

Professional Pathways of Graduates from the School of Human Kinetics
(SHK/ESAP)

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Abstract

Understanding the professional pathways and the occupational issues faced by recent graduates is foundational for effective program readjustment and improvement. The goal of the current study was to better understand the relationship between academic performance of graduates from the School of Human Kinetics (SHK) at Laurentian University, their employment patterns and other occupational issues such as job stress and satisfaction and organizational commitment. A 33-item questionnaire was developed and completed by 75 SHK graduates (46 females) between 1982 and 2009 from six different SHK programs (average years since graduation=3.87). Three qualitative questions assessed successful and difficult experiences in the workplace as well as suggestions for program improvement. Attributions of success were made primarily to knowledge of content and the ability to plan. Explanations of difficult circumstances were centred on client motivation and lack of problem solving abilities. Increases in practical opportunities were the primary suggestion for improvement. About 61% of graduates reported working at a job related to their education, a rate which is comparable to previous national studies (NGS, 1990; GSS, 1994, Cycle 9). Confirmatory factor analyses on six items measuring work engagement and 14 items measuring job stress, satisfaction and organizational commitment revealed five dimensions: worthwhile of intervention, job stress, job satisfaction and commitment, physical activity as investment and the ability to reach clients. Analyses of variance indicated that those graduating before 1992 have significantly lower job stress than more recent graduates ($F_{4, 52}=3.32, p<0.05$). Significant differences in job stress also emerge between graduates from different SHK programs ($F_{4, 48}=3.441, p<0.05$). Tukey post-hoc tests revealed that graduates from the lone French program (Education Physique et santé) reported less stress than graduates from three of their counterparts (KIN, SPED, and HEAL). Overall GPA was negatively correlated ($r=-0.39, p<0.05$) with job satisfaction and organizational commitment, as well as graduates' perceptions of their interventions being worthwhile ($r=-0.43, p<0.05$).

Key words: professional pathways, human kinetic school

Résumé

La compréhension des parcours professionnels des récents diplômés est nécessaire pour permettre de réaménager et d'améliorer efficacement les programmes de formation professionnelle. L'objectif de la présente étude est de permettre une meilleure compréhension des liens existant entre les performances académiques des diplômés de l'Ecole des sciences de l'activité physique de l'Université de Laurentienne (ESAP), leurs modes d'embauche ainsi que d'autres variables reliées à la profession telles que le stress au travail, la satisfaction et l'engagement professionnel. Un questionnaire de 33 items a été élaboré et renseigné par 75 diplômés de l'ESAP (46 femmes) qui ont gradué entre 1982 et 2009 et qui ont étudié dans l'un ou l'autres des six programmes de l'école (années moyennes depuis l'obtention du diplôme =3.87). Trois questions qualitatives ont évalué les expériences professionnelles réussies, les embûches rencontrées sur le

marché du travail ainsi que les suggestions pour améliorer les programmes de formation. Les expériences professionnelles réussies ont été principalement attribuées à la connaissance du contenu des programmes et à la capacité de planification. Les embûches ont été expliquées par le manque de motivation des clients et par l'absence d'aptitudes à résoudre les problèmes. La suggestion fondamentale pour améliorer les programmes fut d'accroître les opportunités de réaliser des stages pratiques et d'augmenter les activités d'apprentissages sous la forme de laboratoires. Près de 61% des diplômés ont affirmé exercer un métier en rapport avec leur formation ; ce taux est comparable à celui relevé par des études nationales antérieures (NGS,1990 ;GSS ,1994,Cycle 9). Des analyses factorielles confirmatoires effectuées sur l'échelle en 6 items de l'engagement au travail et sur l'échelle en 14 items qui mesure le stress au travail, la satisfaction et l'engagement vis à vis l'organisation ont révélé l'existence de cinq dimensions : l'opportunité de l'intervention, le stress au travail, la satisfaction et l'engagement professionnel, l'activité physique en temps qu'investissement et la capacité à atteindre les clients. Des analyses de variance ont démontré que les candidats qui avaient obtenu leur diplôme avant 1992 éprouvaient beaucoup moins de stress au travail que les candidats récemment diplômés ($F(4,52)=3.32, p<0,05$). Des différences notoires en termes de stress au travail ont émergé entre les diplômés selon les différents programmes de l'ESAP ($F(4,48)=3.44, p<0.05$). Des tests post hoc de Tukey ont révélé que les diplômés de l'unique programme français (Education Physique et santé, EDPH) ont signalé avoir subi moins de stress au travail que leurs homologues diplômés des trois autres programmes (KIN, SPED et HEAL). La moyenne académique (GPA) est négativement corrélée ($r=-0.39, p<0.05$) avec la satisfaction au travail et l'engagement professionnel ainsi que la perception des diplômés sur le caractère opportun de leurs interventions ($r=-0.43, p<0.05$).

Section 1. Introduction

1.0 Introduction

Understanding the professional pathways and the occupational issues faced by recent graduates is foundational for effective program readjustment and improvement. The goal of the present study is to better understand the relationship between academic performance of graduates from the School of Human Kinetics (SHK) at Laurentian University, their employment patterns and other occupational issues such as job stress and satisfaction and organizational commitment. Paramount to understanding occupational performance is a greater understanding of a closely linked construct, namely work engagement.

1.1 Work Engagement: Defined

Work engagement can be defined as a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication and absorption (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002; Bakker & Demerouti, 2008). Vigour is defined as the being "characterized by high levels of energy and mental resilience while working" (Bakker & Demerouti, 2008). Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm and challenge (Bakker & Demerouti, 2008). Absorption is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Schaufeli & Bakker, 2004). Employees who are highly engaged have demonstrated higher levels of energy, enthusiasm and self-efficacy (May, Gilson, & Harter, 2004; Schaufeli, Taris, Le Blanc, Peeters, Bakker & De Jonge, 2001).

1.2 Work Engagement: A Distinct Construct

Work engagement is seen as conceptually opposite and related negatively to burnout. Burnout has been defined as a psychological strain that is a response to chronic work stress (Halbesleben, 2006; Maslach, 1982). Two core symptoms of burnout, exhaustion and cynicism are direct opposites to two core components of engagement (Bakker, Schaufeli, Leiter & Taris, 2008). Vigour and dedication were reinforced as opposites of exhaustion and cynicism along two distinct bipolar dimensions labelled 'energy' and 'identification' (Gonzalez-Roma, Schaufeli, Bakker, Lloret, 2006). It should also be noted that work engagement does not imply workaholicism. Workaholics obsess about their work (Schaufeli, Taris & Bakker, 2006), whereas engaged workers demonstrate vigour, dedication and absorption by working hard, being involved and feeling contently immersed (Bakker, Schaufeli, Leiter & Taris, 2008). Engaged employees work hard because they enjoy the work not because they have a compulsive feeling they cannot refute (Bakker, Schaufeli, Leiter & Taris, 2008). Further research has also differentiated between engagement and another construct, job embeddedness which describes an individual's attachment to their job. Job embeddedness, comprised of ties, perceptions of person-environment fit, and sacrifices involved in quitting, has been shown to be a unique construct when compared to engagement (Halbesleben & Wheeler, 2008). Work engagement has been differentiated from other similar theoretical constructs, namely job involvement (Kanungo, 1979) and organizational commitment (Meyer & Allen, 1997). While engagement encompasses components of involvement and commitment, it has been demonstrated as being an empirically distinct construct when compared to job involvement and organizational commitment (Hallberg & Schaufeli, 2006).

1.3 Work Engagement: Predictors

Predictors and determinants of work engagement have also been well documented. A primary antecedent of work engagement is the presence or absence of job resources (Bakker & Demerouti, 2008). Job resources refer to a number of aspects of job. Job resources are namely those that may be of assistance to the worker in reducing job demands, assist in achieving goals, and stimulate and initiate personal growth and development (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004). Specific examples include autonomy, supervisory coaching, and the provision of performance feedback (Bakker et al., 2008). It is well documented that job resources impact both intrinsic and extrinsic motivation via varied pathways (Bakker & Demerouti, 2008). Personal resources, defined as "the positive self-evaluations that are linked to resiliency and refer to individuals' sense of their ability to control and impact upon their environment successfully", are also strong determinants of work engagement (Bakker & Demerouti, 2008; Hobfoll, Johnson, Ennis, & Jackson, 2003). Specific examples of personal resources that have been shown to be effective in predicting work engagement are self-efficacy, organizational based self-esteem, and optimism (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Other antecedents of engagement are job characteristics and organizational support (Saks, 2006).

1.4 Work Engagement and Performance

Work engagement remains an important construct due to its increasing ties to better job performance (Bakker & Demerouti, 2008). Research has shown that engaged employees receive higher ratings and are reviewed more positively on in-role

performances in a number of occupations (Bakker, Demerouti & Verbeke, 2004; Schaufeli, Bakker & Salanova, 2006). Bakker and Demerouti (2008) suggest four reasons why engaged workers perform better. First, engaged workers have shown that the experience of positive emotions increases their productivity level (Schaufeli & Van Rhenen, 2006 as cited in Bakker & Demerouti, 2008). Secondly, engagement is positively related to better health, and as a result able to allow workers to perform better (Bakker & Demerouti, 2008). Hakanen, Bakker and Schaufeli (2006) gathered evidence from teachers in Finland and discovered a positive link between work engagement and self-rated health and the ability to work. Thirdly, engaged workers may be more productive due to their ability to mobilize both personal and job resources (Bakker & Demerouti, 2008). Furthermore, it would appear that engagement fosters and increases levels of personal resources (Llorens, Schaufeli, Bakker & Salanova, 2007). Finally, engaged workers perform better due to their ability to transfer their engagement to others. A number of engaged workers working together as a team may experience a crossover effect of engagement among workers, which facilitates increases in performance (Bakker & Demerouti, 2008). Additional outcomes of engagement include job satisfaction, organizational commitment, and a diminished intention to quit or transfer to a different company (Saks, 2006; De Lange, De Witte, & Notelaers, 2008).

1.5 Work Engagement: Job Demands-Resources Model

An overall model of engagement has been proposed and refined by Bakker and Demerouti (2007; 2008). The job demands-resources (JD-R) model was formed and developed through a number of previous research projects (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Demerouti, Bakker, De Jonge, Jannson, & Schaufeli, 2001). The JD-R model is shown graphically in figure 1

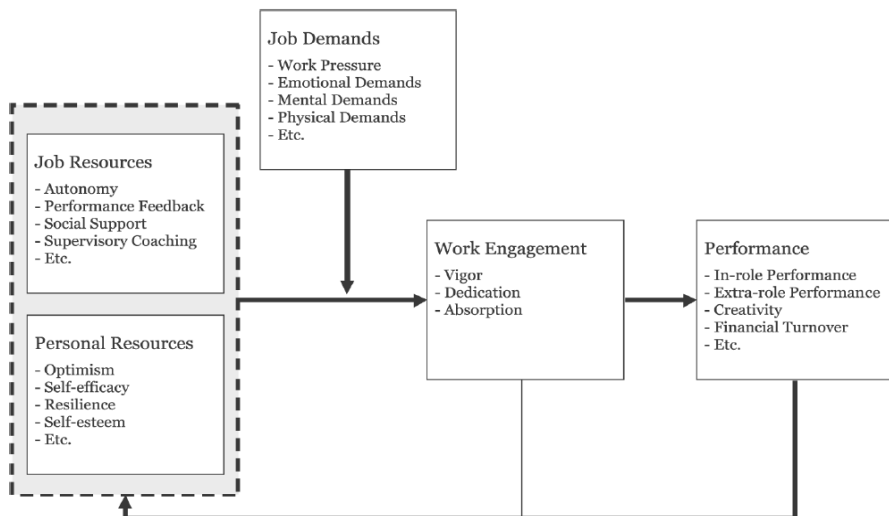


Figure 1.0 The JD-R model of work engagement (Bakker & Demerouti, 2008)

As can be seen, the model above illustrates job and personal resources can either independently or cooperatively predicts work engagement. Their impact is particularly high as job demands increase (Bakker & Demerouti, 2008). Employees who are engaged demonstrate increases in performance which continues to enhance and foster the development of both personal and job resources. The JD-R model has been shown

to hold fast when applied within a number of national and occupational contexts (Llorens, Bakker, Schaufeli, & Salanova, 2006).

1.6 Work Engagement: Educational Context

Prior to the last five years, much of the research completed in the educational environment has focused on both the antecedents and consequences of burnout. Past research has focused on factors such as the work environment (Fejgin, Ephraty, & Ben-Sira, 1995), perceived and real social support (Brouwers, Evers, & Tomic, 2001), susceptibility to emotional contagion and exposure to colleagues with many problems (Bakker & Schaufeli, 2000), special needs students (Fejgin, Talmor, & Erlich, 2005) and the ability to cope with disruptive behaviour (Evers, Tomic & Brouwers, 2004) which have all influenced burnout among teachers. Research has documented the influences of teacher commitment and motivation (Rots, Aelterman, Vlerick, & Vermeulen, 2007; Moreira, Fox & Sparkes, 2002). In the past, the motivation of physical education (PE) teachers has received little attention in this regard. Limited results have shown that perceptions of teacher autonomy, competence and relatedness are strongly tied to self-determined motivation (Carson & Chase, 2009). Influences of autonomy, competence and relatedness include attending conferences, reading professional journals, giving presentations, using quality equipment and having a supportive administration (Carson & Chase, 2009).

More recently, research has begun to investigate engagement specifically in the education context. Among teachers it has been found that the JD-R model holds fast (Hakanen, Bakker, & Schaufeli, 2006). In the former study, engagement was shown to mediate the relationship between job resources and organizational commitment (Hakanen, Bakker, & Schaufeli, 2006; Jackson, Rothmann & van de Vijver, 2006). More recently, the support of the principal was crucial in predicting higher levels of engagement (Klusmann, Kunter, Trautwein, Ludtke & Baumert, 2008). It was suggested that individual differences between teachers may play a more determining role in their development of work engagement (Klusmann, Kunter, Trautwein, Ludtke & Baumert, 2008).

1.7 GPA and Job Performance

Over the last century, numerous studies have examined the relationship between university or college academic achievement and the ability to succeed and perform in their professional careers. Employers are continually seeking criteria with which they can reliably and accurately predict which graduates will be of greatest benefit to their company in terms of job performance. Often, from an employer's perspective, the relationship between university or college performance is assumed to be directly and positively linked with future success in a given occupation (Campion, 1978; Zikmund, Hitt, & Pickens, 1978). Furthermore, research has shown the emphasis on GPA employers have placed when screening applicants, be it having a minimum GPA requirement or weighting grades (Dipboye, Fromkin & Wiback, 1975; Thoms, McMasters, Roberts & Dombkowski, 1999; McKinney, Carlson, Mecham III, D'Angelo & Connerly, 2003). This has held true in a number of fields, including teaching and business (Lavigna, 1992; Jenkins, Caputo & Farley, 2005). However, research over the last century has hardly been in agreement over the utility of college and university performance as a predictor of occupational performance. In fact, many within the realm of academia believe that grades are a poor predictor of job performance (Nelson, 1975).

Much research related to these two constructs in the 1980's focused primarily on conducting reviews of a large number of articles in an attempt to synthesize results. Samson and colleagues (1984) in their attempt to highlight research up until that point calculated the mean of 209 correlations comparing academic and occupational performance in a number of fields. They found that the study-weighted mean was 0.155, which was significant; however, academic indicators such as grades and test scores account for only 2.4% of the variance in many occupational factors such as income, job satisfaction and effectiveness ratings. Comparatively, Cohen (1984) in his synthesis of the research on college grades and adult achievement found that the average coefficient between grades and a composite success criterion was 0.18, or small. In perhaps what is the largest and somewhat controversial meta-analytic review of the 1980s was completed by Bretz (1989). A total of 39 studies were included in his review of research that spanned over a half a century from 1922 to 1977. Bretz (1989) found that the effect sizes ranged from -0.25 to 0.42, and that no overall significance was attained for GPA and job success. Subgroup analyses, however, indicated that a significant relationship does exist in predicting success in business and teaching. Overall, Bretz (1989) concludes that using GPA is a poor predictor of adult work related achievement. Dye and Reck (1989), in a direct response to Bretz, suggest that his conclusions are grossly underestimated based on his statistical calculations and reliance on significance tests as the determining factor of effectiveness. They suggest that using confidence intervals would drastically increase the validity of using GPA (especially based on four year college performance) as an evaluative factor used in personnel selection.

With the quality and effectiveness of the aforementioned meta-analyses in mind, Roth, BeVier, Switzer III and Schippmann (1996) sought to add clarity to the topic. Their overall observed correlation was .16 which was very similar to that of Cohen (1984). Roth and colleagues (1996) suggest that GPA is a valid predictor of job performance and point out that with corrections for range restrictions and reliability measures many correlations may lie in the .30 range. Several moderators appear to emerge within the GPA and job performance relationship. Moderating factors include (with higher correlation groups in parentheses): education level (undergraduate vs. PhD students), years since graduation (after 1 year vs. after 6 years or more), setting (education vs. business, military, scientific and medical), and year of publication (prior to 1960 vs. 1961 to present) (Roth et al., 1996).

1.8 Recent Developments and Use of GPA as Predictor

Since the turn of the century, research has become increasingly focused on the specific applications and comparisons of the use of GPA in predicting job performance. Pfeffer and Fong (2002) in their critique of modern day business schools posit no relation between GPA and a number of factors including salary increases, number of promotions since graduation or job satisfaction. They point out a number of reasons why this relationship may not exist, but contend that a large portion of the blame rests on the educational system. Green & Nagle (2009) also lament over a recent trend of grade inflation, or the "upward trend in grades earned for the same quantity or quality of work done by students in the past [which] makes identifying the 'best and brightest' much more difficult". As a result, many firm recruiters are becoming increasingly frustrated with the usefulness of GPA, as its value diminishes greatly when a greater number of students meet minimum requirements (Green & Nagle, 2009).

As such, research has sought to compare different evaluative criteria of students, often comparing GPA with another assessment tools. Student Assessment Centers have often been used as a comparison to GPA and found to be more effective in predicting both intrinsic and extrinsic aspects of career success (Waldman & Korbar, 2004). Others yet have advocated for the consideration of general cognitive ability (g) as a measure of predicting academic performance, career potential, creativity and job performance (Kuncel, Hezlett & Ones, 2004). The suggestion by Kuncel and colleagues (2004) is that another construct, namely g, is able to more accurately predict performance in both the domains of education and occupation. In the business sector, the Graduate Management Admission Test (GMAT) has been shown to have weak relation to overall academic success for executive MBA students (Gropper, 2009). However, it was found that work experience was positively related to success in the academic program (Gropper, 2009). Affirmatively, previous research has also indicated that undergraduates with internship experience are better suited for early career advantages such as less time to obtain first position, increased monetary compensation and greater overall job satisfaction (Gault, Redington, & Schlager, 2000).

Section 2. Methodology

2.0 Research Question

The current research seeks answers to the following questions:

- 1- What is the level of job engagement, organizational commitment and satisfaction of graduates from SHK?
- 2- In what areas are graduates of SHK experiencing both success and difficulty?
- 3- What is the strength of the link between GPA and job performance?
- 4- How do the results of this survey compare to those of previous national studies?

2.1 Survey Instrument

An 11-item questionnaire was developed in order to better understand the occupational issues of SHK/ESAP graduates such as their engagement, job stress, organizational commitment and job satisfaction (Alem, Kpazaï, and Larivière; 2009). Basic demographic information and questions related to participants current employment made up the first four items of the questionnaire. Items five and six attempted to make the connection between issues faced in their current employment and their training at the SHK/ESAP. Three questionnaire items were open ended, allowing participants to document an experience in their work where they felt successful, experienced difficulty and finally make suggestions as to how their SHK experience may have been enhanced. The scale measuring engagement and commitment to the organization was based on those of Huberman (1989) and Mowday, Steers and Porter (1982). The scale measuring professional commitment of Huberman (1989) was based on the research of Rotter (1966).

2.2 Data Collection

The survey was sent out to a convenience sample of 75 graduates from the School of Human Kinetics who graduated between 2001 and 2009. A link to the online survey was sent via email to the graduates of each of the six programs of study at the School of Human Kinetics (Leduc, Alem and Larivière, 2011). Participants were asked to provide their student number in order to measure again their commitment in their job 2 and 4 years after. A total of 75 surveys were returned; however, only 57 of them were

complete, lowering the response rate to 57%. Demographic information is provided in Table 1.

	N	%
Total	75	100
Gender		
<i>Female</i>	46	61.3
<i>Male</i>	29	38.7
First Language		
<i>English</i>	57	76
<i>French</i>	17	22.7
<i>Other</i>	1	1.3
SHK Program		
<i>Éducation Physique et Santé</i>	18	24.0
<i>Health Promotion</i>	16	21.3
<i>Kinesiology</i>	14	18.7
<i>Sport & Physical Education</i>	12	16.0
<i>Sport Psychology</i>	11	14.7
<i>Adventure Leadership</i>	4	5.3
Employment Related to Physical Activity		
<i>Yes</i>	45	60.0
<i>No</i>	29	38.7

Table 1. Demographic Variables

2.3 Analyses

One-way Analyses of Variance (ANOVA) was used to determine whether mean differences existed between groups on a number of variables with an alpha level of 0.05 used as the benchmark. Prior to the analysis, Levene's test of homogeneity was used to assess homogeneity with an alpha level of 0.10. Anything below that cut-off point led to the use of the Brown-Forsythe test for significant differences between groups. Principal Components factor analysis was used in order to confirm the three underlying factors of the 6-items on engagement and the 14-items on occupational commitment, job stress and job satisfaction. Factorability of the data was assessed using Cronbach's alpha reliability coefficient. Open ended questions were subjected to a content analysis and responses were verified by an additional researcher.

Section 3. Results

3.0 Participants

Participants had a mean age of 25.5 years of age (SD=4.81). The majority of participants spoke English as their first language at home and work. They had graduated on average 4 years prior to completing the survey. A summary of these and other descriptive statistics are presented in Table 2.

	M	SD
Age	25.04	4.35
English at work	82.07%	30.59
French at work	17.63%	30.54
Other Language	0.30%	1.15
Years since Graduation	3.87	4.80
Training relate to current employment (1 'little' to 4 'much')	3.18	0.93
Ability to identify/address problems that arise (1 'little' to 4 'much')	3.12	0.95
Challenges faced are insurmountable (1 'little' to 4 'much')	1.42	0.76
SHK training contribute to solving problems (1 'little' to 4 'much')	2.68	0.93

Table 2: Descriptive Statistics.

3.1 ANOVA

An analysis of variance was used to determine whether there were differences between graduates in each of the SHK programs on a number of items. For all of the analyses, only five of the six SHK programs were able to be included due to the small number of respondents from the ADVL program ($n=4$). As such, ADVL was left out of the ANOVA analyses.

3.1.1 Currently working at a job related to physical activity and health

ANOVA results indicated a statistically significant difference, $F(4, 65)=3.431$, $p<0.05$, among the graduates from different programs and their work in a health related field. Tukey post hoc results indicated that the significant difference lies between the graduates in the EDPH program and Health Promotion, with the greater number of graduates from Health Promotion working in a physical activity related job. Approaching significance was the difference between and EDPH and the Sport and Physical Education and Sport Psychology programs.

3.1.2 Does your training relate to your current employment?

No statistically significant differences emerged when considering graduates from the different SHK Programs and how they rate their training relating to their current employment.

3.1.3 Extent to which you feel you can correctly identify problems that arise in your work

When considering graduates from the different SHK Programs on their perception of their ability to identify problems that they are faced with, homogeneity of variance could not be assumed (Levene Statistic (4, 62) = 2.829, $p=0.032$). As such, Brown-Forsythe tests were used in order to determine that there was a significant difference between SHK Program graduates ($BF_{4,57.987}=4.068$, $p<0.01$). Post hoc tests were used to correctly identify between which programs the difference existed. The Games-Howell post hoc test revealed that only a few differences approached significance. Both graduates from the Health Promotion program ($p=0.057$) and the Sport Psychology program ($p=0.060$) felt they were better able to correctly identify problems that arose in their work than graduates from the Education Physique et Santé program.

3.1.4 Training in SHK contribute to identifying and solving challenges

Graduates from the different SHK programs differed significantly on their rating of how much their training at the School of Human Kinetics contributed to their ability to identify and solve problems in their workplace ($F_{(4,62)} = 2.809$, $p<0.05$). Tukey post hoc tests revealed that while no two programs differed statistically, there were some differences that approached significance. Graduates from the Kinesiology and Sport and Physical Education programs rated their training to have contributed much more than the graduates from the Éducation Physique et Santé program (p -values were 0.055 and 0.052 respectively for KIN and SPED).

3.2 Successful Job Experience

Graduates were asked to describe an example of their work in the area of physical activity and health where they felt they were particularly successful. These responses were then subjected to content analyses to determine to what the graduates attributed this success or what led to their success. In total, 56 graduates responded to this item with the majority answering in English (English=47, French=9). Three graduates did

not submit a valid response. The responses of these graduates yielded 88 units which were sorted into 7 categories.

3.2.1 Knowledge of Content (27%)

The largest attribution of success by graduates was to their possession of some type of knowledge that was critical to their success. Graduates described a number of circumstances where the possession of theoretical or factual knowledge of subject matter was the central ingredient in their success. An example response that was coded into this category is provided below:

“I was working with a lady who had suffered a stroke. Using my knowledge of nerve regeneration and neuroplasty, I was able to view her recovery process from a more appreciative perspective...”

3.2.2 Planning Skills (17%)

The ability to plan ahead and execute was the second largest category. Graduates reported a number of circumstances where their ability to come up with a plan, and implement their ideas was essential for their success. An example response:

“[I was able] to develop a rehabilitation plan for the client to engage in activities of daily living...”

3.2.3 Leadership Ability (16%)

Successful experiences were also attributed to the ability to lead and facilitate in a number of contexts. This leadership ability also encompasses the ability to manage and control the group/client throughout a process. An example:

“I facilitate staff ‘lunch and learns’ where we discuss topics relating to nutrition once every month. There are approximately 10 to 12 people in attendance.... I provide a healthy lunch for staff, and present nutrition information. I use my time appropriately, I research the topic to be discussed, I coordinate volunteers if necessary and I follow up with participants.”

3.2.4 Ability to Demonstrate (11%)

The ability to demonstrate, or practical knowledge, differs from the theoretical knowledge category in that it possesses the graduate actually teaching by example. Many of the graduates described circumstances where their ability to show and physically carry out a skill in such a way that would be of some instructional benefit to others. Specifically, graduates described cases where they showed students how to properly execute a skill in a sport or through mock scenarios in a CPR course.

3.2.5 Past Experiences (10%)

Some graduates felt as though their successful experience was a direct result of them having been in a highly similar circumstance in the past. This response was often seen in conjunction with another category; however, in some instances there were no attributions to any of the other categories, just that they had experienced success because they had encountered something similar prior to this event that was essential for their success at that time. An example:

“I was asked to design physical education lessons for a Grade 4 class at my last placement and I was able to look back on my experiences in the SPED Program to use appropriate strategies to run the lessons effectively.”

3.2.6 Problem Solving Ability (8%)

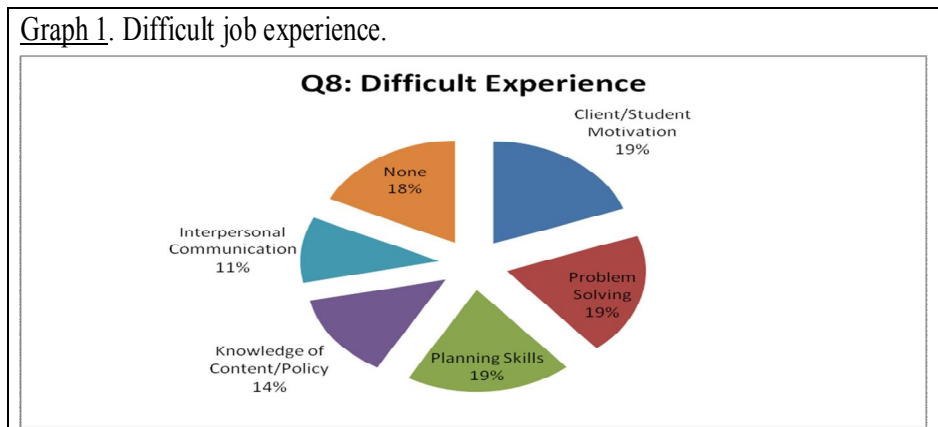
Graduates described circumstances where they were faced with a difficult situation or context and were able to solve the problem or get to the root of the issue, thereby

transforming the situation into a successful one. This category often manifests itself in completing interventions with athletes who are having problems or difficulties or the creation of solutions to a variety of health and safety issues.

3.3 Difficult Job Experience

Subsequent to describing a successful job experience, graduates were asked to describe an example in their work in the area of physical activity and health that was particularly difficult. Valid responses were obtained from 55 participants and 67 meaningful attributions were recorded. Twelve respondents indicated that they had yet to experience a difficult circumstance in their work related to physical activity and health. The remaining 55 are sorted in the categories presented below.

Graph 1. Difficult job experience.



3.3.1 Client/Student Motivation (19%)

When considering what made the circumstance particularly difficult, graduates felt that the motivation of their clients or students played a significant role. Many felt as though motivating their students to participate or to engage in activities was especially difficult. Others described scenarios in which they found it difficult to motivate clients to change or take interest in the program they were attempting to implement.

3.3.2 Problem Solving (19%)

Some students describe a generic situation in which they were faced with a problem they were unable to solve. The reasons for being unable to solve the problem varied greatly and some did not attribute any reason whatsoever. Some describe novel circumstances, while others a lack of resources, in describing their inability to solve a problem as what defines their difficult work experience.

3.3.3 Planning Skills (19%)

Similar to the category when considering a successful experience, the inability to plan and execute the plan was a key component when graduates were describing their difficult work experiences. The design of programs and various training regiments or lesson plans proved to be challenges tasks at times that graduates sought to overcome.

3.3.4 Knowledge of Content/Policy (14%)

To some, their work experience was especially difficult due to their lack of knowledge in a certain content area or policy. The majority of these responses revolved around health and policy.

3.3.5 Interpersonal Communication (11%)

Participants discussed difficulties in communication specifically as a determining factor in their difficult work experience. Elaborations under this category include breakdowns of communication due to a conflict, miscommunication and misinterpretation, or difficulties communicating due to personal differences (i.e., culture, age).

3.4 Suggestions for Improvement

At the end of the questionnaire, graduates were asked to suggest any improvements that could be made to the SHK programs in order to enhance the competence of future graduates/professionals. 54 responses were given and their answers can be sorted into one of the following seven categories:

1. *Increase practical experiences (22%)*: Graduates called for increased time and emphasis to be placed on providing opportunities for students to have the ability to implement what has been learned in the classroom. They describe these circumstances to have had a dramatically positive impact on their learning and confidence.

2. *Increase theory/policy content (17%)*: A greater emphasis on basic theory and content is required to form a better foundation for moving forward. A call for more time spent on health policy was also echoed.

3. *Provide additional qualifications/opportunities (15%)*: Resources should be placed towards providing students with opportunities for enrichment; namely acquiring extra or additional qualifications and certifications that will be of a benefit post-graduation.

4. *Increase lab/activity content (11%)*: It was the desire of graduates that more courses offer a lab component (especially Traumatology) and that a greater number of activity courses be required of students. These opportunities for ‘hands-on’ learning within the educational setting would allow for students to experience the material being learned inside of a controlled and safe context.

5. *Provide more research opportunities (7%)*: Some students suggested that increasing opportunities to conduct research (especially in SPED, ADVL and HEAL) would be beneficial for those moving forward not only in graduate work but in a number of health professions outside of teaching.

6. *Satisfied with program (15%)*: A large number of students gave no suggestions for improvement, but simply stated that they were satisfied with the program as it stands.

7. *None (13%)*: These respondents did not offer any suggestions.

3.5 Factor Analysis

3.5.1 Engagement

A confirmatory factor analysis was completed in order to simplify data for further analysis. Beginning with six items aimed at measuring the engagement of the graduates in their work a principal components factor analysis with varimax rotation was completed. Cronbach’s alpha reliability statistic was 0.535 for these six items. When requesting that three factors be extracted it was found that two items loaded positively on each of the three factors. The loadings of these dimensions are found in the table below.

Table 3. Factor Loadings for the three components of engagement.

	Component		
	Client reachable	Physical activity	intervention
q9.1 [There are clients with whom it is difficult to work with, no matter what one tries.]	.86		
q9.2 [All clients are “reachable” provided that one invests necessary time and effort.]	.64		
q9.4 [Often, the interventions are good, but require too much effort and to many complications for them to be worthwhile.]	.62		.48
q9.6[Physical activity and health is a life investment for me.]		.89	
q9.5 [My work in the area of the physical activity and health is probably the most important thing in my life.]		.76	
q9.3 [Medium-term, the results obtained by the proper interventions are worth well the efforts and the complications generated by their implementation.]			.93

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Regression scores were saved and used for further analyses. One-way analysis of variance was completed in order to determine if there were any differences in the engagement as measured by these three dimensions over time measured in years since graduation. It was found that there were no significant differences between any of the graduates. Additionally, it was also found that there were no significant differences between graduates in any of the 6 School of Human Kinetics Programs, or gender of the graduate.

3.5.2 Job Stress & Organizational Commitment

A confirmatory factor analysis was also completed and yielded two factors. Two of the original 14 items were left out due to poor reliability and not loading on either factor. The reliability of the 12 items included in the factor analysis was 0.814, which is excellent. The reliability of the six items that loaded on the job stress dimension was 0.774, while the reliability coefficient for the commitment dimension was 0.763. The items and their loadings are found in Table 4.

Table 4.Factor Loadings for the two components of Stress and Organizational Commitment.

	Component	
	Job stress	Satisfaction and commitment
q10.1 [When I'm at work I often feel tense or uptight.]	.84	
q10.6 [There are a lot of aspects about my job that can make me pretty upset about things.]	.80	
q10.7 [I often worry about work-related problems after work hours.]	.65	
q10.2 [A lot of times, my job makes me very frustrated or angry.]	.62	
q10.5 [I usually feel that I am under a lot of pressure when I am at work.]	.60	
q10.3 [Most of the time when I am at work, I don't feel that I have much to worry about.]	.48	
q10.13 [I am proud to tell others that I am part of this organization.]		.83
q10.12 [I find that my values and the organization's values are very similar.]		.76
q10.9 [Generally speaking, I am very satisfied with my job.]		.72
q10.8 [I am generally satisfied with the kind of work I do in my job.]		.68
q10.11 [I feel very little loyalty to this organization.]		.48
q10.10 [I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.]		.41

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Regressions scores were also saved and used for further analysis. One-way analysis of variance were completed and yielded some significant results. There was a significant difference between years since graduation and graduates scores on the job stress dimension ($F_{4, 52}=3.320, p>0.05$). Tukey post-hoc tests determined that the significant difference was actually between those who graduated between 2002-2006 and those who graduated before 1992. The means plot is shown below.

ANOVA tests determined that a significant difference was present between graduates of different SHK programs and their job stress regression score. Post-hoc tests determined that the difference was between those students graduating from Kinesiology and EDPH (Education Physique). The EDPH graduating group also approached significance ($p=.056$ and $p=0.51$) between SPED and Health Promotion Graduates as well.

3.6 Correlations

Significant negative correlations emerged when considering graduates over the last four years (since 2006). Overall GPA was negatively correlated ($R=-0.39, p<.05$) with the job satisfaction and organizational commitment dimensions as well as graduates perceptions of interventions being 'worthwhile' ($R=-0.43, p<.05$).

Section 4: Comparison with National Surveys

4.1 Education relate to employment?

Our survey contained an item aimed at determining whether SHK graduates had attained employment related to physical activity and health (their area of study). It was found that 60.81% of the responding graduates reported to be working in such a position. The National Graduate Survey completed in 1990 asked graduates of all programs whether they were working in a job for which their program was designed.

The results were comparable with 58% of respondent replying 'yes'. Another survey, the Graduate Social Survey on Education, Work, & Retirement (1994) was completed and the results from its 9th cycle also evaluated this relationship between employment and education.

4.2 Program's Effectiveness in Providing Knowledge

SHK Graduates were asked to rate on a four-point scale from 1-Little to 4-Much how they training provided them with the knowledge and skills to do their job. Although sample sizes differ greatly (n=75 compared to n=28,000) the means are still comparable. Results should be interpreted with caution or more stringent alpha requirements. In an ANOVA between these two groups, homogeneity of variance could not be assumed and therefore Brown-Forsythe tests were used to determine if the difference between surveys was significant. It was not. The means plot below illustrates the difference. It should be noted, however, that graduates in both studies did favourably rank their program's effectiveness in providing them with knowledge. With both mean scores over 3 on a four-point scale, it would appear that programs are being effective in their design, namely providing students with the knowledge they need.

Significant differences did emerge with the National Graduate Survey participants rating their program with providing them with in-depth knowledge higher than the SHK Graduates. However, the question in the present study needs to be stretched to compare these two variables, as they were worded differently and may not actually be representing the same thing.

5.0 Discussion

The current study sought to better understand the professional pathways of graduates of the School of Human Kinetics. Among the interesting results is the downward trend of perceived stress as the time since graduation increases. In other words, with increases in work experience, or as graduates advance in their career, the lower they report their job stress levels. It could be argued that there is some element of adaptive strategies that are only learned by experience. An area of note for SHK programs is the potential to improve stress management abilities of their graduates, which would potentially allow their stress to be removed as a limiting factor in their work performance.

Another interesting finding was that the stress ratings by graduates from the only French program in the SHK were at or nearly significantly lower than three of their English counterparts. It can be held that this is a reflection of language of study; however, it would appear that efforts to substantiate that claim would be less than justified. While the English programs share many courses in over their four years, the French program has classes held by different professors. It is interesting to note that there was no difference, however, in ratings of how much knowledge their program provided them with to do their job between programs. Perhaps just the ability to deal with the stress was a specific component better emphasized throughout the program. Also, it can be thought that the majority of the EDPH graduates enter into the teaching profession, namely teaching physical education, which might be seen as less stressful than some of the occupations entered into by graduates of the KIN or HEAL programs.

The aforementioned results are especially interesting in light of some additional findings. EDPH graduates are also the least likely to be working in a health and physical activity field compared to the other SHK programs. EDPH graduates also ranked the most difficulty in dealing with situations that arise within their work as well

as least likely to say that their training in SHK provided them with the skills to solve their problems. These results offer little in terms of clarity.

It is suggested that a greater sample size be sought. One SHK program could not be included in comparison as they only had four participants complete the survey. Increasing participant numbers would further validate factor analysis results and also give more weight to potential interpretation. Finally, using currently validated and empirically based measurements of work engagement would allow a greater understanding of each of the three dimensions of work engagement.

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