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Fit Measures of Work-School Congruence and Individual Outcomes

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FIT MEASURES OF WORK-SCHOOL CONGRUENCE AND INDIVIDUAL OUTCOMES

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Abstract

Today, full-time college students are working part- or full-time jobs while attending classes. The demands of work, added to the already high demands of college, may result in negative effects on the individual. However, some aspects of working may lead to positive effects. Previous research has largely focused on the effects of job demands on school performance and other outcomes in adolescents. Current research is lacking in studying the effects of working on college students. The purpose of this thesis project was to research work-school congruence (similarities between aspects of a student's college studies and aspects of their employment), and its influence on perceived job and school engagement and academic performance. Work-school congruence was measured using the constructs of supplementary and complementary fit. It was hypothesized that supplementary and complementary fit would be positively correlated to work engagement, school engagement and academic achievement. There were 120 participants in this study from a convenience sample of four University of Northern Iowa psychology courses. Participants who were currently employed completed a self-report survey measuring: demographics, supplementary fit, complementary fit, work engagement, school engagement, and academic achievement. Results showed that only school engagement was significantly related to work-school congruence.

Fit Measures of Work-School Congruence and Individual Outcomes

Every person takes part in multiple roles. These roles can include but are not limited to: employee, parent, student, teacher, mentor, and many others. Research has studied how these different roles interact and influence outcomes of an individual. Most of this research has focused on the dynamic of work and family roles, specifically work-family balance. Work-family balance has been researched on how it affects work and family satisfaction, motivation, and other outcomes. However, few researchers have focused on how work influences non-work domains besides family (Hecht & Boies, 2009).

Therefore, research has begun to focus on the relationship between the work and school roles. Most of the current research available on work and school roles has focused on negative outcomes of adolescents who work while in high school. Currently, there is a lack of research on outcomes of college students who work while attending school but interest is peaking. Researchers want to know how working while attending college influences individual outcomes. Outcomes of particular interest are: work and school satisfaction, engagement, motivation, and academic performance. There are two main thoughts in the study of work-school relationships: work-school conflict and work-school facilitation. However, a newer construct, work-school congruence, has begun to emerge in order to study the work-school interaction. This research thesis' purpose was to study the effects of work-school congruence on the individual outcomes of work and school engagement and academic achievement among college students using previous research literature as its bases.

Literature Review

Work-School Interaction among Adolescents

The research literature begins with studies completed using adolescent participants. There are two main thoughts in the study of work-school relationships: work-school conflict and work-school facilitation. Work-school conflict is described as the interference in the school role by work-related demands and responsibilities (Butler, 2007). According to Wilensky (1960) there is a negative relationship that occurs between work and non-work domains (as cited in Hammer, Grigsby, & Woods, 1998). In a study done with adolescents it was found that working more than twenty hours a week was associated with poorer school performance, increased drug and alcohol use, decreased family contacts and cynical attitudes towards work (Barling, 1995). It has been found that hours of working were negatively related to both homework and time use and longer hours spent working was associated with longer time to graduation (Barling, 1995; Butler, 2007).

Although the focus has been on negative outcomes of work-school relationships, there is some research on the positive outcomes as well through studies on work-school facilitation. Work-school facilitation is defined as an improvement in the quality of the school role which results from working (Butler, 2007). "When teenagers see their jobs as providing skills that will be useful to them in the future, their part-time employment can be beneficial" (Barling, 1995, p. 144).

Work-School Interaction among College Students

Currently, there is a lack of research on outcomes of college students who work while attending school. According to the National Center for Education Statistics (NCES) the average cost of tuition and fees with room and board for a four year institution was $19,362 in 2008 compared to $12,922 in 2001. The total average amount of financial aid was $9,100 and the average out-of-pocket price minus all financial aid was $11,500 (Wei, Berkner, He, Lew, Cominole, & Siegel, 2009; U.S. Department, 2008). With the increasing costs of college,

students are choosing to work; often at or above part-time employment. Statistical results by the NCES show that of those college undergraduates enrolled full-time in school who also work, about 32.2% work full-time (35 or more hours per week) and 42.6% work part-time. The average number of hours worked per week was twenty-nine (U.S. Department, 2008).

The work-school interaction research that has been completed with college students mostly focuses on negative effects of working while attending college, such as work-school conflict (Butler, 2007). A study completed by Giancola, Grawitch, and Borchert (2009), states that the greatest source of stress for adult students are work stressors. In a study using college student participants it was found that work-school conflict was influenced by: number of hours worked, students' perceived effectiveness of support services, and educational experience satisfaction. Support services included: tutor services, student legal services, and others. The study found that higher work hours, lower perceived support services, and lower satisfaction with education were related to higher work-school conflict (Hammer, Grigsby, & Woods, 1998).

Work-school conflict and facilitation focus on how working influences individual outcomes in the school role. Work-school congruence, on the other hand, refers to the similarities between aspects of work and school and that similarity's influence on the individual in both the work and school role. The concept is that higher or lower levels of similarity between the two domains may influence individual outcomes. Work-school congruence research adds to the current literature by looking at its influences on both work and school roles.

Person-Environment Fit Bases of Work-School Congruence

Work-school congruence is based in Person-Environment (PE) fit theory. PE fit is based on interaction psychology which "argues for study of the relationship between the individual and the environment" (as cited in Kristof-Brown & Guay, 2011, p. 5). PE fit is defined as the

compatibility that occurs when individual and organization environment characteristics are well matched (Kristof-Brown & Guay, 2011). PE fit occurs between attributes of the person and the environment. Person attributes can include but are not limited to: biological/psychological needs, values, personality, interests, and knowledge (Cable & Edwards, 2004; Kristof-Brown & Guay, 2011). Attributes of the environment can be: intrinsic/extrinsic rewards, physical or psychological demands, cultural values, supplies, and environmental conditions (Cable & Edwards, 2004; Kristof-Brown & Guay, 2011).

PE fit has multiple conceptualizations and operational definitions which make it difficult to test and to have consistent results (De Clercq, Fontaine & Anseel, 2008). However, there are two common ways by which PE fit is often conceptualized and measured: complementary and supplementary fit. "Supplementary fit asserts that similarity produces compatibility. Complementary fit reflects compatibility based on completion" (Kristof-Brown & Guay, 2011, p. 13). These conceptualizations can also be used to measure work-school congruence.

Complementary fit is the idea that a person's or an organization's characteristics provide what the other wants; occasions when the needs or weaknesses of one is offset by the wants or strengths of the other (Cable & Edwards, 2004; Piasentin & Chapman, 2006; Piasentin & Chapman, 2007). Complementary fit was first defined by Muchinsky and Monahan (1987) as meaning "the characteristics of an individual that serve to 'make whole' or complement the characteristics of an environment" (as cited in Kristof-Brown & Guay, 2011; De Clercq, Fontaine & Anseel, 2008). For example, an employee may have a skill set that an organization needs. The person and environment complement each other by filling in the area of need (Cable & Edwards, 2004).

Complementary fit is often conceptualized by using the idea of psychological need fulfillment. There are three basic psychological needs: autonomy, competence, and relatedness. Autonomy is related to the fact and feeling of having a choice. Competence is based on feelings of personal effectiveness. Relatedness refers to having the feeling of being "engaged in meaningful interactions with important others" (Faye & Sharpe, 2008, p. 189). Psychological needs are often compared with environmental supplies which are the extrinsic and intrinsic rewards and resources an environment may provide such as money, social involvement, achievement, etc. A person will become dissatisfied when the environment does not meet their needs (Faye & Sharpe, 2008).

There are two subtypes of complementary fit: demands-abilities and needs-supplies. Demands-abilities complementary fit is in the perspective of the organization or environment. It suggests that the organization has certain demands of an employee. The employee must have the abilities the organization demands. Needs-supplies complementary fit is in the perspective of the person. It suggests that the person has certain needs of an organization that it must supply (Kristof-Brown & Guay, 2011). If the demands or needs are not met then there is not complementary fit (Cable & Edwards, 2004). Unfortunately, many research studies do not distinguish between needs-supplies and demands-abilities and it is often mis-conceptualized in the research because of the lack of distinction (Piasentin & Chapman, 2007; Piasentin & Chapman, 2006).

Supplementary fit occurs when a person and an organization possess similar or matching characteristics (Piasentin & Chapman, 2007; Amos & Weathington, 2008; De Clercq, Fontaine & Anseel, 2008). For example, if an organization hires an employee with skills that replicate those already widely held in its workplace, it would be considered a supplementary fit because

they have similar attributes between them (Cable & Edwards, 2004). Supplementary fit is often conceptualized by using the concept of value congruence.

Value congruence is defined as whether an employee and an organization both consider a value important or has similar values (Cable & Edwards, 2004; Edwards & Cable, 2009; Amos & Weathington, 2008). Values are often defined as general beliefs about desirable behaviors or end states which a person or organization holds important (Edwards & Cable, 2009; De Clercq, Fontaine & Anseel, 2008). Value incongruence can lead to cognitive dissonance and dissatisfaction in the workplace (Cable & Edwards, 2004). Value congruence is correlated with job satisfaction, higher organization identification, and more intent to stay (Edwards & Cable, 2009). Supplementary fit could also be conceptualized by focusing on goals and personality instead of values congruence (Cable & Edwards, 2004).

Most of the research in PE fit has focused on supplementary fit (Piasentin & Chapman, 2006; De Clercq, Fontaine & Anseel, 2008). The few studies that have researched complementary fit have not been consistent in its measurements and there is much ambiguity regarding how the construct should be defined. Piasentin and Chapman (2007) found a smaller effect size for perceived complementary fit; therefore, they suggested that complementary fit may be a weak predictor of PE fit compared to supplementary fit. However, they also found that a model containing both complementary and supplementary predictors was a more significant fit than a model only containing supplementary predictors of fit (Piasentin & Chapman, 2007). This suggests that complementary predictors do have an influence in PE fit. However, "few studies have attempted to explain why these [fit] relationships occur" (Edwards & Cable, 2009, p. 654).

Supplementary and complementary fit are two possible ways to measure and conceptualize work-school congruence because they are based on Person-Environment (PE) fit.

Butler (2007) used a complementary fit measure of work-school congruence to study work-school conflict and facilitation. However, currently there is not a supplementary fit measure of work-school congruence available. For this paper, a supplementary fit measure of work-school congruence was constructed.

Work and School Engagement Outcomes

Previously, work-school interaction research has focused on measuring the outcomes of school satisfaction and academic achievement. Most of the research on these outcomes have been consistent and supported. Therefore, researchers have begun to look at the outcomes of work and school engagement. Engagement is a relatively new interest among psychologists.

"Work engagement is defined as a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption" (as cited in Schaufeli, Bakker, & Salanova, 2006, p. 702). Vigor is often best characterized as the energy one feels while working and the effort they invest towards their work. Dedication is characterized by being strongly involved in one's work and having feelings of significance, enthusiasm, etc. Absorption is characterized as being fully engrossed in or concentrated on one's work. These dimensions have been utilized to create a self-report questionnaire called the Utrecht Work Engagement Scale (UWES) (Schaufeli, Bakker, & Salanova, 2006). Work engagement has been shown to be negatively related to burnout, a negative state of exhaustion and cynicism. Those who are more engaged in their work are less likely to feel exhausted or cynical towards their work (Schaufeli, Bakker, & Salanova, 2006).

School engagement is often described as a student's positive perceptions and feelings toward their school. It has been shown in research using adolescent participants, that higher levels of school engagement are positively related to social, behavioral and academic outcomes.

Those students with lower school engagement are often at risk for school failure and dropout (Covell, 2010).

In summary, research supports the idea that working while in school influences the individual to some degree. Most of this research has been found using adolescent participants and there is a lack of research using college student participants. The work-school interaction has both positive and negative outcomes on individuals specifically satisfaction and academic achievement; however most of the research has focused on negative outcomes. The purpose of this study was to add to the current literature on the work-school interaction by studying work-school congruence, conceptualized by using supplementary and complementary fit, and its influence on work and school engagement, and academic achievement.

Hypotheses

From the research literature two hypotheses were formed. Hypothesis 1 was that the supplementary fit measure of work-school congruence would be more significantly related to work and school engagement than the complementary fit measure because of previous evidence that complementary fit is a weak predictor of PE fit. Hypothesis 2 was that work-school congruence, both supplementary and complementary, would be significantly positively related to work engagement, school engagement and academic achievement (GPA). In other words, higher work-school congruence in college students would be related to higher work engagement, higher school engagement and higher GPA.

Method

Participants

There were 120 college student participants who were also currently working a part- or full-time job at the time of the survey administration. Of the 120 participants, 70 were female

and 50 were male. 93% of the participants were white. Of the other 7%, 4 were African American, 2 were Asian American, and 3 were Hispanic. The percentages for university classifications were: freshmen (30%), sophomore (16%), junior (35%), senior (18%), and graduate student (1%).

Measures

Demographic measures collected were: gender, university classification (class), and race/ethnicity. Other items collected data on current major, enrolled credit hours in college for the Spring 2011 semester, average hours worked per week while in school, and current job position. The demographic items are provided in Appendix D.

To measure work-school congruence in terms of complementary fit, a three-item measure developed by Butler (2007) was used. This measure was on a 5-point Likert-type scale ranging from 1-Strongly Disagree to 5-Strongly Agree. The measure was found to be reliable in analysis (α= 0.86). The full measure can be found in Appendix A. In order to measure work-school congruence in terms of supplementary fit, a three-item measure was created for the purposes of this study. The scale was adapted from the perceived person-organization fit measure by Cable & DeRue (2002), which measured how the values of an organization were similar to the values of the individual. The questions' formats were changed to measure how values of an individual's workplace are similar to the values of their college. This measure was on a 5-point Likert-type scale ranging from 1-Strongly Disagree to 5-Strongly Agree. The measure was found to be reliable in analysis (α= 0.87). The full measure can be found in Appendix B.

Outcomes measured were work engagement, school engagement, and self-reported cumulative grade point average (GPA). Work engagement was measured using three items from the short version of the Utrecht Work Engagement Scale-9. This measure was also on a 5-point

Likert-type scale ranging from 1-Strongly Disagree to 5-Strongly Agree (Schaufeli, Bakker, & Salanova, 2006). The measure was found to be reliable in analysis (α= 0.86). Previously, a school engagement scale for college students was not available. For this reason a measure was created. School engagement was measured by taking the same three items from the work engagement measure and changing the language to refer to school engagement. The measure used the same scale as the work engagement measure. The measure was found to be reliable in analysis (α= 0.89). The outcome measures are provided in Appendix C.

Procedure

Before recruitment and data collection, approval by the Institutional Review Board of the University of Northern Iowa was received. Participants were recruited using a convenience sample from four University of Northern Iowa psychology courses. Informed consent was provided before the surveys were completed which provided an explanation of confidentiality, the purpose of the study, and contact information. A self-report survey with the measures was used. Although only those students who were currently working completed the survey, each member of the class received an extra credit point for that class.

Results

Correlation and multiple regression analyses examined the relationships between supplementary and complementary fit and individual outcomes as described previously. Means, standard deviations, and correlational analyses are presented in Table 1. Regression analyses are presented in Table 2.

Correlational Analyses

The mean scores of work engagement (M= 3.89, SD= .97) and school engagement (M= 3.89, SD= 1.27) suggests that the participants' engagement were high on the scales. Work hours

was found to be positively correlated to class and negatively correlated to credit hours. Complementary fit was positively correlated to both class and work hours. Supplementary fit was positively correlated to GPA and complementary fit.

Work engagement was positively correlated to GPA, complementary and supplementary fit, and credit hours. School engagement was positively correlated to credit hours, GPA, complementary fit, supplementary fit, and work engagement. Being white, characterized as 0=white and 1=nonwhite in analysis, was weakly but positively correlated to credit hours, supplementary fit, and was found to be negatively correlated to work engagement.

Regression Analyses

For the regression analysis each of the criteria were regressed separately with the predictor set and controls. A hierarchical regression was completed, where control variables were entered at step one and types of fit at step two. All of the predictors were centered.

The control variables did not explain a significant percentage of the variance in school engagement ($R^2 = .08$, $p = .11$). Only credit hours were significantly related to school engagement. The addition of the substantive predictors resulted in a significant increase in the explained variance ($\Delta R^2 = .27$, $p < .001$). As predicted in Hypothesis 2, supplementary fit was positively related to school engagement ($\beta = .45$, $p < .01$). Also as predicted in Hypothesis 2, complementary fit was also positively related to school engagement ($\beta = .20$, $p < .05$). The comparison of the regression results of supplementary and complementary fit supports part of Hypothesis 1 that supplementary fit would be more significantly related to school engagement than complementary fit.

For work engagement, the control variables did explain a significant percentage of the variance ($R^2 = .18$, $p < .001$). However, only credit hours were significantly related to work

engagement. The addition of the substantive predictors resulted in an increase in the explained variance ($\Delta R^2 = .05, p < .05$). Contrary to Hypothesis 2, work engagement was not significantly related to supplementary ($\beta = .13, p = .13$) or complementary fit ($\beta = .13, p = .17$). The comparison of the regression results of supplementary and complementary fit does not support the other half of Hypothesis 1 that supplementary fit would be more significantly related to work engagement than complementary fit.

The control variables did explain a significant percentage of the variance in GPA ($R^2 = .10, p < .05$). Only credit hours and class were significantly related to GPA. The addition of the substantive predictors did not result in a significant increase in the explained variance ($\Delta R^2 = .02, p = .24$). GPA was close to being significantly related to supplementary fit; however, it would be a very weak effect. This does not support part of Hypothesis 2 that supplementary ($\beta = .08, p = .10$) and complementary fit ($\beta = -.04, p = .39$) would be positively related to GPA.

Table 1

Descriptive Statistics, Correlations, and Scale Reliabilities

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	
1. Gender	0.41	0.49										
2. Class	2.43	1.13	0.05									
3. Credit Hours	14.74	3.43	0.02	-0.15								
4. Work Hours	17.42	10.31	0.10	0.37**	-0.31**							
5. White	0.93	0.26	0.11	0.08	-0.26**	0.08						
6. GPA	3.15	0.50	-0.06	0.19*	0.15	0.00	0.14					
7. Complementary Fit	2.95	1.09	-0.06	0.25**	0.06	0.20*	0.03	0.05	(0.86)			
8. Supplementary Fit	3.80	0.81	0.06	-0.01	0.12	0.06	0.20*	0.18*	0.34**	(0.87)		
9. Work Engagement	3.89	0.97	-0.01	0.07	0.35**	0.01	-0.27**	0.21*	0.23*	0.18*	(0.86)	
10. School Engagement	3.89	1.27	0.07	-0.03	0.24**	0.04	-0.03	0.20*	0.37**	0.52**	0.39**	(0.89)

Note. $*p < .05$. $**p < .01$. Cronbach's alpha reliability coefficients are reported on the diagonal.

Table 2

Multiple Regression Models of [School Engagement, Work Engagement, and GPA]

	School Engagement			Work Engagement			GPA		
	b	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*
Gender	0.10	0.10	1.00	-0.01	0.08	-0.12	-0.06	0.05	1.33
Class	-0.54	0.11	-0.50	0.08	0.09	0.85	0.13	0.05	2.46
Credit Hours	0.19	0.11	1.78	0.30	0.09	3.38**	0.11	0.05	2.06*
Work Hours	0.03	0.11	0.24	0.06	0.09	0.68	-0.01	0.05	-0.14
White	-0.07	0.11	-0.65	-0.19	0.09	-2.10*	0.07	0.05	1.33
Complementary Fit	0.25	0.11	2.28*	0.13	0.09	1.38	-0.04	0.05	-0.86
Supplementary Fit	0.56	0.11	5.27**	0.13	0.09	1.52	0.08	0.05	1.68
R	0.592			0.471			0.356		

Note. $*p < .05$. $**p < .01$.

Discussion

Based on the correlational and regression results Hypothesis 1 was partially supported. In regard to correlational results, supplementary fit was more significantly correlated to school engagement. Only supplementary fit was significantly related to school engagement in regression analyses. Relation to work engagement and GPA were not significant however. Hypothesis 2 was also partially supported. Both supplementary and complementary fit were significantly positively correlated to school engagement. Correlations with work engagement and GPA were not strong but were significant. Another interesting finding was that both school and work engagement were significantly positively correlated to GPA.

This research is important because previous research has shown that working while in school can influence the individual both negatively and positively. Most of the previous research in this field studied the influences on adolescents and not college students. By studying college students, this study added to the current literature on the school and work interaction. Previous research mostly studied work-school conflict and facilitation but have not researched the influence of work-school congruence. This research study contributed to the growing body of research on the influence of the work-school interaction by researching work-school congruence and its influences on college students.

Previously, a work-school congruence scale based on supplementary fit was not available for studying outcomes. This study provided a supplementary work-school congruence scale by restructuring the person-organization fit measure by Cable & DeRue (2002). This scale gave the researcher the opportunity to study both supplementary and complementary work-school congruence on individual outcomes. Also, by studying outcomes of work and school engagement

instead of satisfaction, this study added to the literature of work-school congruence's effects on other individual outcomes.

Limitations

This study has limitations that should be considered. The present study was completed using self-reported data. Self-reported data may be biased which should be considered when discussing reliability of the data. Because the study was done with self-reported data only correlational statistics were able to be computed, therefore causation cannot be determined. Also, the sample of the study was a convenience sample and not randomly selected which is often preferred but was not able to be done for the present study. The sample was also homogenous, meaning there was very little racial diversity. Another limitation to consider is the fact that the typical college student jobs are in service industries such as retail and food. The types of jobs in these industries do not always tap into the knowledge base of college students. This could be a reason for why complementary fit, which is measured by skills and knowledge, was not as significantly related to engagement as supplementary fit. It is suggested that future researchers account for some of the limitations of the current study by using random sampling and obtain a a more diverse sample.

Implications

The findings of this study have practical implications to both the school and work environment for students who work while attending college. The data supports the idea that supplementary fit between the school and work environments influences the individual outcome of school engagement. School engagement and its influences have been studied using adolescent participants but not college student participants. In order to discover the importance of school engagement among college students, it will be necessary to studies its influence on other

outcomes besides academic achievement. It could also be useful to research differences between types of jobs such as: on- and off- campus jobs, typical college jobs and internships, and differences between jobs in different industries.

To further the findings for practical use, future researchers should focus on what specific values and characteristics of the work and school environment relate to supplementary fit. This would help pinpoint which aspects work and school administrations should focus on in order to improve school engagement in students. It may also be useful to measure each work-school congruence dimension separately and analyze the results via a polynomial regression equation and the creation of a surface map as explained by Edwards and Perry (1993). This type of analysis has been shown to be conceptually relevant in congruence research (Edwards & Perry, 1993). Research on work-school congruence and engagement is still in its early years and it will be compelling to see how future studies further the findings on these constructs of interest as well as the potential use of the research findings in the school and work environments.

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Appendix A: Complementary Fit Measurement Scale

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. I use knowledge that I gained in college on my job.
2. I use skills that I gained in college on my job.
3. My college studies are not really relevant to what I do at work.

(Butler, 2007)

Appendix B: Supplementary Fit Measurement Scale

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. The things that my college values are very similar to the things my work values.
2. My workplace's values match my college's values.
3. My college's values and culture provide a good fit with the things my work values.

Appendix C: Outcomes

School Engagement: Adapted Student Engagement Instrument (SEI)

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. I am enthusiastic about my schoolwork.
2. My school inspires me.
3. I am proud of the schoolwork that I do.

(Betts et al., 2010)

Work Engagement: Adapted Short Version of Utrecht Work Engagement Scale-9

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. I am enthusiastic about my job.
2. My job inspires me.
3. I am proud of the work that I do.

(Schaufeli, Bakker, & Salanova, 2006)

Self-Reported GPA: _____

Appendix D: Demographic Scale

Gender:

- Male
- Female

Race/Ethnicity:

- Caucasian
- African American
- Asian American
- Hispanic American
- Other

University Classification:

- Freshman
- Sophomore
- Junior
- Senior
- Graduate Student

Enrolled Credit Hours: _____

Current Major: _____

Average Hours Worked Per Week: _____

Current Job Position: _____