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The Predictive Relationship Between Personality, GPA, and Membership in Nontraditional Student Populations

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Cover Page Footnote

This article is based on my dissertation study.

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Andrea Palmisano

Community colleges are academic institutions with a large number of nontraditional students whose needs must be understood before their academic needs can be fully addressed. Previous research studies have established a positive correlation between academic performance and the personality traits of Conscientiousness and Openness to Experiences, and to a lesser extent the traits of Extraversion and Agreeableness. In contrast, a negative correlation has been demonstrated between the trait of Neuroticism and academic performance. These studies were conducted primarily in four-year institutions, making the generalization of results to community college students inappropriate. The present study explored the predictive relationship between personality traits, GPA, and membership into a traditional and nontraditional student category using a non-experimental regression research design. A stepwise forward logistic regression was conducted with data provided by 163 students attending a major community college in the Southeastern region of the United States. Results indicated the trait of Neuroticism accounts for about 10% of the variability between traditional and nontraditional students, thus serving as a predictor variable. Information regarding how faculty members and staff can utilize study findings, as well as recommendation for future studies, are included.

Community colleges are academic institutions with unique characteristics, including an open-enrollment format, students with demonstrated less sophisticated cognitive abilities, less academic preparedness, and an overall weaker foundation for learning (Burns, 2010; Grimes & David, 1999; Hughes & Scott-Clayton, 2011). Crawford and Jervis (2011) suggest that community colleges often present with a higher rate of older students who are part-timers and in need of academic remediation, while Jaeger and Eagan (2009) state that community colleges employ more part-time faculty than any other type of educational institution, leaving students in the unique position of being educated by faculty members who are often not involved in administrative decisions or overall campus activities. The American Association of Community Colleges (2015) reports that almost half of all undergraduate students in the United States attend community colleges, preparing them to either transfer to a 4-year college or enter the workforce, making it imperative that their needs be accurately understood. Dowd (2007) describes community colleges as "gatekeepers" that share the burden of educating those with less sophisticated educational

backgrounds, which in turn allow four-year colleges to focus on better prepared students (p. 407). Despite all these findings, community college students are still an evolving group of learners who must be better understood so their needs can be accurately met (Miller, Pope, & Steinmann, 2005).

Nontraditional Student Population

The definition of a nontraditional student has developed over time from students older than 25 as the initial criteria to more complex social factors such as financial independence from a parent, being a single parent, or holding a GED rather than a high school diploma (Kim, 2002). The National Center for Education Statistics (2017) provides seven factors that define nontraditional students, including (a) delayed enrollment in college, (b) part-time student status, (c) financially independent and over the age of 24, (d) full-time employment, (e) having dependents, (f) being a single parent, and (g) having a GED.

The current understanding of the psychological characteristics of nontraditional students attending college is varied. Previous quantitative research on nontraditional students at four-year institutions indicates that this group of students tends to demonstrate stronger mastery achievement goals, better coping strategies when handling stress, and stronger academic performance (Johnson & Nussbaum, 2013), as well as higher levels of maturity, more experience, and better-established values (Wyatt, 2011). In contrast, Macari, Mary and D'Andrea (2006) suggest that nontraditional students demonstrate lower abilities in establishing goals, developing autonomy, and maintaining interpersonal relationships. Taniguchi and Kaufman (2005) state that older students who attend school part-time, have young children or are divorced have lower graduation rates, while Spellman (2007) emphasizes that adult learners face several barriers when attending community colleges, including lower cognitive abilities, multiple personal responsibilities, financial difficulties, and social barriers.

Five-Factor Theory

According to McCrae (2011), the five-factor personality model provides an understanding of personality development that takes into account both innate and external variables and presents basic personality traits shared by all individuals, including Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. These five basic dimensions, according to the author, are considered predispositions occurring within the individual while external influences, in the form of cultural standards, impact the expression of individual innate traits. The development of the five-factor trait theory began during the Mental Testing era, first established in the 1800s by Galton and further explored by Thurstone and Cattell. The principles held by these early researchers include the belief that behavioral differences among individuals could be explained by examining personality traits, differences among individuals could be described with the use of single-adjectives, and that identification of personality differences helped psychologists pinpoint which traits were linked to optimal psychological health (Chamorro-Premuzic & Furhnam, 2005). Research indicates that personality traits based on the Five-Factor personality model are strongly correlated with academic success, with the traits of Conscientiousness and Openness to Experience demonstrating the greatest impact on educational achievement (Stumm, Hell, & Chamorro-Premuzic, 2011).

Five-Factor Personality Traits and Academic Performance

Openness to Experience. Muhlig-Versen, Bowen, and Staudinger (2012) describe the trait of Openness to Experience as individuals' overall levels of intellectual curiosity and imagination, tendencies toward thrill-seeking circumstances, and preferences for unconventional and unique stimuli. In contrast, individuals with low levels of this trait are described as avoiding change and unfamiliar settings, demonstrating a dislike for the unconventional. The trait of Openness to

Experience was investigated by Bauer and Liang (2003) on a sample of 265 first-year college students and found to be significantly and positively associated with students' levels of effort exertion and academic performance.

Conscientiousness. The trait of Conscientiousness represents individuals' tendencies toward organization, willfulness, diligence, neatness, and achievement-orientation, whereas lower levels of this trait are associated with weaker tendencies toward goal-directed behaviors (McCrae & John, 1992). Komarraju, Karau, Schmeck, and Avdic (2011) state that Conscientiousness has been highly correlated with academic achievement among college students, enhancing their ability to learn regardless of personal learning styles. O'Connor and Paunonen (2007) state that individuals with high levels of Conscientiousness demonstrate stronger academic learning due to tendencies toward self-discipline and organization**.**

Extraversion. McCrae and John (1992) discuss the array of adjectives available in the literature to describe individuals with high levels of Extraversion, including talkative, social, warm, gregarious, outgoing, dominant, energetic, and enthusiastic, while those with lower levels of this trait are seen as quiet, timid, reserved, silent, and withdrawn. Komarraju, Karau, Schmeck, and Avdic (2011) state that a positive correlation had been found between Extraversion and academic achievement, though such relationship is not as strong as those found between the other five-factor traits and educational success.

Agreeableness. The trait of Agreeableness is associated with high levels of altruism and emotional support, a caring attitude, and overall concern for others, while low levels of this trait lead to hostile behavior, vengeance, indifference, and egocentrism (McCrae & John, 1992). According to Komarraju, Karau, Schmeck, and Avdic (2011), Agreeableness is correlated with academic achievement but not with the same strength as Conscientiousness and Openness to Experience. O'Connor and Paunonen (2007) actually report a negative correlation between Agreeableness and

academic performance, indicating that further research is required regarding the true impact of this trait on school-related behaviors.

Neuroticism. The trait of Neuroticism is reported as one's overall tendency to experience emotional distress and the specific cognitions and behaviors associated with it, including tension, low self-esteem, poor impulse control, pessimism, anxiety, and restlessness. In contrast, individuals with low levels of this trait demonstrate high levels of resilience, flexibility, coping skills, and resourcefulness (McCrae & John, 1992). Diseth (2013) indicates a negative relationship between Neuroticism and overall academic performance, while also reporting a positive correlation between this trait and surface learning, present when students are not invested in the intellectual experience of learning but rather just trying to pass their classes.

The Relationship between GPA and Personality Traits

McAbee and Oswald (2013) conducted a meta-analysis of existing literature regarding the relationship between the Big-Five personality traits and students' academic performance based on GPA with results indicating the trait of Conscientiousness to be the most stable personality predictor. Additional research has confirmed the relationship between the trait of Conscientiousness and students' GPAs. Cheng and Ickes (2009) delineate students' high levels of Conscientiousness and motivation to be predictive of a high GPA, and that high levels of Conscientiousness actually compensate for students' low levels of motivation.

Chowdhury and Amin (2006) state that students with high levels of Conscientiousness and Agreeableness receive higher academic grades than those with lower levels of these personality traits. Noftle and Robins (2007) indicate high levels of Conscientiousness to be positively correlated with a higher GPA at both the high school and college level, high levels of Openness to experience to be weakly and positively correlated with a high GPA at the college level, high levels of Agreeableness to

have a weak correlation with a high GPA at the high school level, and high levels of Extraversion to be weakly and negatively correlated with a high GPA at the college level. Similarly, Poropat (2009) conducted a meta-analysis including 80 studies and over 70,000 total participants, and demonstrates the trait of Conscientiousness to be consistently and positively correlated with a high GPA, followed by consistent but weaker positive relationships between the traits of Openness to experience, Agreeableness, and GPA.

The validity and concerns regarding the use of GPA, including self-reporting measures, as a reflection of academic success are discussed by Kuncel, Credé, and Thomas (2005). The authors state that students' grade point average are strong predictors of overall academic success, work performance, and overall life satisfaction, and also serve as the most commonly used measure of academic performance in research studies related to education. While the use of self-reporting measures presents challenges related to the verification of their accuracy, and therefore a possible threat to a study's validity, their meta-analysis study indicates self-reported college GPA's to have an overall high level of validity.

Purpose of the Study

The presence of contradicting information regarding nontraditional students in the literature indicates that a clear understanding of the psychological strengths and challenges facing this group of individuals in their pursuit of a higher education is still unclear. While most of the existing research on this topic has been primarily done at the four-year level, the majority of nontraditional students attend community colleges (Kim, 2002). The present study aims to add knowledge regarding how psychological factors, in the form of personality traits, and academic performance, in the form of GPA, predict students' membership into a nontraditional student category at the community college level.

Primary research question

Do personality traits and academic performance, as measured respectively by the NEO-FFI and a traditional four-point scale GPA, predict membership into a nontraditional student category at the community college level?

Method

Participants

The sample in the study included 163 students attending a major community college in the Southeastern region of the United States who had completed at least one semester of coursework and therefore had a reportable GPA. Participants were selected through a non-probability, purposive, and heterogeneity sampling design and invited to participate via email. The email included a link to Survey Monkey, where the data collection procedure took place electronically.

Data Collection

Once a student accepted the invitation to participate and acknowledged the informed consent, a series of seven yes/no demographic questions were asked in order to determine their membership into the traditional or nontraditional student category (Appendix). Each one of the seven demographic questions addressed one of the specific characteristics of nontraditional students, as determined by the National Center for Education Statistics (2017). According to Horn (1996), students with at least four nontraditional characteristics are considered highly nontraditional, and therefore were placed in the nontraditional student category for the present study. Students with less than four nontraditional characteristics were placed in the traditional category.

Once the demographic questions were answered, participants were asked to self-report their current GPA. The inclusion of a self-reported GPA as a predictor variable is a limitation of the present study, since students' GPA were not independently validated before being included in the data analysis.

Next, participants were presented with the NEO-FFI-3 assessment tool, which includes 60 Likert Scale test items, 12 items per personality dimension including Conscientiousness, Openness to Experience, Agreeableness, Extraversion, and Neuroticism, based on the five-factor personality model. Survey Monkey monitored the study and continued gathering data until the required number of participants was fulfilled. The estimated sample size included 163 students, based on calculations made with G*power for a binary logistic regression, alpha = .05, effect size = .15, and power = .80 (Faul, Erdfelder, Buchner, & Lang, 2009). Once the required number of participants was reached, Survey Monkey deactivated their link to the study.

Data Analysis

A stepwise forward logistic regression analysis was conducted with Conscientiousness, Openness to Experience, Neuroticism, Extraversion, Agreeableness, and GPA as predictive variables, and membership into a traditional or nontraditional student category as the categorical outcome variable.

Results

An initial analysis of the data indicated that the null model, with no added independent variables, had an overall 63.2 correct predictive percentage, as demonstrated in Table 1.

		Predicted Student Category		
	Observed Student Category	Traditional	Nontraditional	Percentage Correct
Step 0	Traditional	103	0	100.0
	Nontraditional	60	0	.0
	Overall Percentage			63.2

Table 1. Null Model with 63.2 Overall Correct Predictive Percentage

Table 2 indicates that the overall model would not be significantly improved with the addition of GPA and personality traits as predictive variable (8.084, df = 6, p = .232), and that the personality trait of Neuroticism is the only variable that demonstrates a predictive ability (5.663, df = 1, p = .017).

			Score	Df	Sig.
Step 0	Variables	Self-reported GPA	.206	1	.650
		Openness	1.836	1	.175
		Conscientiousness	3.503	1	.061
		Extraversion	3.583	1	.058
		Agreeableness	.080	1	.777
		Neuroticism	5.663	1	.017
	Overall Statistics		8.084	6	.232

Table 2. Predictive Variables and their Impact on Overall Model

Table 3 demonstrates a significant value for the predictor Neuroticism when introduced to the regression equation, with Wald X^2 (1) = 5.506, p = .019, Exp B = .961, indicating that students with high scores on the Neuroticism personality trait are about 10% less likely to be in the nontraditional category.

								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Neuroticism	-.040	.017	5.506	1	.019	.961	.929	.993
	Constant	.374	.416	.807	1	.369	1.453		

Table 3. Neuroticism Variable Included in the Model

Table 4 demonstrates the change in –2LL value if the trait of Neuroticism was removed from the equation, with -2LL = 5.708, df = 1, p = .017, indicating that this predictor variable should not be removed from the overall model.

Variable		Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 1	Neuroticism	-107.244	5.708	1	.017

Table 4. Change in Model if Neuroticism Variable was Removed

Summary of the Results

A forward stepwise logistic regression analysis of the data indicated that students with higher scores on the personality trait of Neuroticism are more likely to belong to a traditional student category, whereas students' GPA as well as scores on the traits of Openness to Experience, Conscientiousness, Agreeableness, and Extraversion did not serve as significant predictors regarding students' membership into a traditional or nontraditional student category. Specifically, results

indicated that the trait of Neuroticism accounts for about 10% of the variability between traditional and nontraditional students at the community college level.

The null model, with no specific predictor variables included, demonstrated a 63.2% predictive ability, based simply on the ratio of traditional and nontraditional students present in the study sample. The addition of the trait Neuroticism as a predictor variable improved the model's predictive ability to 63.8% when all other predictor variables were statistically controlled for.

Discussion of the Results

Previous research studies report mixed results regarding nontraditional students' ability to succeed academically at the college level. Some studies state that nontraditional students demonstrate stronger mastery achievement goals, better coping strategies when handling stress, and therefore stronger academic performance (Johnson & Nussbaum, 2013), as well as higher levels of maturity and more experience (Wyatt, 2011). In contrast, Macari, Mary and D'Andrea (2006) suggest that nontraditional students demonstrate lower abilities in establishing goals, developing autonomy, and maintaining interpersonal relationships, while Taniguchi and Kaufman (2005) report that older students who attend school part-time, have young children, or are divorced have lower graduation rates. Kim (2002) emphasize that previous studies were primarily conducted on 4-year college students, thus making the generalization of results regarding traditional and nontraditional students inappropriate to the community college level.

The present study demonstrates that traditional and nontraditional students differ in their levels of Neuroticism, a personality trait primarily associated with individuals' tendency toward experiencing irritation, emotional instability, and sadness (John, Naumann, & Soto, 2008). Additionally, study results indicate that traditional and nontraditional students do not differ in their overall academic performance and their levels of Conscientiousness, Openness to Experience,

Agreeableness, and Extraversion. Overall, these findings suggest that both traditional and nontraditional students share similar traits regarding organization, achievement-orientation, neatness, sociability, altruism, and intellectual curiosity.

Additionally, study results confirm previous findings regarding the relationship between personality traits and academic performance (Chowdhury & Anin, 2006; Komarraju et al., 2011; McAbee & Oswald, 2013; O'Connor & Paunonen, 2007). Specifically, a positive correlation was found between students' GPA and the trait of Conscientiousness ($r = .163$, $p = .037$). Finally, study results demonstrated a positive correlation between the traits of Neuroticism and Openness to Experience ($r = .22$, $p = .005$), and negative correlations between the traits of Neuroticism and Conscientiousness ($r = -.42$, $p < .01$), Neuroticism and Extraversion ($r = -.52$, $p < .01$), and Neuroticism and Agreeableness ($r = -.161$, $p = .04$)

Conclusions Based on the Results

Based on study results, Neuroticism explains about 10% of the variance between traditional and nontraditional community college students, and therefore can serve as a predictor variable for membership into a traditional and nontraditional student category. In contrast, traditional and nontraditional community college students demonstrate similar levels of Conscientiousness, Openness to Experience, Extraversion, and Agreeableness, as well as similar levels of academic performance, based on their GPA. As a result, students' GPA and the traits of Conscientiousness, Openness to Experience, Extraversion, and Agreeableness do not significantly predict membership into a traditional and nontraditional student category.

Limitations

The limitations associated with the present study included the use of self-reported GPAs, the sampling of participants from a single geographical area in the United States, and the use of a single online survey to measure personality traits, GPA, and membership into a traditional and nontraditional student category.

Since self-reported GPAs could not be independently verified by the researcher, it is possible that students provided a GPA that did not truly reflect their academic performance. Likewise, students might have answered the NEO-FFI-3 based on their expectations of what constitutes an appropriate response, rather than their true personality tendencies. Finally, the use of participants solely from one community college in the Southeastern region of the United States leads to the possibility that confounding variables associated with local cultural factors impacted the results.

Implications for Practice

Study results indicated that 10% of the variability between traditional and nontraditional students is due to levels of the Neuroticism personality trait. Specifically, traditional students are more likely than nontraditional students to have higher levels of Neuroticism. This personality trait, according to John, Naumann, and Soto (2008), increases individuals' levels of irritation, emotional instability, and sadness. McCrae and John (1992) state that individuals with high levels of Neuroticism are more likely to experience tension, low self-esteem, poor impulse control, pessimism, anxiety, and restlessness. Furthermore, the trait of Neuroticism has been negatively correlated with students' GPA (O'Connor & Paunonen, 2007). As a result, community colleges would benefit from providing incoming and returning students, especially those in the traditional student category, with resources to strengthen their overall resilience, emotional regulation, and

conflict resolution skills, thus combating their tendency toward behaviors associated with the trait of Neuroticism.

Additionally, faculty members and counselors teaching SDV courses could incorporate a personality assessment into their course curriculum in order to determine students' personality traits, independent of their traditional or non-traditional study category. Such effort would allow students to increase their self-awareness related to their behavioral tendencies that have been empirically determined to be either helpful or challenging toward one's educational efforts. Based on assessment results, students could then be given resources and tasks addressing their specific strengths and weaknesses, thus receiving a very tailored and relevant educational plan.

Finally, professional development workshops geared toward community college faculty and staff would benefit from the inclusion of information regarding traditional students' potential tendency toward Neuroticism traits. Since these are young adults initiating their higher education academic journey at the community college level, the implementation of programs that strengthen these students' overall ability to regulate their emotions and combat stress would benefit all involved, including students, faculty, and administration. Likewise, professional development workshops that emphasize the important relationship between personality traits and academic success would enhance community college faculty and staff members' overall ability to address the needs of their student population.

Recommendations for Further Research

The investigation of additional predictor variables regarding membership into a traditional and nontraditional student category is recommended. While personality traits, based on the NEO-FFI-3, and academic performance, based on GPA, were explored in the present study, only 10% of the variability between the two groups could be explained based on students' levels of Neuroticism.

As a result, additional variables could offer insight regarding differences between traditional and nontraditional community college students. Specifically, Bannert, Reimann, and Sonnenberg (2014) report that students who demonstrate successful self-regulatory behaviors show better planning skills, processing abilities, and elaboration techniques in the classroom, thus achieving higher academic goals and, consequently, higher levels of self-efficacy. The authors suggest that self-regulation allows individuals to engage in more efficient and functional behavioral patterns, leading to increased levels of personal satisfaction and well-being.

Motivation is an additional variable that could be investigated in future studies regarding traditional and nontraditional students. Bandura (1986) discusses the relationship between self-efficacy and motivation, emphasizing that individuals' ability to purposefully act toward fulfilling their goals is closely linked to their perceived levels of self-competence. According to the author, individuals who do not clearly understand the connection between their goals, abilities, actions, and outcomes are less motivated to initiate behavior. Fries and Dietz (2007) report a strong correlation between motivational levels and students' ability to resist temptations, focus, and follow-through with decisions. The authors state that students are less likely to be impacted by social and cognitive interferences when they are clear regarding the benefits of staying on task. Boström and Lassen (2006) discuss the relationship between motivation and self-efficacy, stating that students who do not feel capable of completing a task have no motivation to complete it. As a result, motivation might potentially serve as a predictor variable regarding membership into a traditional and nontraditional student category.

It is further recommended that future studies include the investigation of GPA and personality traits as predictor variables in both community and 4-year college students so that a deeper understanding regarding the overall differences between traditional and nontraditional students at higher education institutions is reached.

Conclusion

A stepwise forward logistic regression analysis was conducted in order to investigate the predictive relationship between personality traits, based on the NEO-FFI-3, academic performance, based on self-reported GPA, and membership into a traditional and nontraditional student category at the community college level. Results indicate that the trait of Neuroticism explains about 10% of the variability between traditional and nontraditional students and therefore can serve as a predictor variable. In contrast, no significant difference was found between traditional and nontraditional students regarding their GPA and the traits of Openness to Experience, Conscientiousness, Extraversion, and Agreeableness, suggesting that these variables do not serve as predictor factors regarding membership into traditional and nontraditional student groups.

Community colleges might benefit from providing students with resources that increase their ability to regulate their emotions and therefore decrease their tendencies toward experiencing negative emotions, especially those that fall into a traditional student category. Personality assessment tools could be introduced to SDV courses to provide students with information regarding personal behavioral tendencies that have been found to either promote or hinder academic success. Additionally, it is recommended that future studies focus on the predictive relationship between variables such as self-regulation and motivation and membership into a traditional and nontraditional study category both at the community and 4-year college settings in order to gain further insight into any variability between these two student groups.

References

American Association of Community Colleges. (2017). Community college trends and statistics. Retrieved from http://www.aacc.nche.edu/Pages/default.aspx

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*(3), 359-373. doi:10.1521/jscp.1986.4.3.359

Bannert, M., Reimann, P., & Sonnenberg, C. (2014). Process mining techniques for analysing patterns and strategies in students' self-regulated learning. *Metacognition and Learning, 9*(2), 161-185. doi:10.1007/s11409-013-9107-6

Boström, L., & Lassen, L. M. (2006). Unraveling learning, learning styles, learning strategies and meta-cognition. *Education & Training, 48*(2), 178-189. doi:10.1108/00400910610651809

Burns, K. (2010). At issue: Community college student success variables: A review of the literature. *The Community College Enterprise, 16*(2), 33-61. Retrieved from https://www.schoolcraft.edu/cce/16.2.33-61.pdf

Chamorro-Premuzic, T., & Furnham, A. (June, 2005). Intellectual competence. *Psychologist, 18*, 352-354. Retrieved from http://search.proquest.com.library.capella.edu/docview/211777218?accountid=27965

Cheng, W., & Ickes, W. (2009). Conscientiousness and self-motivation as mutually compensatory predictors of university-level GPA. *Personality and Individual Differences, 47*(8), 817-822. doi:10.1016/j.paid.2009.06.029

Chowdhury, M. S., & Amin, M. N. (2006). Personality and students' academic achievement: Interactive effects of conscientiousness and agreeableness on students' performance in principles of economics. *Social Behavior and Personality, 34*(4), 381-388. doi:10.2224/sbp.2006.34.4.381

Crawford, C., & Jervis, A. (2011). Community colleges today. *Contemporary Issues in Education Research, 4*(8), 29-32. doi:10.19030/cier.v4i8.5884

Diseth, A. (2013). Personality as an indirect predictor of academic achievement via student course experience and approach to learning. *Social Behavior & Personality: An International Journal, 41*(8), 1297-1308. doi:10.2224/sbp.2013.41.8.1297

Dowd, A. C. (2007). Community colleges as gateways and gatekeepers: Moving beyond the access "saga" toward outcome equity. *Harvard Educational Review, 77*(4), pp. 407-528. Retrieved from https://eric.ed.gov (EJ784069)

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160. doi:10.3758/BRM.41.4.1149

Fries, S., & Dietz, F. (2007). Learning in the face of temptation: The case of motivational interference. *The Journal of Experimental Education, 76*(1), 93-112. Retrieved from http://www.jstor.org/stable/20157472

Grimes, S. K., & David, K. C. (1999). Underprepared community college students: Implications of attitudinal and experiential differences. *Community College Review, 27*(2), 73-92. doi:10.1177/009155219902700204

Horn, L. J. (1996). *Nontraditional undergraduates: Trends in enrollment from 1986 to 1992 and persistence and attainment among beginning postsecondary students.* U.S Department of Education. Retrieved on May 26, 2015 from https://nces.ed.gov/pubs/97578.pdf

Hughes, K. L., & Scott-Clayton, J. (2011). Assessing developmental assessment in community colleges. *Community College Review, 39*(4), 327-351. doi: 10.1177/0091552111426898

Jaeger, A.J. & Eagan, K. Jr. (2009). Unintended consequences: Examining the

effect of part- time faculty members on associate's degree completion. *Community College Review, 36*(3), 167-194. doi:10.1177/0091552108327070

John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative big-five trait taxonomy: History, measurement, and conceptual issues. *Handbook of Personality: Theory and Research*. New York, NY: Guilford Press.

Johnson, M. L., & Nussbaum, E. M. (2013). Achievement goals and coping strategies: Identifying the traditional/nontraditional students who use them. *Journal of College Student Development, 53*(1), 41-54. doi:10.1353/csd.2012.0002

Kim, K. A. (2002). ERIC review: Exploring the meaning of "nontraditional" at the community college. *Community College Review, 30*(1), 74-89. doi:10.1177/009155210203000104

Komarraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The big five personality traits, learning styles, and academic achievement. *Personality and Individual Differences, 51*(4), 472-477. doi:10.1016/j.paid.2011.04.019

Kuncel, N. R., Credé, M., & Thomas, L. L. (2005). The validity of self-reported grade point averages, class ranks, and test scores: A meta-analysis and review of the literature. *Review of Educational Research, 75*(1), 63-82. doi:10.3102/00346543075001063

Macari, D. P., Mary, F. M., & D'Andrea, L. (2006). A comparative study of psychosocial development in nontraditional and traditional college students. *Journal of College Student Retention, 7*(3), 283-302. doi:10.2190/BV5H-3630-18CU-6C3B

McAbee, S. T., & Oswald, F. L. (2013). The criterion-related validity of personality measures for predicting GPA: A meta-analytic validity competition. *Psychological Assessment, 25*(2), 532-544. doi:10.1037/a0031748.supp (Supplemental)

McCrae, R. R. (2011). Personality theories for the 21st century. *Teaching of Psychology, 38*(3), 209-214. doi:10.1177/0098628311411785

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60*(2), 175-215. doi:10.1111/j.14676494.1992.tb00970.x

Miller, M. T., Pope, M. L., & Steinmann, T. D. (2005). A profile of contemporary community college student involvement, technology use, and reliance on selected college life skills. *College Student Journal, 39*(3), 596-603. Retrieved from https://eric.ed.gov (EJ725594)

Muhlig-Versen, A., Bowen, C. E. & Staudinger, U. M. (2012). Personality plasticity in later adulthood: Contextual and personal resources are needed to increase openness to new experiences. *Psychology and Aging, 27*(4), 855–866. doi:10.1037/a0029357

National Center for Education Statistics, U.S. Department of Education. Institute of Education Sciences. (2017). Who is nontraditional? Definitions and data. Retrieved on Feb 08, 2017 from https://nces.ed.gov/pubs/web/97578e.asp

Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology, 93*(1), 116-130. doi:10.1037/0022-3514.93.1.116

O'Connor, M. C., & Paunonen, S. V. (2007). Big five personality predictors of post-secondary academic performance. *Personality and Individual Differences, 43*(5), 971-990. doi:10.1016/j.paid.2007.03.017

Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin, 135*(2), 322-338. doi:10.1037/a0014996

Spellman, N. (2007). Enrollment and retention barriers adult students encounter. *The Community College Enterprise, 13*(1), 63-79. Retrieved from https://eric.ed.gov (EJ843212)

Stumm, S.v., Hell, B., & Chamorro-Premuzic, T. (2011). The hungry mind: Intellectual curiosity is the third pillar of academic performance. *Perspective on Psychological Science, 6*(6), 574-588. doi:10.1177/1745691611421204

Taniguchi, H., & Kaufman, G. (2005). Degree completion among nontraditional college students. *Social Science Quarterly, 86*(4), 912-927. doi: 10.1111/j.00384941.2005.00363.x

Wyatt, L. G. (2011). Nontraditional student engagement: Increasing adult student success and retention. *The Journal of Continuing Higher Education, 59*, 10-20. doi: 10.1080/07377363.2011.544977

Appendix

Demographic Questions Used to Determine Students'

Traditional or Non-traditional Status

1. Did you enroll in college right after graduating from high school?
    - Yes
    - No
2. Are you a part-time student?
    - Yes
    - No
3. Are you over the age of 24?
    - Yes
    - No
4. Do you work full-time?
    - Yes
    - No
5. Do you have any dependents?
    - Yes
    - No
6. Are you a single-parent?
    - Yes
    - No
7. Do you have a GED?

- Yes
- No