature of the junior hockey environment.

Athlete relocation. Junior hockey players are required to live in close proximity to their team, which most often involves moving away from their homes and primary caregivers. To accommodate relocation, teams establish relationships with host, or "billet" families in the community whose responsibility it becomes to house, feed, and monitor player wellbeing (this service may or may not be subsidized with a stipend from the team). Billeting can be a positive experience for athletes who establish healthy bonds with hosts, and connections that can resemble a second family unit for the athlete. However, in cases where players do not bond well with their host family, the living environment can become stressful and detrimental to the young athlete's ability to adjust to the junior hockey setting. Although host families are vetted by the team, there are no league or regulatory standards that establish protections for players who may be placed in non-ideal situations.

Research regarding host families for transient athletic populations is limited. However, relevant comparisons may be drawn between the experiences of junior hockey players and adolescent foster children living in new homes and away from primary care givers. Studies have found that upwards to 80% of foster youth show signs of developmental, behavioral, and/or mental health concerns (Lee & Morgan, 2016; Stahmer, et al., 2005). Prevalence of

posttraumatic stress disorder is nearly five times that of the general population (Pecora, Kessler & Williams, 2005), and substance use disorders are significantly higher in foster populations when compared to non-mobile peers (White et al., 2008). Frequently moving to a new home has also been found to instill a lack of trust in adolescents and increase risk of negative outcomes (Collins, Spencer & Ward, 2010). While context regarding the purpose of the move and the systems in place upon arrival distinguish junior hockey players from populations of foster children, acknowledging similarities in the developmental impact of these events is important for establishing credible research on the topic.

The adoption of a new family system is an additional stressor placed on junior hockey players. Although a challenging process, complicated by numerous contextual factors, leaving home and living with a new family is accepted a fundamental rite of passage for every junior hockey player to face (Bruner, Munroe-Chandler & Spink, 2008). With the attention regarding the junior hockey experience primarily directed towards athletic performance and achievement, the establishment of a safe, stable, and supportive living environment for athletes can be overlooked. Great sacrifices are required of junior hockey participants regarding their living situations, and because some are minors living away from home for the first time, they represent a vulnerable population. Therefore, an athlete's ability to develop healthy coping strategies while adapting to these drastic changes may have far reaching implications to not only their hockey career, but also their subsequent development.

Academic disruptions. Junior hockey also places pressure on academic progress for participants through required school changes, enrollment disruptions, and the introduction of new athletic priorities. Currently, no formal policy or standard exists for junior hockey franchises to follow regarding how to provide an educational experience for participants. In fact, many

junior leagues have not required athletes to enroll in any type of school while participating (regardless of age) until recently. Junior hockey's apparent under-prioritization of education can lead to delays in high school matriculation, athletes having to repeat classes due to credits not transferring to a new school, and limited utilization of school resources towards future career planning. In addition, schooling options become limited for individuals already having completed high school, who may be unsure of what their next step should be. With the upper age range for participation at 21 years old, it is possible for individuals to play junior hockey outside the formal education system for up to three years. Although part-time enrollment in junior college courses may be utilized to maintain progress, responsibility is often placed on participants and their families to seek and maintain these academic responsibilities.

An additional limitation of junior hockey is that the time commitment required prevents full time university enrollment. The importance and the obligation of the junior hockey experience towards furthering a hockey career has become a common justification for delaying university enrollment. With limited academic oversight, teammates in various stages of academic progress, and practice/ competition schedules that can directly conflict with regular school hours, the perception is that education is a lower priority than hockey (Robinson, 1998). The contrast between normal adolescent expectations regarding education and junior hockey's approach is striking, and worthy of further exploration.

Junior hockey leagues use education primarily as a marketing tool, and therefore to serve the athletic and financial goals of the system itself. Offering financial assistance programs for athletes who go on to college has served leagues such as the Canadian Hockey League (CHL) in recruiting prospects and promoting successful developmental outcomes after participating in the league. However, in the case of the CHL, earned financial assistance can be taken away if a

player signs a professional contract, or does not meet specific terms of the agreement (e.g. enrolling in specific schools and specific programs, activating the financial aid within 18 months, not taking any breaks in enrollment, etc.). Further evidence of education's nuanced role in junior hockey marketing comes from league and team websites devoting space in their "about" pages to discussing the value of student-athletes being able to pursue their academic goals while competing. Although there is discussion of academic encouragement, all mention of academic eligibility requirements appear ambiguous and loosely regulated. For example, the Western Hockey League (a member of the CHL) describes the importance of academics in the following way: "While a player's primary on-ice goal is to win the WHL Championship and compete for the storied Memorial Cup, it is equally important for that player to set his sights on academic success as well. WHL clubs are governed by League-wide Education Standards that ensure players complete their high school in timely fashion and achieve the highest level of academic success possible." Upon further review, the WHL's official website does not provide a direct link to the league-wide education standards, nor have they been made available elsewhere (Western Hockey League Education, 2018).

Other junior hockey leagues and organizers also lack clear expectations and standards for participants out of high school beyond encouraging enrollment in National Collegiate Athletic Association (NCAA) institutions. For example, the website for the North American Hockey League (a tier II American Junior A league) utilizes its education information section to outline NCAA compliance programming while emphasizing the league's commitment to advancing athletes to NCAA institutions to further athletic achievement (North American Hockey League: Education, 2018). These positions regarding education are echoed on other similar league websites, none of which devote time to career exploration or vocational opportunities outside of

the sport of hockey. In addition, records regarding the educational achievement of participants or of programs are not maintained. Overall, junior hockey's educational standards appear to lack consistency and are not systematically monitored. Embedded disruptions to normal academic progress amongst adolescent participants indicate that junior hockey may play a serious role in inhibiting long-term academic outcomes and requires further exploration.

Research on the relationship between athletics and academics has found that college student athletes are less prepared for the rigors of college than non-athletic peers (Purdy, Eitzen & Hufnagel, 1982). Unique demands placed on student athletes, such as balancing athletics and education, make this population more susceptible to mental and physical exhaustion, and stress (Ferrante, Etzel & Lantz, 1996; Beauchemin, 2014). Furthermore, college student athletes typically have many years of high-level involvement in their sport which can differentiate and serve to isolate them from the general student population (Simmons, Van Rheezen & Covington, 1999; Rubin & Moses, 2017). This social separation can be exacerbated by student athlete support services that physically isolate student athletes with team-specific facilities and housing (Smith, 2009). Overall, sport participation is increasingly setting individuals apart from their peers in a variety of contexts, the outcomes of which are not fully understood.

Tendencies for separation and isolation can be compounded for junior hockey participants continuing to college due to unique, but accepted, norms within the junior hockey system. Spending years investing time and resources to an athletic institution with no academic affiliation presents a social barrier between participants and their non-athletic peers. Furthermore, the non-standard age range of teammates and competitors within junior hockey creates a unique social environment that has normalized delayed enrollment in college. This results in a population of college freshman, some as old as 21, being asked to integrate with a

much younger peer group. For these reasons, attention should be paid to the support and evaluation of junior hockey participants through their transitions to college, as well as the developmental progress of student athletes in this academic setting.

New primary support system. An additional challenge facing junior hockey participants is the significant shift in primary support systems. While moving away from home and changing schools presents barriers to healthy adjustment, junior hockey has perhaps its strongest impact through disrupting one's peer groups and the social influences that may come from a new team and teammates. Upon arrival, junior hockey players are pushed into competitive team environments with established identities and group norms that may increase pressures for conformity and modeling of behaviors (Pappas, McKenry & Catlett, 2004). Given the large amounts of time teammates spend with one another (training, competing, going to school, socializing, etc.), group composition and relationships between team members are important for the social development of the individual (Shaw, 1981). Group composition involves the interaction of the perceived amount of group resources, variability of those resources, and the compatibility of skills and attributes of group members (Widmeyer & Loy, 1981). Joining an established team can place an athlete in a vulnerable position as their group status, or perceived social importance, may subject them to pressures to go along with destructive group norms. Furthermore, being removed from childhood friends and family, coupled with having few established connections in a new school or city, makes for a complex social transition at the onset of a junior hockey career (Bruner, & Munroe-Chandler, 2008). Overall the impact of social transitions embedded within the junior hockey experience greatly depends on interactions between teams and individuals that comprise those teams. The pressure for participants to

effectively cope with complex social dynamics appears to be a fixture of the junior hockey experience, and influential to the athlete's overall development.

Junior hockey structure. Junior hockey's professionalized organizational structure distinguishes it from other North American elite sport development concepts. The rise of hockey as a popular organized sport was surrounded by the debate regarding the merits of amateurism versus professionalism, and which model would best carry the game forward into the new century (Kidd & Macfarlane, 1972). "Amateurists" hoped to preserve proud local clubs with home-grown talent, while "professionalists" sought to cash in on growing interest. In the end, professionalism won out, and the developmental structure passed down to youth hockey organizations gave rise to junior hockey as it is known today. Junior hockey embodies both professional and amateur distinctions by including the features of a professional sport organization, with virtually none of the labor costs (Young, 1989). Aside from Canada's top "major junior" tier, junior players are not paid. Amongst major junior teams of the CHL, which do offer paid contracts, players are compensated at a fraction of top professional billings, with most of the money being temporarily allocated to a post-junior hockey college tuition fund (The Manitoban, 2017). In contrast, top American junior hockey leagues do not pay their athletes directly in order to maintain compliance with NCAA eligibility standards, to which the United States Hockey League and North American Hockey League are closely affiliated (Bianchi, 2010). In fact, low-level junior leagues require players to pay annual fees upwards of \$10,000 (not including tryout, travel, and equipment costs) to participate.

The professionalization of junior hockey has also influenced its organizational structure. This includes the utilization of professional coaches, and structuring of team management to be run through ownership groups, akin to large professional franchises. Power dynamics stemming

from hockey teams being run like businesses do not favor the fair treatment of the athletes (Steadman, 2016). Junior hockey teams do not make long-term commitments to their players (nor are they required to). Players can be released or traded for any reason including but not limited to performance. Organizational pressures on team and player performance can cause higher rates of member turnover, which research has found to be disruptive to overall successful team outcomes (Montanari, Silvestri & Gallo, 2008). Fostering a climate of high-roster turnover and player insecurity can make for a negative player experience. Bruner, Munroe-Chandler, and Spink (2008) found through phenomenological focus groups that fear of being traded was one of the top off-ice concerns for first year major junior hockey players. Not only are players left insecure of their own future on a team if on-ice performance is lacking, but they may be faced with the loss of close friends, further complicating their ability to successfully engage with the junior hockey experience.

Junior hockey player rights. Junior hockey is further distinguished from other sport development structures is the handling of player rights and the limitation of player movement. Akin to reserve clauses in professional sport leagues, junior hockey teams acquire exclusive rights to their players through various established mechanisms. Up through the 1960's, player rights to participate in hockey were held by professional franchises based on where they were born (Kidd, 1972). This meant that promising young players were bound to specific youth, junior, and professional organizations from the time they first stepped on the ice. Rules were changed in the late 1960's, however, when the continued growth of the sport made it difficult to enforce this policy. Professional organizers then adapted to a system of acquiring player rights through prospect drafts, in which teams systematically name players they would like to "protect" from playing for any other franchise within a specific league. Upon being selected, players

remained beholden to a specific team unless their rights are traded or released by the club's management. This draft system is still largely in place today and can be a stressful situation for amateur athletes having limited legal representation against powerful groups of professional organizations.

The control of player rights by hockey management personnel directly serves the financial shareholders of elite sport and helps to maintain below cost labor forces (Baker, 2008). This allows teams to maximize athletic production and revenue, while keeping expenses very low. Although top junior hockey leagues invest in their participants through indirect, (equipment) and in some leagues, direct compensation (signing player to paid contracts), junior hockey players are still not legally considered professionals, and are treated as such (Diamond, 2016). Current junior hockey organizers staunchly hold the view that athletes should maintain their amateur status. This is despite recent challenges through class action lawsuits demanding junior hockey athletes be viewed as employees and receive at least the minimum wage. These lawsuits bear similarity to challenges to the NCAA's strict enforcement of amateurism and maintaining the status of student athletes as non-employees (Piasecki, 2015). Junior hockey leagues have pushed back claiming that general labor rights and/ or a minimum wage ruling would bankrupt many organizations through losses of revenue and raised ticket prices for consumers. This claim comes despite a recent rise in lucrative broadcasting deals and increased ticket sales that have diversified junior hockey's viable profit streams (Whitson & Gruneau, 2006). Under current structuring, franchises keep all profits from media rights, sponsorships, ticket sales, branded apparel sales, and in some leagues, fees paid by the players themselves without considering compensation for the primary workforce. With financial and organizational control, management personnel yield incredible authority over the junior hockey experience.

Understanding the structuring of power and influence is essential when attempting to conceptualize the junior hockey experience. Junior hockey organizers have effectively positioned themselves as the gatekeepers to elite levels of the sport, pushing a corporatized model of development on young athletes, limiting their power of choice and representation.

Furthermore, financial pressure to win and produce legitimate professional prospects has incentivized teams to identify, recruit, and acquire hockey talent at very early ages. With eligibility for junior hockey beginning at 16 years old, (as low as 15 for players granted “exceptional status”), junior hockey places immense pressure on the youth hockey development system and exposes impressionable adolescents to intense scouting and evaluation (Farrey, 2008). This process of player identification and selection challenges accepted models of elite talent development supported in the literature (Allen & Hopkins, 2015; Brander, Egan, & Yung, 2014). The public glorification of exceptional players gaining early entry to junior hockey (a process made easier by the expansion in the number of teams and leagues) has provided a biased sample of success stories to which parents have begun guiding their own children’s development to match (Gould, 2010). Early sport specialization and entry to elite sporting models is problematic and can be detrimental to the long-term development and sport participation, especially in cases where a child is not equipped or suited for early exposure to elite sport (Côté, Baker & Abernathy, 2003). Scaling down elite professional models of sport and offering them to a younger participant pool is not an empirically supported practice, despite its popularity and regular occurrence in the youth sport landscape (Capranica & Millard-Stafford, 2011).

Junior Hockey Culture. The influence of junior hockey on participant psychosocial development is further understood through evaluation of well-established hockey-specific cultural norms that have emerged. Junior hockey culture has been characterized as hyper-

masculine and aggressive (Robinson, 1998). Hyper-masculinity in sport is a long-standing cultural norm in which men are pushed to accept a narrow definition of masculinity that is based in violence, stoicism, dominance, and an embracing of anti-feminism and homophobia (Anderson, 2009). Within the world of junior hockey, fighting and aggression are common practices: violent behavior is often rewarded by coaches and seen as a means to gain favor amongst teammates (Pappas, McHenry, & Catlett, 2004). As is the case in professional leagues, players are allowed to fight in games, and physically striking down an opponent receives raucous applause from fans. Ability to fight, in some cases, has even been identified as a preferable player attribute over skating skills (Weinstein, Smith, & Wiesenthal, 1995). Researchers have further argued that regular demonstrations of violence in the context of sport can have further implications regarding expressions of masculinity and manliness through aggression beyond the competitive arena (Coakley, 1989). Embedded within a system that promotes ideals of physical dominance and aggression as traits of masculinity, junior hockey players are exposed to significant cultural forces that have the potential to impact their socialization and world view.

Deviance. Patterns of deviant behaviors have also become embedded within junior hockey culture. Deviant behaviors are those that shock or affront the common conscious, or societal norms, and that which demand reprisal (Atkinson & Young, 2008). However, professionalization of junior hockey across the United States and Canada has influenced many communities to view and treat their players as visiting celebrities, granting many behavioral concessions. Lax behavioral boundaries from authority figures have led to numerous controversies that have plagued junior hockey for many years. Controversial sexual assault cases involving junior hockey players have been well documented, and provide insight to the cultural norms of the system (Robinson, 1998). Many of these cases, and the municipal handlings of legal

proceedings, have been openly scrutinized for their apparent favoring of accused junior hockey players. A notable example includes three members of the Guelph Storm being arrested for sexually assaulting an incapacitated female at a party in the home of a billet family. Charges were eventually dropped in this case and the players were allowed to immediately return to participation. Another case involved six members of the Saskatoon Blades being accused of sexually assaulting an incapacitated 17-year-old female. The accused argued that consent had been given, and all charges were eventually dropped despite substantial evidence that inappropriate sexual conduct had occurred. In fact, in this instance, public mischief charges were brought upon the survivor of the alleged assault, who was then harassed to the point of having to transfer schools (Robinson, 1998). Members of the community openly criticized her behavior as attention-seeking and that she was only spending time with the hockey players because of their elevated status in the community.

Male team sports have been empirically linked to promoting environments that are demeaning towards women and openly promote misogyny (Coakley, 1998; Sanday, 1990). Interviews with former junior and professional hockey players unveiled a prevalence of women being objectified and disrespected as a regular feature of hockey locker room culture (Pappas, McHenry & Cartlett, 2004). This process of male socialization through sport is often overlooked as it encourages boys and men to see women as inferior, or as sexual objects. The cultural norms of junior hockey appear to reinforce this mindset, which is perpetuated by closed-door settings in which young and often under-supervised males spend large amounts of time together. Within the sport of hockey, women's roles remain highly marginalized, which impacts the socialization and development of adolescent participants who spend considerable time within this system (Crawford & Gosling, 2004).

Alcohol and substance use. Alcohol use has been found to be pervasive within junior hockey culture (Pappas, McHenry & Cartlett, 2004). Participants living away from home for the first time with limited supervision and surrounded by an older peer group are more likely to experience pressures for peer conformity and social experimentation. Furthermore, alcohol has reported to be a form of self-medication and stress reduction in hockey players (Fagan & Browne, 1984). This drinking behavior aligns with the assumed masculine culture of the sport, and the limited permissible forms of emotional expression (Gustafson, 1986). While it cannot be assumed that junior hockey causes increased alcohol use, junior hockey players have consistently reported a causal relationship between alcohol and violent behaviors they have experienced or witnessed (Pappas, McKenry & Catlett, 2004). The presence of alcohol-related issues and their connection to hyper-masculine sporting culture suggest that junior hockey serves as a socialization conduit of hockey's cultural norms to adolescent participants. While contextual factors regarding substance use and deviant behavior require further examination, their inclusion is important when attempting to conceptualize the lived experience of the junior hockey athlete.

Positive junior hockey outcomes. Junior hockey is also well regarded for the positive experiences it offers participants. Junior hockey provides opportunities for strong connections to be quickly formed between individuals from different backgrounds, interests, and ambitions. Despite the overtones of competition surrounding the team environment, most junior hockey players report enjoying their time with teammates and value those connections (Gruneau & Whitson, 1994). Sport enjoyment has been found to play a pivotal role in positive athletic experiences, specifically regarding managing performance expectations (Scanlan & Lewthwaite, 1986), physical development (Scanlan, Russell, Beals & Scanlan, 2003), attrition (Gould, Feltz, Horn & Weiss, 1982), and social development (Wankel, 1993). Sources of sport enjoyment can

either be intrinsic or extrinsic and are based around both perceptions and representations of enjoyment, competency, support, and effort (Wiersma, 2001). Intrinsic sport enjoyment is derived from self-referenced competency, the rushes of competitive excitement, and rewarding feelings of maximum effort expenditure. Extrinsic sport enjoyment comes from outside recognition of competence, close affiliation with teammates, as well as meaningful parental involvement in the athlete's sport participation. Furthermore, sport enjoyment has been connected to measures of athletic performance following engagement in mental performance training aimed at increasing sport enjoyment (Barnicle & Burton, 2016). Overall, the junior hockey system naturally utilizes various mechanisms known to aid in the enhancement of sport enjoyment, including strong team bonds, competitive environments, and opportunities for personal investment in meaningful athletic outcomes. Provided the capacity to establish diverse sources of enjoyment through junior hockey, participants stand to improve their athletic careers, as well as experience benefits to their personal, professional, and academic lives.

With host communities providing fans, sponsorship, and many forms of support, players can experience fast-tracked acceptance and adoration within their new environment. The presence of multidimensional support for athletes participating in the junior hockey system assists in the transition process and can be predictive of elite levels of performance (Rees & Hardy, 2000). Four types of multi-dimensional support include: 1) emotional, 2) esteem, 3) informational, and 4) tangible support (Rees & Hardy, 2000). These factors can insulate an individual's well-being in times of difficulty or challenge. The matching of predicted challenges with forms of support also promotes individual recognition of specific needs and can empower an athlete to seek support and solutions on their own (Cutrona & Russell, 1990). Junior hockey franchises work very hard to establish lasting relationships in their host communities based on

the various levels of interaction meant to be mutually beneficial for all parties. The ability for franchises to incorporate multidimensional sources of support is key to providing a quality experience for participants.

Junior Hockey Development System

Long-term athlete development. National sport organizers such as USA Hockey and Hockey Canada have been challenged in containing the expansion of junior hockey and its influence on youth development structures. Without direct management authority, these national governing organizations work in conjunction with junior hockey organizers and set forth guidelines for leagues to follow that align with their values and missions. Current recommendations regarding junior hockey follow the long-term athlete development model and work to match developmental needs with elite talent development principles. The Long-Term Athlete Development model (LTAD) was developed as part of push for a more holistic system of athlete and talent development that incorporates understanding of biological, psychological, and social growth to guide effective youth sport development (Bailey, Collins, Ford, MacNamara, Pearce, & Toms, 2010; Ford et al., 2011). To increase levels of performance and participation, the LTAD encourages a participant-fit model of sport development that matches the sport environment with the needs and capabilities of the participant (Bayli & Hamilton, 2004). Immediate impact of the LTAD has been felt throughout youth sport as practice-to-competition ratios have become better balanced, and more emphasis has been placed on general skill acquisition (i.e. physical literacy) as opposed to sport-specific movement (Balyi & Way, 1995; Higgs et al., 2008). The LTAD has also helped establish awareness of windows of opportunity within the foundational development principles of national sport governing bodies to maximize sport-talent development, and improving athlete experience through prevention of overuse and

burnout (Bayli & Hamilton, 2004). Education regarding windows of opportunity helps coaches, parents, and athletes become better equipped to create appropriate athlete development programming that aligns with the athlete's developmental age.

USA Hockey utilizes LTAD through the American Development Model (ADM). The ADM was developed to communicate to players and parents developmentally appropriate expectations and practices for athletes as they progress through the hockey system ("ADM Kids: About the ADM", 2018). These practices are meant to promote holistic development and encourage hockey participation through adolescence and well into adulthood. Under the ADM, junior hockey falls within the range of the "learn to compete" and "train to compete" phases, which involve male participants between the ages of 15 and 23. Recommended adjustments in these stages compared to previous levels include greater performance emphasis, increased recommended training loads, and incorporation psychological skills training ("ADM Kids; Long Term Athlete Development", 2018). While the inclusion of LTAD principles reflect a willingness for national sport organizers to apply theory to their youth sport development practices, ability to enforce these practices at the junior hockey level are limited due to the autonomy junior leagues are afforded.

Youth sport. Youth sport is a popular social institution with important developmental consequences for its millions of annual participants (Headstrom & Gould, 2004). According to self-report measures, top reasons for male adolescent participation in sport include learning new skills, appreciation of fitness, acquiring sport skills for leisure, and gaining a sense of belonging with peers (Seefeldt, Ewing, & Walk, 1992). A systematic review of youth sport literature (Eime, Young, Harvey, Charity, & Payne, 2013) further cites benefits of youth sport participation including psychological resilience (Bartko & Eccles, 2003), improved self-concept (Donaldson

& Ronan, 2006), and higher perceived social competence (Bowker, 2006). Despite many benefits and incentives, youth sport attrition has seen a sharp increase in recent years, specifically as participants age (Balish, McLaren, Rainham & Blanchard, 2014). Fewer individuals are remaining in their sport throughout high school for reasons including time demands, lack of enjoyment, or concerns about personal safety (Gould, 2007). In the sport of hockey, attrition rates have been found to peak during 11th grade in Canadian schools (Butcher, Lidner, Johns, 2002). Furthermore, research by Wall and Côté (2007) found that beginning specialized sport training (such as off-ice training) at a young age is correlated with dropping out of hockey. Overall, trends in hockey participation and attrition are consistent with those found in general youth sport populations. Facing challenges of early sport specialization and drop-out, hockey organizers should continue to adapt and establish empirically supported developmental practices.

Elite sport development. North American sport culture incentivizes elite athlete status and reaching high levels of performance (Farrey, 2008). Current sport development structures often overlook the needs of the less talented and reflect a format of attrition, reserving limited spaces for athletes who display the highest levels of competence (Butcher, Lindner, & Johns, 2002). Adoption of elite sport development practices by youth sport organizations has been connected to the rise in youth sport attrition rates (Ewing & Seefeldt, 1996). Additional factors driving young athletes away from sport can include earlier pushes for athletes to specialize (Bakerm Copley, & Fraser-Thomas, 2009), increased financial burdens on families to participate in entry-level sport (Dunn, Dorsch, King & Rothlisberger, 2016), and higher rates of injury and burnout through extended seasons and lengthy competition schedules (Harris & Watson, 2014). Youth hockey is currently experiencing an increase in competitiveness at younger ages, placing pressure on participants to specialize in a single sport to avoid the risk of falling behind. The

structural models being passed down from junior hockey to youth hockey have the potential for far-reaching implications on the attitudes and developmental outcomes of players.

Researchers of youth sport have proposed models of sport talent development in order to best understand the challenges faced by aspiring athletes and their families. Beyond innate factors of sport talent, Bloom (1985) introduced three phases of elite talent development (introduction, refinement, and elite performance) that outline progressive expectations of athletes working towards elite status. Ericsson, Krampe, and Tesch-Ranor (1993) expanded this concept of talent development to include environmental characteristics in three distinct phases necessary for the achievement of elite sport status. According to this model, early years of sport participation are focused on learning, fun, and trying new things in a supportive environment. The middle years begin to see sport and skill specialization, as well as increasing levels of competition. In addition, financial and time demands on an athlete's family during the middle years increase substantially. Later years of an athlete's progression towards elite performance are characterized by further increases in specialization and commitment to deliberate training outside of the family unit. In these years, family members also transition to more emotional, rather than tangible, support roles (Ericsson, Krampe & Tesch-Ranor, 1993). Elite talent development literature reflects the dynamic interactions between sport environments, participants, and support systems, all guiding athletes on their path to the achievement of elite status. Junior hockey embodies many characteristics of the late stages of Ericsson's model, which is championed as a desirable system, and has therefore influenced the adoption of elite competitive models for younger ages.

Sport mastery. Concepts involving a chronological progression of sport mastery can also be found with work by Côté (1999), who specified age ranges and anticipated challenges for

each phase of elite talent development. According to this model, sport participants aged 6-13 fall into what are known as the sampling years, when activities vary, and parents take on an active leadership role in promoting sport participation. Sampling is followed by the specialization stage, which occurs between 13-15 years of age. During the specialization stage, a strong commitment is made by the athlete to focus energy and effort on a smaller range of activities and/ or sports. Parents also increase their investment and involvement to the selected activities during this stage while promoting balance between education and sport (Fraser-Thomas, Côté, & Deakin, 2008). Côté's final stage, investment, occurs when athletes make a true commitment to achieving elite performance. Parents during the investment stage serve as important sources of emotional support through the transition, as sport achievement becomes a clear priority in the athlete's life. Information regarding the progression of elite talent development sheds light on the potential experience of prospective hockey players striving towards and entering the junior hockey system. This model of normative sport development is also important because it provides a means of comparison for the experience of athletes pursuing elite status in different sport settings.

Relative age effect. Early scouting and talent identification of youth hockey players for participation in juniors has influenced rules and structuring of youth hockey to the point that distinct selection bias, also known as the relative age effect (RAE), has emerged (Musch & Grondin, 2001). First studied in relation to cognitive and behavioral differences between students in the same grade, RAE has been extended to cover the impact of birth date on sport experience. Initial research by Grondin (1984) revealed a highly skewed distribution of birth-dates amongst competitive youth hockey as well as professional hockey players, in which athletes born in the earlier months of the calendar year were more likely to reach higher levels of the sport. These

findings suggest that strength-based sports (such as hockey) favor selection of relatively older athletes within a designated selection year. The age difference is relative, however, because it largely depends on the cut-off date independently established by hockey leagues and organizers. Subsequent research on the RAE has replicated the findings. Sherar, Munroe-Chandler and Baxter-Jones (2007) surveyed 238 junior hockey players and found that between 68-78% of fast-tracked junior hockey players had birthdays in the first six months of the calendar year as opposed to the later 6 months. Relative age effect provides further evidence towards the significant developmental impact the sport of hockey can have on young participants. RAE shows that athlete experience can be influenced by organizational structures and their approach to the developmental process.

The relative age effect is not found in all sports. To explain this, a review by Musch and Grondin (2001) identified four key characteristics/ contributing mechanisms to RAE: 1) competition, 2) physical development, 3) psychological development, and 4) amount of experience, as potentially contributing to differences between settings. First, competition contributes to the presence of RAE as a crowded selection process is more likely to rely on variables correlated with chronological age (i.e. strength, height, size, experience, etc.). For example, higher rates of RAE exist in populous cities where more participants are competing for fewer spots. Second, physical development is a key factor influencing the presence of RAE. Sports requiring more strength, motor skill, and size offer immediate advantages to early developing athletes, and therefore selection is found to favor relatively older athletes. Further evidence of physical development contributing to the presence of RAE is the sport of gymnastics, which sees an inverse effect. Being a sport that favors athletes that physically develop later, successful gymnasts are more likely to fall later on the relative age spectrum

(Baxter-Jones, 1995). Third, psychological development plays a role in RAE in that older athletes acquire greater perceived competence and receive higher expectations by sport organizers. The Pygmalion effect (originally associated with classroom environments) predicts that high expectations of ability can trigger a series of verbal and nonverbal cues that have an influence on actual motivation and achievement (Rosenthal, 1987). Different psychological experiences based on relative age may amplify and stabilize the many variables contributing to the relative age effect in young athletes (Musch & Grondin, 2001). Finally, differences in the amount of sport experience also contributes to the presence of RAE. Athletes up to one year older than their same-classification competitors may have significantly more applied experience in their sport, which can serve as a major advantage, especially for younger athletes. Therefore, RAE shows that late developing and chronologically younger sport participants stand at a disadvantage in becoming elite athletes according to the RAE and are more likely to self-select out of competitive sports. Questions raised by the relative age effect and its impact on development provide insight to the junior hockey experience, and the lived experience of participants that pass through this system.

Perceptions of junior hockey. Junior hockey maintains a generally positive public image through selective reporting of favorable outcomes that primarily focus on athletic achievement. Junior hockey websites and promotional materials showcase league stars, present and past, who embody the achievement of athletic goals. Predominantly, success is quantified by achieving NHL draft status, earning a collegiate athletic scholarship, or participating in a well-known championship such as the World Junior Challenge or even the Olympics. Utilizing and promoting athletic achievements as well as physical attractiveness of athletes has consistently shown to be an effective marketing strategy for sport organizations (Mutz & Meier, 2014).

Furthermore, imagery utilized for promotional marketing can be considered reflective of the priorities and values of the organizations themselves (Pope, 2000). Visual representations of successful athletic outcomes serve to perpetuate the mindset that junior hockey is the best pathway to achieve athletic goals. This selective marketing also fosters the notion that junior hockey is a positive experience for everyone involved. However, little data exists on the outcomes of former players that do not achieve athletic success, and little attention is paid to what this could mean long-term.

Summary of the Junior Hockey Experience. Junior hockey's early call for athletes to relocate and join a highly professionalized system is a unique developmental process distinguished from other North American sport development structures. Junior hockey incorporates numerous unconventional norms such as moving athletes from their primary support system, altering their educational trajectory, and exposing them to an intense new social dynamic. The competitive performance pressures facing junior hockey players are significant and occur during important developmental stages. Marketing tactics employed by junior hockey organizers obfuscate the true nature of the process and perpetuate a gatekeeper mentality implying that junior hockey is the only pathway to success in the sport. Overall, there is still much to be learned about the variables influencing the structure and function of junior hockey, as well as the impact this experience may have on participants. The significance of this effect must be considered for all junior hockey participants, regardless of the length of their career, or whether they consider their time in juniors successful or not. Junior hockey is a powerful socializing agent that reaches athletes at developmentally sensitive ages. The study of junior hockey as a sport development institution is essential for improving the lived experiences of those within the system, and for improving the outcomes for all who make the commitment to play.

Adolescence

Introduction to adolescence. Adolescence is a crucial and dynamic period of the human lifespan, encompassing a complex biological, psychological, and social transition between childhood and adulthood (Steinberg & Morris, 2001). The period of adolescence is distinguishable by the programmed biological changes that take place within new environmental and contextual settings. Aside from gestation and infancy, no other period of human development showcases such rapid and life-shaping growth (Peterson, 1988). The onset of adolescence also marks the emergence of an individual's self-concept, identity, and ability to navigate complex social environments. The interaction of growth and experience that takes place during adolescence represents the bridge between childhood and adulthood.

Behavioral outliers commonly observed during adolescence make it an intriguing space of empirical inquiry (Arnett, 1999). Throughout history, behavioral stereotypes regarding the developmental "middle age" have been recorded and discussed. In ancient Sumerian texts, a king describes at length a period of his son's rebellious youth (Danesi, 1994). Historic works of both Plato and Aristotle spoke extensively of human life-span development, including discussions of an intense period of self-reconciliation and transformation (Lerner & Steinberg, 2009). However, although humans have long distinguished this important developmental period, it was not until the 1904 publication of a comprehensive two volume work by G. Stanley Hall that the term adolescence was officially established (Hall, 1904). Hall's proposed theories on adolescence focused on causes and impacts of biological, social, and emotional changes in the human body, and have since been essential in constructing the modern understanding of adolescence as a unique and dynamic period of human development. These seminal works continue to influence the conversation surrounding adolescence to this day.

Perhaps the biggest impact of Hall's *Adolescence* was the posited assumption that adolescents are more prone to problem behavior than other age groups, and that society must somehow equip itself and prepare for reactive turbulence throughout the expected changes (Petersen, 1988). Freud's psychoanalytic theory (influential during the time *Adolescence* was published) also echoed Hall's notion of a period of necessary "storm and stress", attributed to the need to settle internal childhood conflicts to adapt to a more functional role within the society (Arnett, 2007). Following Hall's publication, formal theory and research regarding adolescence saw a sharp rise, his work continued to drive popular and scientific opinion on the topic for the next fifty years.

Problem behavior theory. Based on establishing works of adolescent theory, problem behavior theory (PBT) focuses on a highly visible and seemingly prevalent issues such as adolescent drinking behavior, drug use, sexual activity, and other problem behaviors in the context of adolescent psychosocial development (Jessor & Jessor, 1977). PBT assumes that adolescents stand at heightened susceptibility to the negative impact of problem behaviors, and that these behaviors have the potential to enact long-term consequences (Donovan, 1996). Furthermore, PBT outlines key factors that offer insight to the potential of an adolescent engaging in (or abstaining from) problem behaviors. These factors include growth in independence, development of morality, retention of religious or spiritual beliefs, and susceptibility to peer influence. PBT identifies three systems of influence on adolescent behavior outcomes (personality, environmental, and behavioral), collectively referred to as "psychosocial proneness" (Jessor, 1987). Characteristics of these three domains can be applied to specific cases that allow for the assessment of risk for adolescents to display certain problem behaviors.

Further study of problem behaviors reveals that the onset of adolescence may not be solely responsible for observed outcomes, and that other factors must be taken into consideration. Hart and Fegley (1995) counter the literature's overemphasis on adolescent problem behavior with findings that show adolescents as capable of high levels of self-understanding, moral judgement, and personal perception. Further challenging original notions of adolescents being more prone to problem behavior, Hawkins, Catalano and Miller (1992) found that all adolescents do not have increased rates of problematic drinking when compared to older populations. Although adolescents do tend to drink more at one time, and experience higher rates of social and legal consequences as a result of their drinking, these differences can be viewed as negligible when compared to the entire adult population. Furthermore, consequences of adolescent drinking can be exacerbated by socio contextual factors such as the secretive nature in which adolescents tend to drink, a lack of experience with alcohol, and not fully understanding the body's response to alcohol.

Adolescent risk behaviors. Exposure to new environments and peer groups as well as personal developmental changes introduces a range of new behavioral choices for adolescents, some of which are viewed as problematic or have dire consequences. Substance use has been traditionally viewed as a problem behavior plaguing youth and adolescents. The prevalence of substance-use behaviors in adolescent populations aligns with the accepted notion that adolescence is a time of identity exploration and experimentation. In 2002, 18% of American high school students reported having tried illegal substances on more than one occasion, and 75% knew where they could acquire illegal substances (Arthur, Hawkins, Catalano, & Baglioni Jr., 2002). This can be problematic, as early illicit drug use has been attributed to negative long-term outcomes such as incarceration, teen pregnancy, and limited vocational mobility.

Furthermore, intimate partner violence has been found in 25% of adolescent relationships, which is alarming considering that many adolescents during this time are entering their first intimate relationships and learning behaviors that may carry on to later stages of development (Silverman, Raj, & Mucci, 2001). Although not encompassing the entire adolescent experience, examining trends in adolescent problem behaviors and specific risk factors sheds light on the complex and difficult transitions taking place during this period. This may also improve understanding of coping strategies being taught and employed in situations involving adolescent stressors and decision-making processes.

Researchers of adolescence have long attempted to establish main-effect causes for behavioral trends, specifically with problem behaviors. Main-effect approaches seek to identify the presence or absence of specific variables (risk or protective factors) and their relationship to the observed behavioral outcome (Luthar, 1993). For example, Hall cited biological changes such as hormones or other chemical adjustments as the driving mechanisms for observable adolescent behavioral change (Arnett, 2007). Psychoanalytic theory further marked adolescent transitions to be the result of an individual's emerging capacity to engage with childhood subconscious drama and reconciliation (Buchanan, Eccles & Becker, 1992). Although important to the development of theory regarding the adolescent experience, early explanations prove to be limited in their ability to encapsulate the true reality of adolescence (Steinberg & Morris, 2001).

Modern interpretations of adolescent development theory take a more holistic approach, utilizing transitional and transtheoretical explanations for the observable changes. From this perspective, adolescent transitions are highly dependent on a variety of contextual factors that interact with biological features to create the developmental setting for the adolescent to explore (Malin, Reilly, Quinn, & Moran, 2014). The purpose of adapting this more inclusive style of

classification is to draw on widest possible scope of quality research, to synthesize influential findings, clarify developmental trajectories, offer reflection on normative development, and to evaluate risk/ protective factors that distinguish adaptive or maladaptive behaviors (Smetana, Campione-Barr & Metzger, 2006). The modern approach has allowed for adolescent behavior to be better understood as an expression of diverse interactions in various unique settings, instead of dependent on a single factor. The evolution of adolescent theory provides more ways to explore adolescent development, the environments adolescents develop within, and interactions between the two.

Adolescent development. A significant shift in the progression of adolescent developmental theory came with Erikson's (1968) life-span development concept, in which human development was presented as a series of tasks, or challenges, assumed to be completed chronologically (Lerner, 2001). According to Erikson's theory, successful completion of specific developmental tasks at the appropriate times lead to high functioning and well adapted individuals. Erikson's work is an attempt to capture normative human development and to clarify reasonable expectations of individuals at certain stages of their life. Of Erikson's eight proposed stages, adolescence falls within the fifth stage (ages 13-18), emphasizing the process of identity formation. During adolescence, individuals are exposed to an array of new experiences which involve increased social autonomy, volition over academic or life pursuits, and an increased awareness of the self as a unique entity, separate from the family unit and the rest of the environment. These changes put pressure on adolescents to explore different social experiences and find a meaningful fit, or accurate representation of the internal self being expressed to the rest of the world (Kidwell, Dunham, Bacho, Pastorino & Portes, 1995). According to Erikson's theory, unsuccessful identity formation can lead to role confusion, or an incomplete sense of

where one fits into the adult-world (Arnett, 2000). Erikson noted that role confusion likely leads to specific developmental consequences such as uncertainty of self in most pursuits, frequent job changes, inconsistent interests, and non-stable relationships (Erikson, 1968). Overall, Erikson's work marked the beginning of a life-task approach to understanding human development and made progress towards encapsulating the normative adolescent experience. By defining specific developmental tasks, the completion of which could be objectively measured, Erikson's work provided insight to individual development relative to the socially accepted norms.

Marcia (1980) expanded on Erikson's work on human development and further explored the complicated process of adolescent identity formation. Marcia defined identity as an internal, self-constructed, dynamic organization of drives, abilities, beliefs, and individual history. According to Marcia, to better understand identity formation, it was best not to focus on an objective outcome, but rather the underlying processes at work in extracting meaning from the adolescent experience (Nurmi, 1993). The importance of identity development therefore lies in how physical development, cognitive skills, and social expectations align and allow for the individual to construct meaning of childhood experiences, enabling progress to be made towards adulthood (Marcia, 1980). Marcia's theory emphasizes that the process of identity formation does not happen all at once, and that progress is gradual and often non-conscious. Furthermore, the mechanism underlying identity formation acts through seemingly trivial decisions made again and again. Repetitive experience with decision making progressively impacts one's central core of ideals, resulting in the ability to feel that decisions, and consequently the identity, is truly one's own (Waterman, 1982).

Marcia's identity theory further establishes four identity statuses describing distinct characteristics adolescents may experience at a given time (Marcia, 1966). These statuses do not

represent terminal stages, however, but rather suggest that an individual's identity state may healthily fluctuate while making progress towards the final goal of a stable identity structure. The four statuses are: 1) identity achievement, 2) foreclosure, 3) diffusion, and 4) moratorium. Identity achievement finds the individual in a state of confidence in their decision making towards self-chosen occupational and ideological positions. Identity foreclosure describes an individual who is committed to an occupation or ideological stance after having been forced or firmly directed towards it by a parent or source of influence. An individual showing identity diffusion has not made a commitment to an identity, regardless of how much they have experienced. Lastly, moratoriums are characterized by a sensed identity crisis in which the individual cannot seem to comfortably commit to any future direction. Marcia predicts that adolescents cycle through diffusion, achievement, and moratorium up to three times before settling on a stable sense of occupational and ideological core structure (Marcia, 1980). Characterizing cycles of adolescent identity formation in this manner serves to normalize behavioral outcomes that can otherwise be perceived as troublesome or maladaptive by observing adult populations. Marcia's model works to provide structure and understanding to what is commonly perceived as a chaotic developmental period. An additional advantage of classifying adolescent identity formation this way is that it enriches understanding of the adolescent experience beyond Erikson's dichotomy of identity formation or confusion (Waterman, 1999).

Athletic identity. Parallel to adolescent identity formation theory is research specific to athletic identity, and athletic identity foreclosure. Sport is widely viewed as a socially acceptable space for identity development, especially amongst adolescents (Eccles, Stone & Hunt, 2003). Participation in sport offers unique social dynamics that can aid in identity formation, such as

providing feedback on physical skill, pursuing competence, and displaying initiative (Larson, 2000). Being viewed as good at sport is highly desirable in North American society. In fact, research has found that being identified as a successful athlete is the most desired status amongst junior and senior high school students (Weiss, 1995). However, to achieve that desirable status, many adolescents must make extreme sacrifices of their time and energy to participate in sport.

Pursuit of elite status in sport has been found to limit opportunities for normative identity exploration, which can push a young athlete to embrace the values and cultural norms of their selected sport without balancing those views with perspective gained from other experiences (Brewer & Petitpas, 2017). This phenomenon of heavy reliance on a sport or specific activity to construct personal meaning is known as athletic identity foreclosure (Petitpas & Champagne, 1988; Gould, Tuffey, Udry & Loehr, 1996). In one study of athletic identity formation, surveys were collected from 153 athletes measuring athletic identity and career development. Results found that high athletic identity and identity foreclosure can create adjustment difficulties and career planning deficiencies in athletes (Cabrita, Rosado, Leite, Serpa & Sousa, 2014). The pressures by parents guiding their children towards elite athletics also has the potential to limit identity exploration and promote athletic identity foreclosure. Ability to cope with and successfully navigate new life experiences, including eventual career termination, is important to the healthy psychosocial development of an athlete, especially when making the transition to college athletics (Grove, Lavalee & Gordon, 1997). With increases in early exposure to elite and competitive models of athlete development, youth sport participants face an increased risk of identity foreclosure by being pushed to accept and strongly identify with their role as an athlete starting at an early age.

Adolescent transition. Adolescent transitions are defined as structural or functional reorganizations influencing either the transition into or out of adolescence (Rutter, 1996). These important transitional events are recognized by their potential to alter behavior, affect, cognition, or context by initiating “turning points”, which can result in lifelong changes (Pickles & Rutter, 1991). Research on adolescent transitions and turning points highlights the emergence of new behaviors and the discontinuation of old behaviors, which occur in direct response to demands set forth by the environment (Elder, Caspi & Burton, 1988). These demands may stem from major societal events or stressors (such as war or economic hardship) or be a product of industrial changes that place unique demands on a younger generation that were not present for another. Schlossberg (1981) further describes the capacity for a transition to alter one’s assumptions about oneself, requiring a subsequent change in behavior and relationships. The process of adaptation during a transition can be influenced by factors including previous experience with similar transitions, stable characteristics of self, social support, and adopted coping strategies (Schlossberg, Waters & Goodman, 1995).

One example of the influence of society on expectations of adolescent transitions comes from a cohort study of first-marriages spanning from 1900-1985 (Rogers & Thornton, 1985). Data from this period marks generational changes in first-marriage rates closely connected to major societal events and trends. These societal expectations regarding adolescent autonomy, career selection, and relationship development appear to play a large role in the types of transitions experienced by adolescents (Eldi, Caspi & Burton, 2013). Adolescent developmental theory focusing on transitions acknowledges the relative universality of specific challenges faced by all adolescents, and that individuals take on unique adaptive strategies to face those challenges. Variations in the adaptive strategies are based on the individual’s unique experiences

with biological, psychological, and social changes, and lay the foundation for development through the lifespan (Graber & Brooks-Gunn, 1996). An adolescent's perception of social expectations as well as their ability to cope with and navigate complex transitions indicates mechanisms of adolescent psychosocial development, as well as potential related outcomes.

Additionally, how life transitions are navigated can be predictive of long-term behavioral patterns, also known as developmental trajectories (Elder, 1985; Rutter, 1989). Developmental trajectories refer to the amount of development anticipated over a specific period and incorporate stable factors such as plasticity and resilience with changing environmental conditions (Bongers, Koot, Van Der Ende & Verhulst, 2004). Research has found that the experience of multiple life events (occurrences that can either bring distress or eustress) during a key transitional period may create longer lasting and more stable effects than events that take place at other points during the lifespan (Graber & Brooks-Gunn, 1996). This implies that behavioral adaptations acquired during adolescence may have a lasting impact on an individual as they transition through to other developmental phases. Furthermore, periods of noted adolescent transition may increase vulnerability to stressful experiences. Evidence of this is found in the concerning rise of adolescents reporting depressive mood, and suicidal thoughts and behaviors, indicating a major health concern for this population (Evans, Hawton, Rodham, & Deeks, 2005). In addition, longitudinal analysis regarding developmental trajectories has identified both adolescent risk and preventative factors associated with prevalence of suicidal thoughts and behavior in adulthood (Goldston et al., 2016). Factors including adolescent trauma, experience of abuse, and family history of suicidal tendencies have shown to be indicators of adolescent risk, while acquiring skills for emotional and behavioral regulation were found to be protective factors long-term. With increased concerns over adolescent psychological well-being, it is important to consider the

role sport may be playing in either contributing to or preventing psychological risks in participants.

Adolescent mobility. Residential mobility, or changing homes or schools, is a relatively common occurrence in North American society; historically defined by the transient nature of its populations (Hendershott, 1989). In the year 2000, 43 million Americans moved/ relocated their primary residence (U.S. Census Bureau, 2000). Although statistically common, concern has been voiced regarding the impact of residential mobility on individuals and families faced with navigating this complex life event. Research by Long (1975) on adolescent residential mobility found that moves leading to a change in school can be disruptive to academic success and personal development. This can lead to delays in academic progress and behavioral issues within the new environment. Although residential mobility has been correlated to below-standard grade placement, it is also noted that higher socioeconomic level families with both parents as college graduates can see increases in children's academic achievement through residential and educational mobility. Improvement in academic achievement for some individuals following relocation is attributed to the notion that moves involving higher class families are typically volitional, for positive reasons, and that higher-class families are typically moving into growing or expanding communities with plentiful resources (Long, 1975). In comparison, residential mobility for lower socioeconomic families is often a result of forced relocation, financial necessity, or a lack of support/ opportunities in that community (Newman & Owen, 1982). A more recent study suggests that many contextual variables contribute to the impact of mobility, specifically the factors motivating the move (Gasper, DeLuca & Estacion, 2009), meaning that developmental outcomes as a result of residential mobility may vary greatly.

In response to high rates of low-socioeconomic residential mobility and the potential negative impact this can have on adolescent academic achievement, Haynie, South, and Bose (2007) set out to determine characteristics influencing this process. Utilizing data collected by the National Longitudinal Study of Adolescent Health on 8,500 participants, the authors explored influences of parent-child relationships, peer networks, academic performance, school attachment, and psychological well-being on the drop-out rates of residentially mobile students. The authors found high school students with experiences of residential mobility to be twice as likely to drop out of school than their non-mobile peers. These findings were attributed to differences in the structure and composition of peer friendship networks, and that mobile adolescents tended to have smaller, denser networks of friends within which they are less centrally located (due to their newcomer status). Centrality within a social group is desirable as it indicates both closeness and embeddedness within the network (Susskind & Odom-Reed, 2016; Freeman, Roeder & Mullholland, 1979). Furthermore, new friend groups of mobile students tend to display weaker academic performance on average, which can influence overall academic performance for mobile adolescents. Residential mobility, specifically during the later years of high school, can disrupt previously established relationship networks between parents, children, teachers, communities, and schools, resulting in a loss of social capital for the adolescent (Coleman, 1988). The sense of being embedded in a stable social network is valuable for an adolescent as they begin to face more complex social challenges on their own (Shaffner, 1998; Hirschi, 1969). Therefore, residential mobility, especially in lower socioeconomic populations, should be recognized and accommodated through the school system and communities to protect transitioning adolescents from potential negative outcomes.

Educational mobility. Emergence of adolescent problem behavior has also been found to be a result of educational mobility, or the changing schools (Swanson & Schneider, 1999). Research utilizing national survey data and follow up interviews with middle school and high school students found mobile students to be more likely to fall into peer groups with higher rates of deviant behavior and are therefore more likely to engage in deviant behavior themselves (Haynie & South, 2005). Predictable shifts towards problematic behavior following adolescent mobility are also attributed to parent-child relationship dynamics, psychological distress, victimization, and weakened peer social networks (Haynie & South, 2005). Embedded within a new community, parents may not have established relationships with new peer-group parents, making the monitoring of adolescent activities more difficult (Sampson, 1997). Furthermore, changing homes and schools in many cases is considered an adverse experience for adolescents as they work through the challenging task of establishing a self-image, finding appropriate peer groups, and establishing autonomy from parents (Raviv, Keinan & Raviv, 1990). The experience of psychological distress may motivate an adolescent's acceptance of deviant behavior as an appropriate expression of inner turmoil (Harris, Duncan & Boisjoly, 2002). Research also shows that mobile adolescents are viewed as vulnerable by individuals in the unfamiliar environment, and therefore experience more initiation-type victimization (Jankowski, 1991). Adoption of a new peer group appears to serve as a coping mechanism in the adjustment period following a relocation or school change. Therefore, it is not simply the severing of social ties in one place and relocating to another that creates potential developmental problems, but rather, that deviant peer groups may be more open to accepting mobile youths that are seen as vulnerable (Dodge, Dishion & Lansford, 2007).

Residential mobility. Studies related to residential mobility have traditionally focused on low socioeconomic status and high-risk populations. To counter this, researchers have sought to include situations of self-selected adolescent mobility to better understand the impact of this process (Hango, 2006). In fact, a growing body of research considers mobility as a process that may protect adolescents from negative emotions, cognitions, and behaviors during future life events (Crane, 1991; Jencks & Mayer, 1990). Moving out of the family home and living outside of the primary care system is considered a normal adolescent transition that can serve as a positive experience and validation of successful development leading up to that point. The modern example of this process is a high school graduate's advancement to college or university.

To better understand the impact of living away from home, Fisher and Hood (1987) examined homesickness, hypothesizing that levels of homesickness amongst college freshman would be lower for individuals who had previously experienced living away from home, implying higher preparedness for the transition to the college environment. Homesickness is a complex cognitive-motivational-emotional state based on missing one's family, friends, and the physical aspects of the primary home environment. Feelings of homesickness have even been likened to the emotional experience of grief (Paul & Brier, 2001). Through their findings, Fisher and Hood (1988) proposed an inverted-U model of homesickness, stating that capacity to effectively cope (and not be overwhelmed) in new environments, plays a strong role in the amount of experienced homesickness. Homesickness has also been identified as a risk factor for depression for college students who may not effectively adapt to their new environment (Holmbeck & Wandrei, 1993).

Research has also shown that individuals with experience living away from home, or having traveled extensively, experience lower levels of homesickness as measured by reported

self-esteem, ego identity, and internal locus of control (Tognoli, 2003). Additionally, homesick individuals are less likely to have attended boarding school or experienced extended holidays away from home. These findings are related to a concept known as place attachment, referring to one's connection to what they consider to be their home (Giuliani, 2003). Having a strong connection to a sense of home has been cited as playing a vital role in adolescent self-definition, and identity formation (Brown & Perkins, 1992). Furthermore, individuals who identify strongly with their experiences away from home experience a selective immunization effect against negative outcomes related to residential mobility or planned adolescent transition. Overall, intentional or self-selected time away from the primary home may in some cases help an adolescent develop healthy coping skills and make future transitions less disturbing in relation to peers.

Adolescent adjustment. Exploring adolescent capacity for adjustment, Tognoli (2003) conducted 27 interviews with first-year college students regarding adjustment to a new setting as well as levels of homesickness. The interview guide for this study was constructed using items from validated questionnaires related to relocation, homesickness, self-esteem, ego identity and locus of control. Results found distance moved away from home to be correlated to levels of homesickness, evidenced by lower scores on ego identity and perceived locus of control. Individuals attending school many miles away from their identified home lacked easy access to parents and friends, daily experiences with a familiar environment (such as a bedroom or family room), and familiar community resources; potentially contributing to levels of homesickness. Individuals attending college much closer to home reported having an easier period of adjustment and reported less homesickness. In addition, research conducted by Fisher and Hood (1988) used a self-report life-history model to survey 196 first year resident university students

and found that homesick students were more likely to report psychological disturbances as well as disruptions in cognitive functioning. Overall, well-supported experiences away from home prior to college may help in establishing adaptive coping skills to prevent negative emotional or behavioral consequences in future instances of being away from home, however factors such as distance moved must also be considered when examining potential outcomes.

Late adolescence. Theory regarding normative adolescent development has had to carefully adapt along with social trends in order to remain relevant (Deković, Noom & Meeus, 1996). At the onset of adolescent development theory, normal expectations of males reaching 18 years of age were that they would be fully prepared and capable of committing to a professional career, establishing themselves as at the center of a new family unit, and maintaining a mature interpersonal relationship (Demos & Demos, 1969). However, societal changes in expectations of normal adolescent development, theory has emerged distinguishing a unique period called “late adolescence” to account for the steadily rising number of individuals not completing traditional developmental tasks within the expected timeframe (Winston, Miller & Cooper, 1999). Cultural indicators signaling a need for this distinct phase include a swell in college enrollment in the United States (over 50% of the college-aged population), which typically delays career selection, and the increase of the mean age of first marriage rising for males from 22 in 1970 to over 26 in 2000 (Fitch & Ruggle, 2000).

The first to advocate for the developmental distinction of late adolescence was Chickering (1969), outlining specific developmental expectations of individuals between the ages of 18 and 23. These expectations closely resemble Erikson’s original framework of lifespan development and extend to include more emphasis on the transition to adulthood. Kitchner (1982) further highlighted the overlap between traditional adolescent developmental tasks and

tasks of early adulthood, while advocating for more focus to be applied to this unique period during the lifespan. The proposed overlap between the two stages is supported in research that shows many individuals considered young adults by traditional standards to have not in fact completely addressed the developmental challenges of adolescence (Zarrett & Eccles, 2006). The period of late adolescence is associated with specific developmental tasks, including achievement of emotional independence, preparation for marriage, career selection, and development of an ethical system (Chickering & Havighurst, 1981).

The primary tasks of late adolescence relate to the preparation for what are considered traditional early adulthood tasks. These tasks include beginning work towards a career, and entering a mature, intimate relationship. Embedded within late-adolescence are developmental tasks related to vocational opportunities and career selection. Work on this topic became a primary emphasis of Super (1969), whose multi-phase and life-span development-oriented theory on career selection was incredibly influential during the 1970's in the realms of career counseling and psychology. Super's phases of career development include crystallizing and specifying a vocational preference, stabilizing in the chosen vocation, consolidating one's status, and advancing within the occupation (Super & Nevill, 1984; Super & Hall, 1974). Establishing vocational direction is viewed as a personally rewarding and socially valued process for adolescents to achieve, especially if they continue to college and receive training in specialized interests. Developing vocational preference is closely related to identity formation in that vocational preference represents a shift in attitude that motivates how the individual views and applies themselves to their future endeavors (Blustein, Devenis & Kidney, 1989). Creating a vision for the future involves formulating ideas as to fields and levels of work which are the best match for an individual's skill set. The eventual application of this information (in the form of

entry-level jobs, internships, choosing an educational program) represents a crucial step in the development of the individual towards being socially considered an adult. Furthermore, the individual's ability to access, interpret, and apply relevant feedback related to their professional abilities is a valuable skill that contributes to establishing a stable identity to be carried forward through future life stages (Low, Yoon, Roberts & Rounds, 2005). The experiences of late adolescence are significant in their ability to shape and solidify interests that set the course for development through the lifespan.

Developmental tasks. Three fundamental principles regarding the nature of adolescent development are that it is continuous, cumulative, and exists on a continuum (Winston, Miller & Cooper, 1999). First, continuous development refers to the general course of human growth that occurs universally, although not independent of the environment. Although exposure to the environment can alter whether growth/ development is considered optimal, growth takes place regardless. Second, cumulative development refers to the self-referencing growth that relies on past experiences to navigate future changes. Lastly, development exists on a continuum; meaning basic skills must be mastered before more complex behavioral challenges can be successfully navigated. These three fundamental processes establish the foundation for what is known as the development task.

A developmental task is that which arises around a certain period in life, and successful achievement of which leads to happiness and to success with later tasks, while failure may lead to unhappiness, disapproval by society and difficulty with later tasks (Havighurst, 1953). Historically, adolescent developmental tasks have varied depending on societal and cultural preferences with certain behaviors, but the overall theme of the tasks have remained similar. McCoy (1977) proposed nine developmental tasks focusing on the development of skills

required for leaving home, and important feature of the adolescent experience. These include breaking psychological ties, choosing a career, entering the workforce, handling peer relationships, properly managing time, adjusting to independence, problem-solving, and managing stressors that accompany change (Borca, Bina, Keller, Gilbert & Begotti, 2015; Bosma & Kunnen, 2001).

Adolescent psychosocial development. Work by Chickering and Reisser (1993) expanded on McCoy's tasks and reframed them as developmental vectors that offer a comprehensive look at psychosocial developmental expectations for adolescents preparing for a successful transition to adulthood. The seven proposed vectors of psychosocial development include: 1) developing competence, 2) managing emotions, 3) moving through autonomy toward interdependence, 4) developing mature interpersonal relationships, 5) establishing identity, 6) developing purpose, and 7) developing integrity (Chickering & Reisser, 1993). Chickering and Reisser's vectors represent core principles of non-intellective development expected to occur through the college years, and propose that emotional, interpersonal, and ethical development deserve equal consideration with intellectual development. The developmental vectors go beyond cognitive assessment, which is a more standardized way for adults and educators to objectively measure developmental growth in adolescents (Shepard, 2000). The education system has long utilized standardized cognitive assessment (e.g. ACT, SAT, etc.) to determine eligibility for matriculation, or entrance to higher education. However, cognitive growth is not a sufficient indicator of holistic development (Rychen & Salganik, 2003). Therefore, more research is required to understand the complete developmental experience, expanding developmental expectations and predictive measures of lifespan outcomes.

Chickering and Reisser's seven vectors of adolescent psychosocial development represent one of the most comprehensive and frequently cited theories on psychosocial development (Foubert & Grainger, 2006). The ease of applying these principles towards the anticipated development of college students has been demonstrated by the theory's influence on college structuring of programming (Evans, Forney & Guido-Dibrito, 1999). The developmental vectors have also proven to be valid representations of college development through longitudinal studies, confirming that individuals do experience gradual psychosocial change in the college setting (Foubert, Sisson, Nixon & Barnes, 2005). Application of these developmental vectors within the period of adolescence provides educators and organizers the opportunity to meaningfully assess learning behaviors, form developmental goals, and create developmental plans for students that foster behavioral change (Winston, Miller & Cooper, 1999). These elements, established upon the foundations of developmental psychology and the chronological life-stage development model, offer a lens through which the development and socialization process of adolescents in their preparation for adulthood can be more objectively viewed.

Psychosocial development in college. College serves as a major socializing agent for adolescents. In 2013, nearly 66% of American high school graduates attended institutions of higher education according to the Bureau of Labor Statistics (2014). For some, the purpose of attending college is that it serves as means to acquiring skills necessary to entering the workforce and supporting the economic stability of the nation (Pascarella & Terenzini, 2005). For others, college is used as a stepping stone towards mastering a specific topic or discipline (Mayhew et al., 2016). Overall, college represents a milestone of independence for many adolescents who are living outside from their parent's direct authority for the first time. The college environment represents an optimal setting for continued identity formation and establishment of a sense of

purpose that can lay the foundation for development across the remainder of the lifespan (Mayhew et al., 2016). As a developmental platform, college is unique in its concentrated emphasis on both intellectual, social, and personal development targeted at a specific age group. These factors make it an ideal laboratory for researchers to examine the various interactions associated with adolescent development.

The purpose of higher education involves more than gathering skills for a future career, and rather incorporates a complex arrangement of psychosocial metrics and developmental processes (Mayhew et al., 2016). Indicators of a meaningful college education include growth in self-understanding, development of social and cultural interests, critical reflection of one's worldview, establishing values, and preparing for global citizenship. Closely related to theory on college development is self-authorship theory (Inkeles, 1966), which emphasizes the importance of relevant interactions between the self (perception and understanding of self) and relational systems (perception and understanding of how one fits into the world) in providing a holistic perspective of the college experience (Pascarella & Terenzini, 1991). Self-authorship theory focuses on the process of reconciliation between one's sense of self, perceived role in relationships, and established role in the external environment (Kegan, 1994). Inner negotiations that takes place through self-authorship, especially in the context of college, signal a shift in the identity's reliance on external validation, to an internal source of influence and meaning-making (Baxter Magolda, 2001). In a related study, self-authorship exercises were conducted longitudinally for between 3 and 30 years with traditional-aged college students. Results identified a three-step process of self-authorship, fostering individual transitions from acceptance of perceptions of authority figures, to questioning those authority figures, and finally to navigating challenges independently and establishing a stable internal voice (Baxter Magolda,

2009). College, therefore, serves as an ideal setting for this process of self-authorship and development to occur, and as essential in the solidification of core identity principles.

Late adolescence requires an increased capacity to maneuver complicated social contexts (Jones & Abes, 2013). Capacity to engage in effective symbolic interactionism (the act of interpretation and meaning making) provides balance to internal and external processes occurring during identity formation and offer insight to the adolescent lived experience (Blumer, 1969; Charon, 2009). College represents a time when initial conclusions drawn about self-identity are tested and are either challenged or validated depending on external feedback received from peers in the environment. Interpreting these interactions from a sociological viewpoint provides perspective to group membership selection processes as well as career identity selection (Torres, Jones & Renn, 2009). Successful adolescent navigation of the college domain can improve psychological well-being as well as individual thriving; a process that includes engaged learning, academic determination, positive perspective, acceptance of diverse citizenship, and social connectedness (Lerner, Lerner, Eye, Bowers & Lewin-Bizan, 2011). Positive outcomes rely on complex social exchanges between the individual and their environment to establish meaning and significance (Schreiner, 2010). Understanding unique individual characteristics as well as the environment within which those characteristics are being tested is essential to conceptualizing the scope and effect of college on students.

Non-traditional college students. With recent increases in access to higher education as well as improved support for diverse student populations, colleges and universities have seen a rise in non-traditional students, which now make up over 40% of the undergraduate population nationwide (National Center for Educational Statistics, 2012). Through work with the National Center for Educational Statistics (NCES), Horn (1996) identified seven characteristics for

identifying non-traditional college students. Individuals identifying with one of the characteristics were labeled as minimally nontraditional, those identifying with two or three were labeled moderately nontraditional, and individuals possessing four or more characteristics were labeled highly nontraditional. Non-traditional characteristics include: delaying enrollment (not coming straight from high school), being a part time student, being financially independent, working full-time while enrolled, having dependents, being a single parent, or holding a non-traditional high school diploma (Horn, 1996). Non-traditional students can have very different educational experiences than their peers, which can have an impact on their mental health. This is due to their unique personal and family needs as well as a general lack of appropriate resources offered by institutions of higher learning (Adebayo, 2008).

Historically, college students have come from high socioeconomic backgrounds, studied exclusively on campus, and entered college directly after secondary school (Mayhew, Bowman, Rockenbach, Siefert, & Wolniak, 2016). Despite the importance of colleges and universities utilizing accurate predictors of academic and career success and providing a multitude of programming to encourage student retention, academic resources are often targeted at meeting the needs of these traditional student populations (Komoraju, Ramsey, & Rinella, 2013; Chao & Good, 2003). Extending the call for institutional distinction between traditional and non-traditional students, Macari, Maples, and D'Andrea (2006) compared and identified unique psychosocial development characteristics between these populations. Utilizing the Student Development Task and Lifestyle Assessment, a validated measure of psychosocial development, scores of traditional and (all three categories of) non-traditional college students were compared and revealed that non-traditional students score significantly lower on three measures of psychosocial development (Winston, Miller & Cooper, 1999). These results point to the need for

special considerations to be made regarding campus resources for all types of nontraditional college students, as they are likely to face unique challenges in comparison to peers, including connecting with identified self-interests, and socially integrating with the college experience (Macari, 2003). Furthermore, expanding the definition of non-traditional students beyond an age distinction improves a university's ability identify potential needs and apply effective support services, such as counseling, to this population (Luzzo, 1999). Overall, non-traditional college students have unique developmental needs that must be taken into consideration, especially given the changing demographic landscape of higher education.

Student Development Task and Lifestyle Assessment

The present study utilized two instruments of measurement: a) the Athletic Identity Measurement Scale (AIMS), and b) the Student Development Task and Lifestyle Assessment (SDTLA). The SDTLA originates from Chickering and Reisser's (1993) Theory of Identity Development and has evolved through multiple versions to be a leading measurement college student psychosocial development. The purpose of the SDTLA is to serve as psycho-educational tool that increases awareness and examines measurable characteristics indicative of establishing life purpose, mature interpersonal relationships, academic autonomy, and a healthy lifestyle in college students (17-25) going through meaningful life transitions (Winston, Miller & Cooper, 1999). The SDTLA assesses development through three primary developmental tasks (built from 10 subtasks) and two scales. The SDTLA is used to facilitate appropriate individual development in the college setting as well as to provide meaningful program evaluation regarding developmental task progression (Winston, Miller, & Price, 1999). A developmental task is defined as "an interrelated set of behaviors and attitudes that the culture specifies should be exhibited at approximately the same time by a given age cohort in a designated context"

(Winston, et al., 1999). Subtasks extend this definition and further specify behavioral components, that together with other subtasks, help define larger developmental themes.

The SDTLA has undergone three major revisions since its inception in 1974 (Campbell, 2002). Winston, Miller & Price's (1974) original conception of the SDTLI was based heavily on Chickering and Reisser's (1969) developmental theory labeling the college years as a significant period of non-intellectual development that play a key role in long-term outcomes. The original goal of the SDTLI was to provide a means of assessing individual development throughout the college process on a variety of levels. Work on the SDTI-2 began in 1976 to adjust behavioral phrasing of the questions and to improve overall psychometric properties of the instrument (Winston, Miller, & Price, 1999). The second revision of the instrument commenced in 1984 to further refine language used in questions, expand on cultural considerations, bring more attention to health and wellness issues, and to include measurement of response bias. After three rounds of data collection and item adjustment, the Student Development Task and Lifestyle Inventory (SDTLI) was published in 1984. A major feature of the first version SDTLI was that it utilized gender-neutral language, expanding the instrument's ability to assess development in college students.

The authors next became interested in expanding the application of the SDTLI to make a better research tool for predictive measures and of non-intellectual development outcomes in college students. Large-scale data collection took place over the course of five years, resulting in major changes to the instrument. These changes included the addition of multiple response formats, adjustment to subscale measurement, and assigning different weight to specific items (Campbell, 2002). Emerging from data collection efforts to improve the SDTLI came the current version of the instrument, the Student Development Lifestyle and Task Assessment (SDTLA).

Version 1.99 of the SDTLA consists of 153 items of multiple response formats (See Appendix D), a departure from earlier versions of the instrument that utilized only a true-false response format. Response items have been assigned weight by the researchers based on their indication of advanced development or an absence of development. This format also deviates from Likert-type responses in that some response items have been assigned the same weight (Winston, Miller & Price, 1999 pg. 26). Items constructing the developmental tasks of the SDTLA were determined to fit five criteria: a) conceptually fitting the subtask or scale to which it was assigned; b) being more highly correlated with the assigned subtask or scale than any other subtask or scale, c) maintaining the mean of the items for fourth year students as higher than the mean for first year students, d) not adversely affecting internal consistency of the subtask scale, e) minimum content duplication, and f) no apparent gender, racial/ ethnicity, or sexual orientation bias (Winston, Miller, & Price, 1999). Question types in the SDTLA include true/false, as well as various response types with between four and five options. Weight was assigned to each response based on instrument developer consensus, with the highest scores connected to responses to that indicate the most psychosocial development, and low scores connected to responses not indicative of psychosocial development. The inclusion of non-standardized response scales improved the range of variability and gave the instrument an increased ability to reflect appropriate developmental expectations of college students.

The SDTLA includes four key areas of psychosocial assessment, represented by three primary tasks and one scale. The first task measured through the SDTLA is Establishing and Clarifying Purpose (PUR), related to establishing self-efficacy, clear educational goals, and professional, social, and ethical direction. The four subtasks emphasize educational involvement, cultural participation, and career and lifestyle planning. The second task of the SDTLA is

Developing Autonomy (AUT). This task measures an individual's development in areas indicating independence in need satisfaction, self-motivated learning meaningful contributions to the community. The four subtasks identified within this task are interdependence, emotional, educational, and instrumental autonomy. The third task of the SDTLA is Developing Mature and Interpersonal Relationships (MIR) and includes subtasks measuring peer relationships and tolerance. Ideal scores in this category indicate healthy development towards forming authentic relationships with healthy communication, balanced dependence, and appreciation of diversity (Winston, et al., 2008). Finally, the SDTLA includes the Salubrious Lifestyle Scale, which evaluates if a student's lifestyle is consistent with accepted concepts of health and wellness. Students scoring high in salubrious lifestyle demonstrate health-conscious behaviors such as eating well-balanced nutritious meals, abstaining from alcohol and tobacco products, and getting enough sleep and exercise.

Internal consistency for the SDTLA was estimated using test-retest parameters (Winston, Miller & Cooper, 1999). Three different classes were administered the SDTLA at two institutions on separate occasions four weeks apart. Short-term test-retest correlation coefficients were reported to be between .70 and .89. Measurements of internal consistency were established by testing over 1800 students at 32 colleges and universities across North America. Results of this research indicated Cronbach alpha coefficients ranging between .88 and .62. All task and scale alphas measured .71 or greater (Winston, Miller & Cooper, 1999). Two steps were taken to estimate construct validity of the SDTLA. First, intercorrelations were calculated between scales, tasks, and subtasks of the instrument and found that most measures to be at least moderately correlated with each other, and that subtasks within tasks were relatively highly correlated with each other (Winston, Miller & Cooper, 1999). Second, a variety of construct-related scales were

used to estimate the convergent validity of the SDTLA. Correlations were found on a variety of related instruments that assessed constructs related to each task and subtask. Furthermore, the response bias scale showed strong Pearson product-moment correlation with the Marlow-Crowne Social Desirability scale ($r=.83$).

Reliability estimates were conducted to determine the degree to which the psychological assessment instrument attributed to participant score variance. Both test-retest and internal consistency procedures were undertaken to account for sources of error. Test-retest reliability was measured by administering the SDTLA to 52 participants twice over the course of four weeks, with no added interventions or instructions. Pearson-product correlation was conducted for all task, subtask and scale scores, yielding results that ranged from .73 to .93 (Winston, Miller & Cooper, 1999). Internal consistency measures were conducted using SDTLA scores taken from a large sample of 1822 college students from 32 campuses. Coefficient alphas, indicating item relatedness, ranged from .88 to .62. SDTLA reliability estimates reflect the instrument's ability consistently measure psychosocial development in the college student population.

Uses of the SDTLA. The SDTLA (in its various forms including the SDTLI) is an extensive measurement of psychosocial development and wellbeing that has been utilized in a wide range of contexts. Bruess and Pearson (2000) compared identity development and moral reasoning in college students and found a significant relationship between measures of moral reasoning Academic Autonomy, Mature Interpersonal Relationships and Purpose tasks in the SDTLA. These findings suggest that development of identity and moral maturity are parallel processes. Research utilizing the SDTLA has also been correlated to assessment of career development/ sense of purpose in college students (Molasso, 2006; MacAri, Maples &

D'Andrea, 2005), effects of boredom in college student development (Watt & Vodanavich, 1999), creativity (Cassanova, 2008), and various measures of racial, ethnicity, and gender identity formation (Pope, 2000; Blackhurst, 1995; Utterback, Spooner, Barbieri & Fox, 1995). The versatile use of the SDTLA reflects its scope and ability to assess a wide range of psychosocial development indicators.

The SDTLA has also been used to assess psychosocial development in student athlete populations. Lunceford (2001) surveyed 238 collegiate student athletes found that females generally scored higher in psychosocial development than males. Tatum (2002) surveyed 80 upperclassmen football players found mixed results regarding college football participation and psychosocial development in comparison to non-student athletes. Smit (2003) surveyed 238 non-athlete students and 222 student athletes and found no differences between the two sample groups, however did find that student athletes scored higher on psychosocial development tasks than the norm population. In addition, Banks (2005) examined the psychosocial impact of a life-skills program established for student athletes. The study included 86 participants broken into three groups (two control groups and one treatment group). Significant differences were not found in pre and posttests of student athletes enrolled in the life-skills program, however, significant differences were observed in career planning and establishing a purpose between individuals in the student athlete group, and those in the non-athlete group. Overall, these findings indicate that athletic experiences can impact psychosocial development in the college setting.

Athletic Identity Measurement Scale

The Athlete Identity Measurement Scale (AIMS) was developed by Brewer, Van Raalte, and Linder (1993) to assess the degree to which an individual identifies with their role as an

athlete. Within the complex process of identity formation, the authors brought consideration to the positive and negative outcomes associated with an individual's sense of identity related to the athletic setting. Originally, the authors hypothesized that high athletic identity, a process consisting of cognitive, affective, behavioral, and social concomitants, could have both positive and negative developmental consequences, especially related to post-sport career planning (Brewer, Van Raalte & Linder, 1993; Murphy, Petitpas & Brewer, 1996).

The first version of the AIMS consisted of 11 self-report items scored on a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). The original version was normed on 243 college student athletes with a follow up study including 493 college student athletes, finding the AIMS to be a reliable and valid assessment of athletic identity. Follow-up evaluation has since refined the AIMS to its present form consisting of seven items (See Appendix C). On the AIMS, participants are asked to rate the extent to which they agree or disagree with statements based on their personal sport experience. Answers range from 1 (strongly disagree) to 7 (strongly agree). Scores on the AIMS range from 7 to 49, with higher scores indicating stronger athletic identity (Brewer, & Cornelius, 2001).

The AIMS consists of four subscales: a) self-identity, b) social identity, c) exclusivity, and d) negative affectivity (Wisdom, 2006). Construct validity for the instrument has been supported by results from studies showing that scores on the AIMS increase as the competitive level of the activity increases (Brewer, et al., 1993; Martin, Smith & Mushett, 1995; Weichman & Williams, 1997). The AIMS has also shown convergent validity through correlation with similar instruments such as the Sport Orientation Scale and the Sport Competence Scale (Martin, Smith & Mushett, 1997).

Uses of the AIMS. The AIMS has been used in various settings to assess for factors related to the establishment of athletic identity as well as impacts of an athletic identity. Primary topics of exploration through the AIMS include career transition out of sport, athletic injury, athletic performance, and consequences of athletic identity foreclosure (Cieslak, 2004). A series of four studies conducted by Brewer and colleagues (1993) examined an athlete's emotional response to injury depending on athletic identity status and found significant negative correlations between athletic identity and depressive mood states. Research conducted by Brewer, Shelby, Linder & Petitpas (1999) also found participant ratings of satisfaction with the previous season to be significantly related to retroactive measures of athletic identity. In addition, Hale and Waalkes (1994) utilized a sample of 267 NCAA athletes and found a significant negative correlation between athletic identity score and academic achievement. Lastly, various studies have established that increased athletic identity can contribute to unrealistic expectations of the future, lack of preparedness for periods of transition, and limited development of self (Hill, Burch-Ragan & Yates, 2001; Krylowicz, 1999; Brewer, Van Raalte, & Petitpas, 2000). Overall, the AIMS has proven to be a valuable measurement instrument variety of contexts and has yielded meaningful findings related to the developmental outcomes of sport participation.

Research with The SDTLA and AIMS

Previous research has combined the SDTLA and the AIMS to investigate the relationship of certain athletic contexts, athletic identity development, and psychosocial development. Cornelius (1995) examined the impact of athletic identity on psychosocial development by surveying 244 non-varsity sport participating college students and found athletic identity to be significantly correlated with the Establishing and Clarifying Purpose (PUR) task, specifically the

life management subtask. Further research conducted by Monda (2008) compared the transition to college of 38 first year student athletes and 42 non-athletes, specifically in the context of athletic identity and the role it played in managing life stress. Qualitative data collected from focus groups following surveys found that college athletic participation complicated various aspects of adjustment and transition to the college environment. Lastly, Wisdom (2006) examined the relationship between a life skills development program and developmental outcomes in a population of student athletes utilizing both the SDTLA and the AIMS. Results found that strong athletic identity was negatively correlated to measures of academic achievement and career preparedness. Overall, previous research combining elements of the SDTLA and AIMS has yielded a variety of results that support the notion that the presence of strong athletic identity can influence both the transition and subsequent developmental process of college students.

Summary

Junior hockey is an influential and unique elite athlete development system that incorporates various structural and cultural norms that may be considered disruptive to normative psychosocial development. Junior hockey's reliance on a population of athletes between the ages of 16 and 21 years old puts competitive pressure on youth hockey participants to be scouted, identified, and selected at developmentally sensitive ages. This early sport selection process encourages participants and their families to make considerable commitments to hockey, which can influence the development of a strong sport-identity and limit exploration of other interests. Cultural norms of junior hockey dictate that most participants relocate as well as alter their educational trajectory. This process can disrupt both education achievement as well as social support dynamics.

Junior hockey franchises are numerous, and vary greatly in the amount of tangible, informational, and social support they provide participants and their families. Furthermore, junior hockey franchises are run as businesses, and hold no obligation to provide long-term commitments to players who may be traded or cut at any time. The intense competitive pressure of this dynamic can lead to stress, anxiety, and maladaptive coping behaviors. Finally, given the eligibility range of junior hockey extending to 21 years old, many participants delay enrollment in college (up to three years), potentially impacting late adolescent development.

The junior hockey system places unique stressors on normative adolescent development; a period of the lifespan that represents significant growth and change. Adolescence is a time of intense self-exploration and identity formation, results of which have implications reaching into adulthood transitions and beyond. Experiences of adolescent transitions (such as participating in junior hockey) can simultaneously empower adolescents to embrace newly discovered autonomy, while also putting them at risk towards adopting maladaptive coping strategies or experiencing developmental delays. Overall, junior hockey is an elite sport development system that comprehensively influences the lives of thousands of male adolescents each year. The impact of this experience on psychosocial development in the years following junior hockey remains largely unknown. Improved understanding of the long-term effects of junior hockey will help improve player experience and enhance the effectiveness of this developmental process for all participants.

APPENDIX B

Definitions of Key Terms

Junior hockey: An elite, age-restricted developmental hockey structure, that through organized leagues and teams, plays a role in the continuation and advancement of many hockey players, including the vast majority of professional hockey players (Mason, Duquette & Sherar, 2005).

Billet family: From Anglo-Norman French *billette*, used in the mid-17th century to mean; ‘a written order requiring a householder to lodge the bearer, usually a soldier’ (Merriam-Webster, 2018). Junior hockey has adopted the term to refer to families in the local community used to house and care for relocated junior hockey players. Billet families are often reimbursed by teams to cover living expenses of the players.

Adolescence: Adolescence: A distinguished lifespan period of developmental significance.

According to the World Health Organization, adolescence takes place between the ages of 10 and 19 years, typically beginning with the onset of puberty and concluding with the transition into societal definitions of adulthood (World Health Organization, 2018; Sawyer et al., 2012).

Due to a lack of consistency in the definition and expectations of adolescents between cultures, biological changes and behavioral transitions of adolescence are also noted to be found upwards to 24 years of age. Adolescence has historically been used to identify a period in the lifespan in which youth were most defiant and rebellious of parental expectations. The notable changes in biology, behavior, and world-view have inspired a comprehensive field of literature on the lasting effects of this time period, and of factors that may influence development during this period.

Psychosocial development: The process of gradual development in key vectors that have lasting implications for long-term behavioral outcomes. Most notably discussed through Chickering and Reisser’s theory on psychosocial development, which emphasizes seven key areas of development: 1) developing competence, 2) managing emotions, 3) moving through autonomy

toward interdependence, 4) developing mature interpersonal relationships, 5) establishing identity, 6) clarifying purpose, and 7) developing integrity (Chickering & Reisser, 1993).

Athletic Identity: “The degree to which an athlete identifies with an athletic role” (Brewer, Van Raalte & Linder, 1993). Furthermore, high athletic identity has been hypothesized to limit an individual’s development of a multi-dimensional self-concept and may increase their vulnerability to other negative long-term developmental outcomes.

Adolescent Mobility: The process of relocating or changing residence, school, or social setting during the period of adolescence.

Non-Traditional College Student: Horn (1996) outlined the criteria for non-traditional college students to include; 1) those who delay enrollment into college (not enrolling immediately after high school), 2) part-time students, 3) financially independent students, 4) students who work full-time, 5) those with dependents, 6) single parents, and 7) those who have not completed a standard high school diploma.

APPENDIX C

Basic Demographic Questions

Demographic Questions:

Age

Sex

Racial or Cultural Background

Current Academic Class Standing

Are you an international student?

Current level of participation in hockey?

Time spent participating in junior hockey?

Number of teams played for?

How many school changes did you experience due to hockey?

How many times did you move/ change residence due to hockey?

My junior hockey experience was enjoyable:

My junior hockey experience was beneficial to my college experience:

APPENDIX D

Athletic Identity Measurement Scale

Athletic Identity Measurement Scale (AIMS)

(Brewer, Van Raalte & Linder, 1993)

This questionnaire is designed to measure people's perceptions about their athletic role. There are no right or wrong answers. Use the scale below to respond to each statement. Circle the number that best describes how you feel.

1	2	3	4	5	6	7
Strongly	Moderately	Disagree	Unsure	Agree	Moderately	Strongly
Disagree	Disagree				Agree	Agree

1 2 3 4 5 6 7	1. I consider myself an athlete.
1 2 3 4 5 6 7	2. I have many goals related to sports.
1 2 3 4 5 6 7	3. Most of my friends are athletes.
1 2 3 4 5 6 7	4. Sport is the most important part of my life.
1 2 3 4 5 6 7	5. I spend more time thinking about sport than anything else.
1 2 3 4 5 6 7	6. I feel bad about myself when I do poorly in sport.
1 2 3 4 5 6 7	7. I would be very depressed if I were injured and could not compete

APPENDIX E

Student Development Task & Lifestyle Assessment (SDTLA)

SDTLA Survey Instrument Version 1.99

R. Winston, T.K. Miller, & D. Cooper, 1999

Student Developmental Task and Lifestyle Assessment

Roger B. Winston, Jr.

Theodore K. Miller

Diane L. Cooper

The *Student Developmental Task and Lifestyle Assessment* is composed of statements shown to be typical of some students and is designed to collect information concerning college students' activities, feelings, attitudes, aspirations, and relationships. The Assessment is designed to help students learn more about themselves and for colleges to learn how to assist students more effectively. The SDTLA's usefulness depends entirely on the care, honesty, and candor with which students answer the questions.

It will require about 25-35 minutes for you to complete this questionnaire.

DIRECTIONS

For each question choose the *one response* that most closely reflects your beliefs, feelings, attitudes, experiences, or interests. Record your responses as directed.

- Consider each statement carefully, but do not spend a great deal of time deliberating on a single statement. Work quickly, but carefully.

- In this questionnaire, “college” is used in a general sense to apply to both two and four-year colleges, as well as universities; it refers to all kinds of post-secondary educational institutions.
- If you have no parent, substitute guardian or parent equivalent when responding to items about parent(s).

Part 1: Statements 1 –21

Respond to the following items by marking:

A = True

B = False

1. I never regret anything I have done.
2. I am currently involved in one or more activities that I have identified as being of help in determining what I will do with the rest of my life.
3. I followed a systematic plan in making an important decision within the past thirty days.
4. I have personal habits that are potentially dangerous for my health.
5. I like everyone I know.
6. It's important to me that I be liked by everyone.
7. I would prefer not to room with someone who is from a culture or race different from mine.
8. I never get angry.
9. Within the past six months, I have experienced unfamiliar artistic media or performances.
10. During the past 12 months, I have acquired a better understanding of what it feels like to be a member of another race.
11. Since beginning college, my friends have become more frequent sources of support than my parents.
12. I only attend parties where there are plenty of alcoholic beverages available.
13. I never say things I shouldn't.
14. Within the past six months, I have learned about or experienced a culture different from my own through artistic expression.
15. I never lie.
16. I always take precautions (or abstain) to assure that I will not contract a sexually transmitted disease (STD).
17. Within the past 12 months, I have undertaken an activity intended to improve my understanding of culturally/racially different people.
18. I never get sad.

19. Within the past 12 months, I had a conversation or discussion about the arts outside of class.
20. I avoid discussing religion with people who challenge my beliefs, because there is nothing that can change my mind about my beliefs.
21. Within the past 12 months, I have undertaken an activity intended to improve my understanding of people with disabilities.

Part 2: Statements 22 – 68

Respond to the following statements by selecting the appropriate letter:

A = Never (almost never) true of me

B = Seldom true of me

C = Usually true of me

D = Always (almost always) true of me

22. I satisfactorily accomplish all important daily tasks (e.g., class assignments, test preparation, room/apartment cleaning, eating, and sleeping).
23. I seek out opportunities to learn about cultural/artistic forms that are new to me.
24. It bothers me if my friends don't share the same leisure interests as I have.
25. I'm annoyed when I hear people speaking in a language I don't understand.
26. I have made conscious efforts to make the college a better place to attend.
27. I have a difficult time in courses when the instructor doesn't regularly check up on completion of assignments.
28. I pay careful attention to the nutritional value of the foods I eat.
29. I feel comfortable socializing with people who have physical, emotional, sensory, or learning disabilities.
30. I plan my activities to make sure that I have adequate time for sleep.
31. I seek to broaden my understanding of culture (e.g., art, music, or literature).
32. When I wish to be alone, I have difficulty communicating my desire to others in a way that doesn't hurt their feelings.
33. I avoid groups where I would be of the minority race.
34. My classmates can depend upon me to help them master class materials.

35. I don't perform as well in class as I could because I fall short of requirements.
36. I limit the quantity of fats in my diet.
37. Because of my friends' urgings, I get involved in things that are not in my best interest.
38. A person's sexual orientation is a crucial factor in determining whether I will attempt to develop a friendship with her/him.
39. It's more important for me to make my own decisions than to have my parent's approval.
40. I conceal some of my talents or skills so I will not be asked to contribute to group efforts.
41. I have plenty of energy.
42. It's more important to me that my friends approve of what I do than it is for me to do what I want.
43. It's hard for me to work intensely on assignments for more than a short time.
44. I am satisfied with my physical appearance.
45. I feel uncomfortable when I'm around persons whose sexual orientation is different from mine.
46. When in groups, I present my ideas and views in a way that it's clear I have given them serious thought.
47. It's very important to me that I am successful both inside and outside the classroom.
48. My weight is maintained at a level appropriate for my height and frame.
49. My personal habits (e.g., procrastination, time management, assertiveness) get in the way of accomplishing my goals or meeting my responsibilities.
50. I try to avoid people who act in unconventional ways.
51. I accept criticism from friends without getting upset.
52. I get bored and quit studying after working on an assignment for a short time.
53. I eat well-balanced, nutritious meals daily.
54. I find it difficult to accept some of the ways my close friends have changed over the past year.
55. I have difficulty following through with decisions I have made when I discover others (e.g., parents or friends) disagree with these decisions.
56. I have difficulty disciplining myself to study when I should.
57. I exercise for 30 minutes or more at least 3 times a week.
58. I don't socialize with people of whom my friends don't approve.

- 59. My study time seems rushed because I fail to realistically estimate the amount of time required.
- 60. I plan my week to make sure that I have sufficient time for physical exercise.
- 61. I feel confident in my ability to accomplish my goals.
- 62. I am annoyed when I have to make an accommodation for a person with a disability.
- 63. I become inebriated from the use of alcohol on weekends.
- 64. I try to dress so that I will fit in with my friends.
- 65. It's essential that those important to me approve of everything I do.
- 66. Even when I'm not particularly interested in a subject, I'm able to complete course requirements satisfactorily.
- 67. It's important to me that I achieve to the limits of my abilities.
- 68. I use library materials, resources, and facilities effectively.

Part 3: Statements 69 -73

Respond to the items below by selecting one of the following:

A = Strongly Agree

B = Agree

C = Disagree

D = Strongly Disagree

- 69. I have arranged my living quarters in a way that makes it easy for me to study, sleep, and relax.
- 70. I have become more culturally sophisticated since beginning college.
- 71. Learning to live with students from cultural or racial background different from mine is an important part of a college education.
- 72. Society has a responsibility to assist people who cannot sustain themselves.
- 73. As a citizen, I have the responsibility to keep myself well-informed about current issues.

Part 4: Statements 74-87

Respond to the statements below by selecting one of the following:

A = Never

B = Seldom

C = Sometimes

D = Often

- 74. I wonder what my friends say about me behind my back.
- 75. I dislike working in groups when there are a significant number of people who are from a race or culture that is different from mine.
- 76. Within the past year, I have participated in activities that directly benefited my fellow students.
- 77. Within the past 3 months, I engaged in activities that were dangerous or could be risky to my health.
- 78. I have used my time in college to experiment with different ways of living or looking at the world.
- 79. I am confident in my ability to make good decisions on my own.
- 80. I participate in community service activities.
- 81. I trust the validity of my values and opinions, even when they aren't shared by my parent(s).
- 82. I express my disapproval when I hear others use racial or ethnic slurs or put-downs.
- 83. I have an inner sense of direction that keeps me on track, even when I am criticized.
- 84. In the past 6 months, I have gone out of my way to meet students who are culturally or racially different from me because I thought there were things I could learn from them.
- 85. I feel anxious when confronted with making decisions or taking actions for which I am responsible.
- 86. I meet my responsibilities to my parent(s) as well as I should.
- 87. Within the past 12 months, I have taken a public stand on issues or beliefs when many friends and acquaintances didn't agree.

Part 5: Statements 88 – 153

Select the *one best* response from the alternatives provided.

88. After a friend and I have a heated argument, I will

- A. Never (almost never) speak to him/her.
- B. Seldom speak to him/her.
- C. Usually speak to him/her.
- D. Always speak to him/her.
- E. I never have disagreements with friends.

89. In terms of an academic major or concentration,

- A. I am uncertain about possible majors and am a long way from a decision.
- B. I have thought about several majors, but haven't done anything about it yet.
- C. I have made a tentative decision about what I major in.
- D. I have made a firm decision about a major, but I still have doubts about whether I have made the right decision.
- E. I have made a firm decision about a major in which I am confident that I will be successful.

90. Thinking about employment after college,

- A. I do not know how to find out about the prospects for employment in a variety of fields.
- B. I have a vague idea about how to find out about future employment prospects in a variety of fields.
- C. I know one source that could provide information about future employment prospects in a variety of fields.
- D. I know several sources that can provide information about future employment prospects in a variety of fields.

91. When thinking about the kind of life I want 5 years after college, I have . . .
- A. not come up with a very clear picture.
 - B. a vague picture, but have been unable to identify the specific steps I need to take now.
 - C. a clear enough picture that I can identify the step necessary for me to take now in order to realize my dream, even though I haven't done very much about it yet.
 - D. a clear enough picture and identified the steps.
92. During this academic year,
- A. I have organized my time well enough for me to get everything completed.
 - B. I sometimes had difficulty organizing my time well enough to get everything done.
 - C. I often had difficulty organizing my time well enough to get everything done.
 - D. I seldom seem able to organize my time well enough to do everything.
93. I participate in the arts (e.g., draw, write, play musical instrument, or sing) just for my own enjoyment.
- A. I never (almost never) do this.
 - B. I seldom do this.
 - C. I occasionally do this.
 - D. I frequently do this.
94. When faced with important decisions this year, I have . . .
- A. relied on others—such as parent(s), friend(s), or teacher(s)—to tell me what to do.
 - B. sought information and opinions, but made the final decisions on my own.
 - C. relied on myself alone in making the decisions.
 - D. attempted to avoid making decisions as much as possible.

95. I have identified, and can list, at least 3 ways I can be an asset to the community.

- A. No, I haven't thought about that much.
- B. No, I don't know what I can contribute.
- C. No, that's not important to me.
- D. Yes.

96. During this academic year,

- A. I have tended to put off most school work, and assignments to the last minute and, as a result, don't do as well as I could.
- B. I have often forgotten about assignments or put them off so long that I was unable to turn them in on time.
- C. I have established a study routine that has enabled me to get most school work and assignments completed on time and to my own satisfaction.
- D. I have established a study routine that has enabled me to get all work and assignments completed on time and to my own satisfaction.

97. When I have experienced stress or tension this term,

- A. I have most often sought relief by listening to music, reading, or visiting friends.
- B. I have most often had a few drinks or beers to relax.
- C. I have most often exercised, worked out, or played a sport.
- D. I have kept on going and ignored the stress.
- E. I have had occasions when it became too much to handle and I had to take days off to relax or rest/sleep.

98. In terms of the array of possible academic majors at this college, I have . . .
- A. not spent much time investigating the possibilities.
 - B. talked to some students about their majors, but have not done any systematic investigation.
 - C. read the catalog and talked to some students and/or faculty/staff members about possible majors.
 - D. made a systematic effort to learn about possible majors and what they entail.
 - E. made a systematic effort to learn about possible majors and have carefully looked at my abilities and interests and how they fit different majors.
99. Within the past 6 months,
- A. I haven't seriously thought about possible post-college jobs or careers.
 - B. I have thought about possible post-college jobs or career, but haven't done much about exploring the possibilities.
 - C. I have asked relatives, faculty members, or others to describe positions in the fields in which they are working.
 - D. I have taken definite steps to decide about a career, such as visiting a counselor, placement center, or persons who hold the kinds of positions in which I am interested.
100. If something were to prevent me from realizing my present educational plans, I have . . .
- A. no idea what else I might pursue.
 - B. a vague notion about acceptable alternatives.
 - C. several acceptable alternatives in mind, but I haven't explored them very much.
 - D. several acceptable alternatives in mind, which I have explored in some detail.
101. When I have heated disagreements with friends about matters such as religion, politics, or philosophy, I . . .
- A. am likely to terminate the friendship.
 - B. am bothered by their failure to see my point of view but hide my feelings.
 - C. will express my disagreement, but will not discuss the issue.
 - D. will express my disagreement and am willing to discuss the issue.

E. don't talk about controversial matters.

102. I have made a positive contribution to my community (residence hall, campus, neighborhood, or hometown) within the past 3 months.

- A. No, that isn't important to me.
- B. No, I don't know what I could do to make a positive contribution.
- C. No, but I have tried to find ways.
- D. Yes.

103. In terms of an academic major/concentration, I have...

- A. determined what all the requirements are and the deadlines by which things must be done, for the major I have chosen.
- B. investigated the basic requirements for graduating with a degree in my academic major.
- C. a general idea about the courses and other requirements needed in my major.
- D. not paid much attention to the requirements for my major; I depend on my advisor or others to tell me what to take.
- E. yet to decide on an academic major.

104. I have decided the place (if any) that marriage has in my future.

- A. No, I will just wait to see what develops.
- B. No, I don't think about it.
- C. No, but I know what I would like to have happen.
- D. Yes, I have made a definite decision.

105. I am familiar with sources of help on campus (e.g., tutoring, counseling, academic information, library research tools and procedures, and computers).

- A. I really don't know much about these things.
- B. I know about a few.
- C. I know about most of them.
- D. I know about all of them.

106. When I don't agree with someone in authority (e.g., professor, administrator), I . . .

- A. never express my opinion.
- B. express my opinion only when I am angry.
- C. express my opinion when asked.
- D. express my opinion if given a chance.
- E. avoid dealing with persons in position of authority if possible.

107. Within the past 3 months, I have taken an active part in a recycling activity/program.

- A. No, recycling is too much trouble.
- B. No, I don't know where to dispose of materials.
- C. Yes, I have participated occasionally.
- D. Yes, I have participated regularly.
- E. Yes, I have participated and promoted recycling activities to others.

108. I use tobacco products (smoke, chew, or dip).

- A. Never.
- B. Once a week or less.
- C. Several times a week.
- D. Most days.
- E. Everyday.

109. In terms of the labor market demand for people with a degree in my major, in the career area in which I am most interested,

- A. I have yet to decide on a career area and/or academic major.
- B. I don't have much of an idea of what I will face upon graduation.
- C. I have a general, although somewhat vague, picture of what I will face upon graduation.
- D. I have investigated things enough to be pretty clear about what I will face upon graduation.

110. I can clearly state my plan for achieving the goals I have established for the next 10 years.

- A. No, because I have no specific goals for the next 10 years.
- B. No, because I don't like making detailed plans for long-range goals.
- C. No, because I haven't worked out my plan completely.
- D. Yes.

111. Within the past month,

- A. I took the initiative to bring several people together to resolve a mutual problem.
- B. I joined with several people to resolve a mutual problem.
- C. I have not encountered a problem that needed a group effort to solve.
- D. I have avoided situations that required me to work with other people in solving problems.

112. Within the last 12 months, I have attended a play or classical music concert when not required for a class.

- A. Yes
- B. No, I don't like those kinds of things.
- C. No, I just haven't gotten around to it.
- D. No, there aren't such things available here.

113. If I thought my friends would disapprove of a decision I made, I would most likely . . .

- A. try to keep them from finding out (keep it a secret).
- B. tell them and pretend I didn't care what they thought.
- C. tell them and explain my reasoning for this decision.
- D. make up something to mislead them from knowing the truth.

114. In the past 12 months, I have taken an active part in activities or projects designed to improve the community, such as a charity drive, clean up campaign, or blood drive.

- A. Never
- B. Once
- C. Twice
- D. Three times
- E. Four or more times

115. I have more than one drink (i.e., 1.5 ounces of liquor, 5 ounces of wine, or 12 ounces of beer).

- A. Never
- B. Once a week or less
- C. Two to three times a week
- D. Most days
- E. Everyday

116. Over the past 12 months at this college, I have . . .

- A. taken the initiative to set up conferences with an academic advisor.
- B. kept appointments with an academic advisor when she/he scheduled them.
- C. avoided dealing with my academic advisor.
- D. not investigated how obtain academic advising.
- E. not been at this college long enough to get involved in academic advising.

117. In the past year,

- A. I have discussed my career goals with at least 2 professionals in the field that interests me most.
- B. I have had minimal exposure to people in the career field that interests me most.
- C. I know several professionals in the career field in which I am most interested, but I haven't talked to them about entering the field.
- D. I have yet to decide on a career area.

118. My plans for the future are consistent with my personal values (for example, importance of service to others, religious beliefs, importance of luxuries, desire for public recognition).

- A. No, my future plans are unclear and I am undecided about my personal values.
- B. No, my future plans are clear, but I am undecided about my personal values.
- C. No, my future plans are unclear, but I am clear about my personal values.
- D. Yes, I have recently begun to think about how my values will shape my future.
- E. Yes, I thought about this a lot and have a clear plan.

119. Each day,

- A. I depend on my memory to make sure that I get done what needs to be done, and that works for me.
- B. I keep a calendar or make a "To Do" list of what needs to be done each day and that works for me.
- C. I dislike planning what I need to do; I just let things happen and that works for me.
- D. I don't make detailed plans about what I need to do each day, and as a result I forget important things.

120. Within the past 12 months, I have visited a museum or an art exhibit when not required for a class.

- A. Yes
- B. No, I don't like those kinds of things.
- C. No, I just haven't gotten around to it.
- D. No, there aren't such things available here.

121. In regard to social issues (e.g., homelessness, environmental pollution, or AIDS),

- A. I don't think much about them.
- B. I am concerned, but haven't taken any specific actions.
- C. I contribute money to organizations that address the issue(s), but that is the extent of my involvement.
- D. I am actively involved in organizations that address the issues(s).

122. I have a mature working relationship with one or more members of the academic community (faculty member, student affairs/services staff member, administrator).

- A. Yes
- B. No, I don't like dealing with them.
- C. No, I have tried to form relationships, but haven't been successful yet.
- D. No, I don't know any.
- E. No, I don't have time for that kind of thing.

123. When thinking about occupations I am considering entering,

- A. I don't know what is required in order to be competitive for a job.
- B. I haven't decided which occupations interest me most.
- C. I have a general idea of what is required.
- D. I can list at least 5 requirements.

124. I have developed strategies to maximize my strengths and to minimize my weaknesses in order to accomplish my goals in life.

- A. No, I don't know myself that well.
- B. No, I haven't figure out how to do that.
- C. No, I don't have a clear picture of my life goals.
- D. Yes, I have done this, but I'm not very confident about my strategies.
- E. Yes, I have done this, and I am confident that my strategies will be effective.

125. I have one or more goals that I am committed to accomplishing and have been working on for over a year.

- A. No, I don't like making definite goals.
- B. No, I have tried, but have been unable to follow through.
- C. No, I have difficulty making realistic long-range plans.
- D. Yes.

126. Over the past year, I have frequently participated in cultural activities.

- A. No, that isn't something that I enjoy or consider important.
- B. No, there haven't been any cultural activities available in which I could participate.
- C. I have attended when others have encouraged or invited me.
- D. Yes, I have taken advantage of as many opportunities as I could manage.
- E. Yes, only when required by the college.

127. Within the past 12 months, I contributed my time to a worthy cause in my community (campus or town/city).

- A. No
- B. 1 – 10 hours
- C. 11 – 20 hours
- D. 21-30 hours
- E. 31 or more hours

128. Within the past 12 months,

- A. I haven't attended any non-required lectures, programs, or activities dealing with serious intellectual subjects.
- B. I have attended 1 or 2 non-required lectures or programs dealing with serious intellectual subjects.
- C. I have attended 3 or 4 lectures or programs dealing with serious intellectual subjects that were not required for any of my courses.
- D. I have attended 5 or more lectures or programs dealing with serious intellectual subjects that were not required for any of my courses.

129. In terms of practical experience in the career area I plan to pursue after college, I have . . .

- A. yet to decide on a post-college career area.
- B. had no experience.
- C. had very little experience.
- D. had some experience.
- E. had a great deal of experience.

130. I am involved in hobbies or leisure activities today that I see myself continuing to pursue 10 years from now.

- A. Yes
- B. No
- C. I don't know

131. In addition to my academic studies,

- A. I spend much of my free time involved in organized activities on campus or in the community.
- B. I spend most of my free time "goofing off" or watching television.
- C. I spend most of my free time with friends doing things we enjoy.
- D. I spend most of my time working to support myself and/or caring for my family.

132. In regards to college organizations specifically related to my chosen occupational field, I have . . .

- A. yet to decide on a post-college occupational field.
- B. investigated joining one or more, but have not actually joined.
- C. joined one or more, but am not very involved.
- D. joined one or more and am actively involved..

133. I have investigated what I must do in order to satisfy my need or desire for material goods, such as cars, clothes, and a home once I complete my education.

- A. No, I'm unsure about how important material goods are to me.
- B. No, I haven't thought much about what I will need to do.
- C. No, I have given some thought to this, but things are still unclear.
- D. Yes, I'm somewhat sure that I will be able to satisfy my needs/desires.
- E. Yes, my current plans are likely to meet my needs or desires.

134. I have formed a personal relationship (friendly acquaintanceship) with one or more professors.

- A. Yes, but I find it difficult to talk to him/her (them).
- B. Yes, we often enjoy interacting with each other.
- C. No, I would like to but haven't taken any action.
- D. No, I would like to and have tried unsuccessfully.
- E. No, because that isn't important to me.

135. Considering beginning-level positions in business, industry, government, or education for which I would be eligible when I complete my education,

I . . .

- A. can name 3 or more.
- B. can name only 2.
- C. can name only 1.
- D. cannot name any.
- E. haven't made a decision about my academic major/concentration; therefore, I don't know for what I might be qualified.

136. I have considered the kinds of tradeoffs (in areas such as family time, leisure time, job status, income, or time with friends) I will need to make in order to have the kind of lifestyle I want to have 5 years after completing my education.

- A. I haven't thought about this at all.
- B. I have thought about this in general.
- C. I have a fairly clear idea of the tradeoffs required.
- D. I have a very clear idea of the tradeoffs required.

137. I have been actively engaged in a student organization or college committee in the past 6 months.

- A. Yes
- B. No, I don't have time because of my job(s) and/or family responsibilities.
- C. No, I am not interested.
- D. No, I haven't been in college long enough.
- E. No, but I plan to do so soon.

138. When thinking about narrowing the number of career areas I wish to explore,

- A. I have identified specific personal abilities and limitations which I can use to guide my thinking.
- B. I have some general ideas about what I would be successful in.
- C. I have only a vague sense of where I can best use my skills or minimize my shortcomings.
- D. I have never thought about careers in this way.

139. I am purposefully developing intellectual skills and personal habits that will assure that I continue to learn after completing my formal education.

- A. I haven't thought about this.
- B. I rely completely on course requirements to do this.
- C. I think about this sometimes.
- D. I do this systematically.

140. Within the past 3 months, I have had a serious discussion with a faculty member concerning something of importance to me.

- A. No, I don't like talking to faculty members.
- B. No, I have tried, but was unsuccessful.
- C. No, I haven't found one who seemed willing to interact in that way.
- D. Yes, I initiated such a discussion.
- E. Yes, I responded to a faculty member's initiative.

141. Within the past 3 months,

- A. I haven't thought seriously about my career.
- B. I have read about a career I am considering.
- C. I have been involved in activities directly related to my future career.
- D. I have thought about my career, but things are still too unsettled for me to take any action yet.

142. I have weighed the relative importance of establishing a family in relation to other life goals.

- A. No, my desire to establish a family is too uncertain.
- B. No, my life goals are too uncertain.
- C. Yes, but my priorities tend to change.
- D. Yes, my priorities about these goals are clear.

143. While in college I have acquired practical experience directly related to my educational goals through an internship, part-time work, summer job, or similar employment.

- A. No, I haven't been enrolled long enough.
- B. No, I haven't thought about it very much.
- C. No, I have yet to establish any specific educational goals.
- D. Yes, I did it to satisfy program requirements.
- E. Yes, I did it on my own initiative.

144. I have established a specific plan for gaining practical experience in the career area I plan to pursue after college.

- A. No, I have yet to decide on a career area.
- B. No, but that is something I should be doing.
- C. No, that isn't something I want to do.
- D. Yes, but I haven't actually acted on my plan.
- E. Yes, and I have begun implementing my plan.

145. I have considered how my present course of study will impact my goals for the future.

- A. No, I haven't thought about this at all.
- B. Yes, I have thought about this, but it's unclear how my studies will shape my future.
- C. Yes, I have a fairly clear idea about how my studies will shape my future.
- D. Yes, I have a very clear picture of how my studies will shape my future.

146. I have developed a financial plan for achieving my educational goals.

- A. No, my parent(s) are taking care of it.
- B. Yes, I have a plan which depends on the continuation of the present level of funding.
- C. No, I haven't thought much beyond the current term.

147. I carefully investigated the intellectual abilities and necessary academic background needed to be successful in my chosen academic major.

- A. No, I have yet to make a definite decision about an academic major/concentration.
- B. No, I chose my major/concentration solely on the basis of what I enjoyed most.
- C. No, I have narrowed the choice down to a few areas, but haven't really investigated majors in that way.
- D. No, I never thought about it in that way.
- E. Yes.

148. I am acquainted with at least one person who has a disability.

- A. Yes.
- B. No, I have not met anyone with a disability.
- C. No, I am not interested in knowing anyone with a disability.

149. Within the past 3 months, I have read a non-required publication related to my major field of study.

- A. No, I have yet to decide on an academic major/ field of study.
- B. No, I don't have time to read such things.
- C. No, that would be too boring.
- D. Yes.

150. I am acquainted with at least 3 persons who are actively involved in the kind of work I visualize for myself in the future.

- A. Yes.
- B. No, I haven't met many people doing the work I visualize for myself.
- C. No, I have yet to decide on a post-college occupational area.
- D. No, I don't think that is very important.

151. I often have trouble visualizing day-to-day work in the career area I have selected.

- A. Yes, because I have yet to decide on a career area.
- B. Yes, because I don't know what routine work in my career area is really like.
- C. Yes, because I don't like to think about that.
- D. No, I can visualize work in that area, but I'm not sure that it's realistic.
- E. No, I have a clear and realistic picture of work in my career area.

152. Within the past 12 months, I have had a serious conversation about my long-term educational objectives with an academic advisor or other college official.

- A. No, I don't know to whom to talk.

- B. No, I have tried, but no one will help me.
- C. No, but I want to do that.
- D. No, I don't want my options limited.
- E. Yes.

153. While in college, I have visited a career center or library to obtain information about a chosen career.

- A. No, but I will do that when I find time.
- B. No, I don't need career information.
- C. No, there is no place or person that deals with careers on my campus.
- D. Yes.

END

APPENDIX F

Participant Cover Letter

Dear Participant,

This letter is a request for you to take part in a research project to assess the potential impact of junior hockey on psychosocial development and identity formation. This project is being conducted by A.J. Sturges, MS, MA in the College of Physical Activity and Sport Sciences at West Virginia University for the partial completion of a doctorate in Sport & Exercise Psychology. This project is being conducted under the supervision of Dr. Ed Etzel, a professor in the Department of Sport Sciences within CPASS.

Your participation in this project is greatly appreciated and will take approximately 50 minutes to fill out the attached questionnaire. Your involvement in this project will be kept as confidential as legally possible. All data will be reported in the aggregate. You must be 18 years of age or older to participate. You will not be asked to provide any information that could tie any provided data to your identity as a participant.

Your participation is completely voluntary. You may skip any question that you do not wish to answer and you may discontinue at any time. Your standing will not be affected if you decide either not to participate or to withdraw. West Virginia University's Institutional Review Board acknowledgement of this project is on file.

Your voluntary participation and full completion of the survey is beneficial to understanding the impact of the junior hockey system. For the thousands of young athletes who take part in this system each year, increased knowledge can help improve their experience, and even their long-term development. Thank you very much for your time. Should you have any questions about this letter or the research project, please feel free to contact A.J. Sturges at (608) 575-0753 or by e-mail at ajsturges@mix.wvu.edu , or Dr. Ed Etzel at (304) 293-7062 or by email at edward.etzel@mail.wvu.edu .

Thank you for your time and help with this project.

Sincerely,

A.J. Sturges

APPENDIX G

Participant Recruitment Email Templates

Coach Recruitment Message Template:

I hope this message finds you well.

I am currently collecting data for my doctoral dissertation, which upon completing, will earn me my PhD. My study looks at psychosocial development in former junior hockey players currently enrolled in college. My plan is to compare these results with a population of non-junior hockey playing college students to better understand the impact junior hockey has on individuals who spend time within the system.

As a former collegiate player (NCAA DI) and former head coach (ACHA DI), I believe the sport of hockey needs a better understanding of juniors, and the long-term implications it can have on participants as they transition through life. I am writing you requesting help in participant recruitment.

The study consists of one online survey, taken by former junior hockey players currently enrolled in college.

I would like to include athletes from your network in this study, and for the opportunity to connect with them via email.

I will be the only individual with access to any information sent, and all data collected throughout the study. Participation is completely confidential and will require no identifying information. The study and procedures are in compliance with WVU IRB and I will be happy to forward this research protocol for your review.

Thank you for your time, and I look forward to connecting with you soon.
A.J. Sturges

Player Recruitment Message Template:

[player's first name],

As Coach [coach's name here] mentioned, my name is A.J. Sturges and I am a PhD candidate studying the impact of junior hockey on former participants. I have been networking within the hockey world and I am hoping you may be interested in helping with my study (I am a former NCAA DI college hockey player and also have experience coaching at the ACHA DI level).

Participation involves filling out one online survey.

Please let me know through email if you can help me with this. I can then forward you additional information about participation in the study.

Thank you very much for your time, and I look forward to hearing back from you soon.

A.J. Sturges

ajsturges@mix.wvu.edu

APPENDIX H

Participant Follow-up Email Templates

Participant Reminder Email Template I

Junior Hockey Experience Research

You have been selected to take part in a web-based survey regarding the impact of your junior hockey experience.

I am writing in advance to ask you to look for an invitation in your email in the days to come. In addition to this topic being important to the completion of my doctorate in Sport & Exercise Psychology, the results will be utilized to improve the understanding of junior hockey and its long-term impact on athletes.

Why research junior hockey?

This survey is being conducted as part of doctoral research at West Virginia University, through the College of Physical Activity and Sport Sciences. The survey examines the impact of a junior hockey experience on college student development. Throughout this process, your confidentiality is assured, and no one at West Virginia University will see identified results at the individual level. Further information regarding the study and your rights as a participant will be provided when the survey is sent.

Your time is valued

Upon completion of this survey, you will have the opportunity to enter your name for a chance to win an Amazon gift card.

Happy to help.

If you have any questions throughout this process, please email me at ajsturges@mix.wvu.edu

Participant Reminder Email Template II

Junior Hockey Experience Research

Recently, you were sent a request to participate in an important survey of doctoral research through West Virginia University regarding your junior hockey experience. If you have already completed and submitted the survey, thank you for your valuable input! If not, please complete your survey using the link above.

Your link to the survey can be found at the top of this email. Simply click on this address to go to directly to the survey. If the link does not work, copy and paste the above URL into the address bar of your Internet browser.

Your participation in this research is strictly voluntary. Upon full completion of the survey, you will have the opportunity to enter your name in a drawing for a gift card from Amazon.

Why research junior hockey?

This survey is being conducted as part of doctoral research at West Virginia University, through the College of Physical Activity and Sport Sciences. The survey examines the impact of a junior hockey experience on college student development. Throughout this process, your confidentiality is assured, and no one at West Virginia University will see identified results at the individual level. Further information regarding the study and your rights as a participant will be provided when the survey is sent.

Your time is valuable

Upon completion of this survey, you will have the opportunity to enter your name for a chance to win an Amazon gift card.

Thank you.

Thank you for participating in this important research. If you have any questions, please contact me at gsfuroes@mix.wvu.edu.

APPENDIX I

Academic Autonomy Subscale Questions

Academic Autonomy Subscale Questions:

1. I have a difficult time in courses when the instructor doesn't regularly check up on completion of assignments.
2. I don't perform as well in class as I could because I fall short of requirements.
3. It's hard for me to work intensely on assignments for more than a short time.
4. It's very important to me that I am successful both inside and outside the classroom.
5. I get bored and quit studying after working on an assignment for a short time.
6. I have difficulty disciplining myself to study when I should.
7. My study time seems rushed because I fail to realistically estimate the amount of time required.
8. Even when I'm not particularly interested in a subject, I'm able to complete course requirements satisfactorily.
9. It's important to me that I achieve to the limits of my abilities.
10. I use library materials, resources, and facilities effectively.
11. During this academic year,
 - A. I have tended to put off most school work, and assignments to the last minute and, as a result, don't do as well as I could.
 - B. I have often forgotten about assignments or put them off so long that I was unable to turn them in on time.
 - C. I have established a study routine that has enabled me to get most school work and assignments completed on time and to my own satisfaction.
 - D. I have established a study routine that has enabled me to get all work and assignments completed on time and to my own satisfaction.

APPENDIX J

Instrumental Autonomy Subscale Questions

Instrumental Autonomy Subscale Questions

1. I followed a systematic plan in making an important decision within the past thirty days.
2. I satisfactorily accomplish all important daily tasks (e.g., class assignments, test preparation, room/apartment cleaning, eating, and sleeping).
3. My personal habits (e.g., procrastination, time management, assertiveness) get in the way of accomplishing my goals or meeting my responsibilities.
4. I have arranged my living quarters in a way that makes it easy for me to study, sleep, and relax.
5. During this academic year,
 - A. I have organized my time well enough for me to get everything completed.
 - B. I sometimes had difficulty organizing my time well enough to get everything done.
 - C. I often had difficulty organizing my time well enough to get everything done.
 - D. I seldom seem able to organize my time well enough to do everything.
6. I am familiar with sources of help on campus (e.g., tutoring, counseling, academic information, library research tools and procedures, and computers).
 - A. I really don't know much about these things.
 - B. I know about a few.
 - C. I know about most of them.
 - D. I know about all of them.
7. Each day,
 - A. I depend on my memory to make sure that I get done what needs to be done, and that works for me.
 - B. I keep a calendar or make a "To Do" list of what needs to be done each day and that works for me.
 - C. I dislike planning what I need to do; I just let things happen and that works for me.
 - D. I don't make detailed plans about what I need to do each day, and as a result I forget important things.
8. I have one or more goals that I am committed to accomplishing and have been working on for over a year.
 - A. No, I don't like making definite goals.
 - B. No, I have tried, but have been unable to follow through.
 - C. No, I have difficulty making realistic long-range plans.
 - D. Yes.
9. I have developed a financial plan for achieving my educational goals.
 - A. No, my parent(s) are taking care of it.
 - B. Yes, I have a plan which depends on the continuation of the present level of funding.
 - C. No, I haven't thought much beyond the current term.

APPENDIX K

Salubrious Lifestyle Scale Questions

Salubrious Lifestyle Scale Questions:

1. I have personal habits that are potentially dangerous for my health.
2. I only attend parties where there are plenty of alcoholic beverages available.
3. I always take precautions (or abstain) to assure that I will not contract a sexually transmitted disease (STD).
4. I pay careful attention to the nutritional value of the foods I eat.
5. I plan my activities to make sure that I have adequate time for sleep.
6. I limit the quantity of fats in my diet.
7. I have plenty of energy.
8. I am satisfied with my physical appearance.
9. My weight is maintained at a level appropriate for my height and frame.
10. I eat well-balanced, nutritious meals daily.
11. I exercise for 30 minutes or more at least 3 times a week.
12. I plan my week to make sure that I have sufficient time for physical exercise.
13. I become inebriated from the use of alcohol on weekends.
14. Within the past 3 months, I engaged in activities that were dangerous or could be risky to my health.
15. When I have experienced stress or tension this term,
 - A. I have most often sought relief by listening to music, reading, or visiting friends.
 - B. I have most often had a few drinks or beers to relax.
 - C. I have most often exercised, worked out, or played a sport.
 - D. I have kept on going and ignored the stress.
 - E. I have had occasions when it became too much to handle and I had to take days off to relax or rest/sleep.
16. I use tobacco products (smoke, chew, or dip).
 - A. Never.
 - B. Once a week or less.
 - C. Several times a week.
 - D. Most days.
 - E. Everyday

17. I have more than one drink (i.e., 1.5 ounces of liquor, 5 ounces of wine, or 12 ounces of beer).

- A. Never
- B. Once a week or less
- C. Two to three times a week
- D. Most days
- E. Everyday

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