PERSONALITY, FAMILIARITY, AND ACCOUNTING STUDENTS' PERCEPTIONS OF ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG)

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SUMMARY: We examine how accounting students view Environmental, Social, and Governance (ESG) and whether familiarity with ESG and their personality traits jointly relate to perceived importance of ESG. Our survey finds that agreeableness is positively associated with ESG perception while extraversion and openness moderate the effect of familiarity on ESG perception through perceived financial impact. We also find that the perceived materiality of ESG topics is not consistent with that defined by the standards. Overall, this study has important pedagogical implications and provides observations on an under-researched stakeholder group.

Keywords: ESG, Sustainability, Accounting, Ethics, Familiarity, Personality, ESG Perceptions

INTRODUCTION

Although corporate leaders overall look to business schools to help equip workers with the knowledge of Environmental, Social and Governance (ESG), very few schools have formally integrated ESG components into the accounting curriculum (Simmons, Serafin, Stampone, and Rayeski 2023). In this study, we document how extant accounting students view ESG and examine whether their familiarity with ESG is positively associated with their perceived importance of ESG. We further predict that students' personality traits and their familiarity with ESG-related concepts can jointly influence their ESG perceptions. Utilizing students in upper-division and graduate accounting courses, we conducted a survey where participants were presented with brief background information about one hypothetical

company along with five different ESG scenarios. Respondents were asked to indicate their familiarity with ESG and their perceived importance of ESG. Personality traits were measured using the 20-item International Personality Item Pool (Mini-IPIP) survey adapted from Donnellan, Oswald, and Lucas (2006).

We find that, overall, students are not very familiar with ESG topics. Age and work experience, but not standing in college, are highly correlated with ESG familiarity. Familiarity generally relates to better understanding of the financial impact of ESG, resulting in higher perceived importance of ESG. The personality trait, Agreeableness, is positively associated with ESG Perception, although it does not moderate the effect of Familiarity on ESG Perception. More importantly, although neither Extraversion nor Openness directly predict ESG Perception, they moderate the effect of Familiarity on ESG perception through Financial Impact. Specifically, the results suggest that for students with low Extraversion or high Openness trait, increased familiarity leads to higher ESG perception mediated through Financial Impact.

This study has theoretical and pedagogical contributions. Although prior studies have examined the relationship between personality traits and ESG utilizing different sample groups (i.e., Pelster and Schaltegger 2022), to the best of our knowledge, no prior study has investigated the connection between the Big Five personality traits and ESG perceptions. In addition, this study contributes to the ongoing discussion regarding the incorporation of ESG into the accounting curriculum by providing insight into student attitudes towards ESG that allows educators to better structure their efforts in this area. It also provides insight that may be useful for developing a model for sustainability education as suggested by Rohweder and Virtanen (2009). Personality traits, such as Extraversion and Openness, could affect the effect of familiarity on ESG perceptions through perceived financial impact of ESG. However, a higher degree of familiarity with ESG concepts may not always result in a change in ESG perceptions due to different personality traits. Certain personality traits, such as Agreeableness, may be less mutable by an individual's experiences.

The remainder of this paper is organized as follows. The next section summarizes the literature and develops hypotheses. The research method is then presented followed by the results. We conclude with a discussion of the implications and limitations of our study.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Familiarity and ESG Perceptions

There has been a push towards incorporating ESG into accounting education to better prepare accounting students for the future, who play key roles in corporate decision-making and reporting (e.g., Haskin and Burke 2016). However, a survey by the American Institute of Certified Public Accountants (AICPA) in 2022 find that only 25% of surveyed schools indicated that they would be adding or altering the content presented in existing courses to incorporate ESG concepts.

It is important to understand how future business professionals perceive issues related to ESG or broadly sustainability. This is particularly true given that there have been conflicting views of the value of sustainability to organizations (Deng, Kang, and Low 2013). While some proponents of sustainability believe that helping communities can benefit shareholders in many ways, others may view economics as a zero-sum game and conclude that such actions must yield a lower return for shareholder.

Therefore, we first document the baseline level of familiarity that students have with ESG-related concepts. Next, we examine whether accounting students' familiarity with or exposure to ESG-related concepts is associated with their perceived importance of ESG. Due to the mere exposure effect (e.g., Janiszewski 1993; Newell and Shanks 2007; Montoya, Horton, Vevea, Citkowicz, and Lauber 2017), repeated exposures to ESG-related concepts may cause students to have a more positive view of ESG and view ESG as being more important. However, if a student's perceptions of ESG are driven by persistent personal values that are less mutable by learning experiences, such as a belief that ESG initiatives reallocate or transfer funds from shareholders to other stakeholders and thus hurt profitability, it is also possible that a higher degree of familiarity with ESG concepts may not result in a change in a student's perceptions of ESG. Furthermore, we suggest that with more exposure to ESG-related topics, accounting students are more likely to understand the financial impact of ESG (Friede, Busch, and Bassen 2015), thus perceiving these issues more important to the company as well as the society. We state our first hypothesis formally as follows:

H1: Students' familiarity with ESG is positively associated with their understanding of the financial impact of ESG, thus, leading to higher perceived importance of ESG.

The Role of Personality

Personality traits have been documented to have a significant impact on people's perceptions of and attitudes towards ESG. In this study, we use the Big Five Personality Model, which has been shown to be stable over time and used in numerous studies to examine how people perceive and interpret their experiences across different contexts (e.g., Rua, Lawter, and Andreassi 2024; Samagaio and Felício 2022; Farag and Elias 2016).

The Big Five personalities consist of ***Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness***. ***Extraversion*** entails the degree to which an individual is people-friendly, sociable, and possesses a positive attitude. A person scoring high on Extraversion is more likely to be outgoing, energetic, and receptive to social interactions (Scott, Colquitt, Paddock, and Judge 2010). ***Agreeableness*** refers to an individual's preferred way of dealing with others. Individuals scoring high on Agreeableness are more likely to be sympathetic, warm, and considerate, and are less antagonistic in their interactions with others (Costa and McCrae 1992). ***Conscientiousness*** represents the personality trait of individuals who are self-driven and achievement oriented. An individual scoring high on Conscientiousness is more likely to be

organized, hardworking, and persevering with a high sense of duty and discipline (Judge and Ilies 2002; Samagaio and Felício 2022). ***Neuroticism*** is a *negative* personality characteristic that captures the degree to which an individual is emotionally unstable and experiences negative feelings during stressful situations. A person scoring high on Neuroticism is more likely to feel anxiety, fear, and frustration in stressful situations (Costa and McCrae 1992). Finally, ***Openness*** refers to the degree to which individuals are curious, imaginative, and enjoy the process of exploration. A person scoring high on Openness is more likely to be intellectual and receptive to new experiences and have an active imagination (McCrae and Costa 1997).

Prior studies find that the Big Five personality traits relate to other individual attributes and could predict certain behaviors. For instance, Samagaio and Felício (2022) find the traits of agreeableness, conscientiousness, and openness are *positively* correlated with professional skepticism of auditors, while conscientiousness and neuroticism are *negatively* associated with audit quality. The study of Farag and Elias (2016) shows that the personality traits of extraversion, agreeableness, conscientiousness, and openness positively correlate with professional skepticism and anticipatory socialization among accounting students, and neuroticism negatively correlates with professional skepticism and anticipatory socialization.

The social cognitive theory (e.g., Bandura 1989) emphasizes the dynamic interplay between personal factors (such as personality traits), behavior, and environment. In this study, we hypothesize that personality traits can interact with environmental influence (such as familiarity or exposure) to affect the perceived importance of ESG. For example, students scoring high on ***Openness*** are more receptive to new experiences and more likely to seek out information about ESG (Samagaio and Felício 2022), and thus familiarity may affect high-***Openness*** students more significantly, compared to students with low ***Openness***. Similarly, ***Conscientious*** people tend to be strong-willed with a high sense of responsibility, discipline, and morality (McCrae and Costa 2008; Samagaio and Felício 2022). Students scoring high on ***Consciousness***, when exposed to ESG-related concepts, may be more likely to recognize the responsibility of corporations beyond maximizing their own profit and to realize the importance of ESG to all stakeholders, including shareholders. People with high ***Agreeableness*** tend to be more considerate and are more likely to promote collaboration, often characterized as good-natured, cooperative, and modest. Since ESG is pro-social in nature, and altruism can be viewed as a form of ***Agreeableness***, students who score high in ***Agreeableness*** may be more likely to agree with the importance of ESG when familiarized with ESG-related concepts. Similarly, a person scoring high on ***Extraversion*** is often more sociable and prefers to be with others. Thus, when familiarized with ESG-related concepts, students scoring high on ***Extraversion*** may have a higher tendency to connect themselves to the entire society, thus enhancing their perceived importance of ESG.

Therefore, we expect an interaction of personality traits and familiarity on students' ESG perceptions. Specifically, we conjecture a moderating role of personality trait in the effect of familiarity on ESG perceptions predicted in H1. We formally state our hypotheses below:

H2a: Positive personality traits (*Extraversion, Agreeableness, Conscientiousness, and Openness*) enhance the relationship predicted in H1.
H2b: Negative personality trait (*Neuroticism*) diminishes the relationship predicted in H1.

RESEARCH METHOD

Students enrolled in upper-division and graduate accounting courses in a large AACSB-accredited public university have been recruited to participate in an online survey voluntarily and anonymously. The first section of the survey displayed a brief background about one company called XYZ Inc. in the apparel, accessories, and footwear industry. Next, respondents were presented with five different ESG scenarios: Product Quality, Supply Chain, Environment, Employees, and Business Ethics. These five scenarios were developed using the Sustainability Accounting Standards Board (SASB)'s materiality map, where two scenarios (Product Quality and Supply Chain) are considered material for this industry while the other three scenarios (Environment, Employees, and Business Ethics) are considered immaterial. In each scenario, we asked respondents to indicate how familiar they are with the activities mentioned above on a five-point Likert scale with points labeled 1 (Not familiar at all), 3 (Neutral), and 5 (Very Familiar). Further, respondents were asked to indicate to what extent they agree with these four statements designed to capture their perceived importance of ESG: i). The activities mentioned above are very important to society overall; ii). The activities mentioned above are very important to XYZ Inc. itself; iii). The activities mentioned above have a direct effect on XYZ's financial performance; iv). The activities mentioned above directly influence XYZ's long-term value creation. Their responses were recorded on separate Likert scales with points labeled 1 (Completely Disagree), 3 (Neutral), and 5 (Completely Agree).

The second section of this survey was adapted from Donnellan et al. (2006). Twenty items were used to capture their individual personality traits. The responses were recorded on five-point Likert scales with points labeled 1 (Very Inaccurate), 2 (Moderately inaccurate), 3 (Neither accurate nor inaccurate), 4 (Moderately accurate), and 5 (Very accurate). Last, respondents were asked to indicate their gender, age, standing in college, whether they are considered a first-generation student, approximate cumulative GPA, years of work experience, career interest, and how they want to see ESG integrated into accounting education.

RESULTS

Descriptive Results

Our respondents include 49 juniors, 65 seniors, and 38 graduate students. Forty-nine percent of the respondents are female, and 45 percent are male. Fifty-seven percent of them are considered first-generation students. The average age of the respondents is 26 years with a median age of 24 years. The average estimated GPA is 3.57 with a median of 3.40. Their average

work experience is 4.93 years with a median of 3 years. Roughly two-thirds (67 percent) of the respondents indicated an interest in Auditing as a potential career path.

Overall, the results suggest that students are not very familiar with ESG (mean=2.85; s.d.=0.95). Their age and years of work experience are significantly associated with a student's familiarity with ESG. However, the year in college has no influence on the overall familiarity with ESG.

Path Analysis

ESG Perception is constructed using the responses to these three questions regarding whether they believe the ESG activities are important to society, XYZ company itself, and XYZ's long-term value. The correlation analysis suggests that these three questions are highly correlated ($r>0.80$, $p<0.01$). Thus, we first average their responses across five different scenarios, then perform principal component analysis (PCA) to combine these three questions into one composite measure of respondents' overall perceived importance of ESG (***ESG Perception***). The PCA results indicate that all three questions load on one single component, which explains cumulatively 87.61% of the total variance. The Cronbach's alpha is 0.93, indicating high internal consistency. Higher values of ***ESG Perception*** suggest a higher perceived importance of ESG.

To test our model for each personality trait, we specify a path model using AMOS for structural equation modeling. We use the maximum likelihood method for estimation and perform bootstrapping with 2000 bootstrap samples and 95% confidence intervals. We first examine the overall model fit and then the significance of the direct and indirect effects.

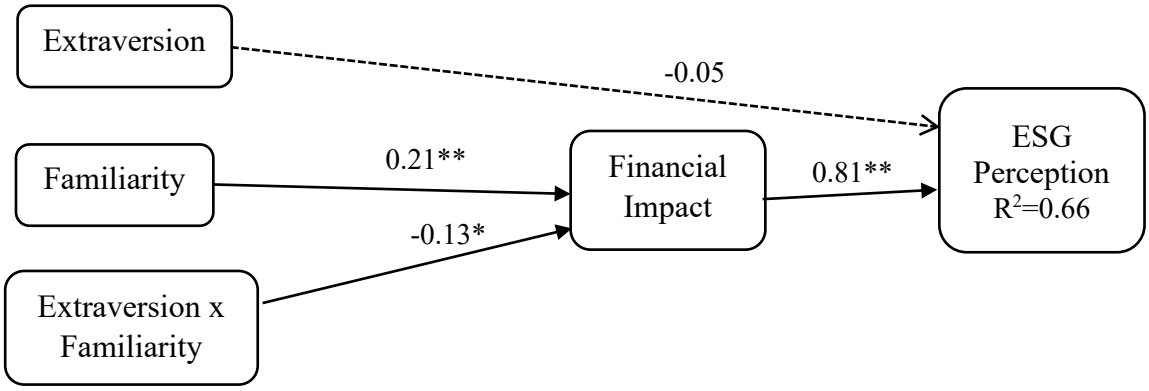
Our untabulated results suggest that for all five personality traits, students' familiarity with ESG is significantly positively associated with their understanding of the financial impact of ESG ($p<0.01$), which further relates to their perceived importance of ESG positively ($p<0.01$). Therefore, our **H1** is supported.

We find that the negative personality trait, Neuroticism, does not predict ESG Perception ($p=0.18$) nor moderate the effect of Familiarity on ESG Perception ($p=0.78$). Similarly, ***Conscientiousness*** does not predict ESG Perception ($p=0.32$) nor moderate the effect of Familiarity on ESG Perception ($p=0.93$). Although ***Agreeableness*** itself is positively associated with ESG Perception ($\beta=0.17$, $p<0.01$), it does not moderate the effect of Familiarity on ESG Perception ($p=0.55$). More importantly, although neither ***Extraversion*** nor ***Openness*** directly predict ESG Perception, they moderate the effect of Familiarity on ESG Perception. Therefore, our **H2a** is partially supported while **H2b** is rejected.

Next, we present the results on Extraversion, which are similar to those on Openness. Figure 1 shows the results of path model with standardized estimates (chi-square=7.22, df=6, $p=0.30$) using Extraversion as a personality trait. The root mean squared error of approximation (RMSEA) is 0.04, while the Adjusted Goodness of Fit Index (AGFI) is 0.96, and the Comparative Fit Index (CFI) is 0.99. The model specified has a good fit and closely reproduced the covariance matrix observed in the data. Overall, the results show that ***Extraversion*** itself

does not predict ESG perception (p=0.25). However, it moderates the effect of Familiarity on ESG perception through Financial Impact (β= -0.11, p=0.06).

Figure 1
Path Model of Familiarity and Extraversion on ESG Perception through Financial Impact



Note: standardized estimates are reported. ** indicates significant results at 0.05 level; * indicates significant results at 0.10 level. Insignificant paths are indicated with dashed lines. Results are based on 2,000 bootstrap samples.

Next, we use median split to create Low (n=83) vs. High (n=78) Extraversion Groups and perform moderated mediation analysis. Table 1 presents the conditional indirect effect of Extraversion and Familiarity on ESG Perception through Financial Impact. We find that for students in the Low Extraversion Group, the indirect effect of Familiarity on ESG Perception through Financial Impact is positive and significant (b=0.31, 95% CI [0.15, 0.45]). However, for students in the High Extraversion Group, the indirect effect of Familiarity on ESG Perception through Financial Impact is not significant (b=0.06, 95% CI [-0.15, 0.28]).

Similarly, the untabulated results show that ***Openness*** itself does not predict ESG perception (p=0.61). However, it moderates the effect of Familiarity on ESG perception through Financial Impact (β= 0.11, p=0.09). We use median split to create Low (n=81) vs. High (n=80) Openness Groups and perform moderated mediation analysis and find that for students in the High Openness Group, the indirect effect of Familiarity on ESG Perception through Financial Impact is positive and significant (b=0.28, 95% CI [0.12, 0.45]). However, for students in the Low Openness Group, the indirect effect of Familiarity on ESG Perception through Financial Impact is not significant (b=0.05, 95% CI [-0.20, 0.25]).

Table 1

Conditional Indirect Effect of Extraversion and Familiarity on ESG Perception through Financial Impact (n=161)

Predictor	*B*	*SE*	*t*	*p*	**95% CI**	**90% CI**
Mediator variable model (Financial Impact): R^2=0.08, F=4.77, p<0.01						
Constant	3.23	0.25	12.85	<0.01	2.74, 3.73	2.82, 3.65
Familiarity	**0.29**	**0.09**	**3.33**	**<0.01**	**0.12, 0.46**	**0.14, 0.43**
Extraversion (low=0, high=1)	0.44	0.37	1.20	0.23	-0.28, 1.16	-0.17, 1.05
Familiarity × Extraversion	**-0.23**	**0.12**	**-1.91**	**0.06**	**-0.47, 0.01**	**-0.43, -0.03**
Dependent variable model (ESG Perception): R^2=0.66, F=152.86, p<0.01						
Constant	-4.22	0.26	-16.06	<0.01	-4.74, -3.70	-4.66, -3.79
Familiarity	<0.01	0.05	-0.06	0.95	-0.10, 0.10	-0.09, 0.08
Financial Impact	**1.08**	**0.06**	**17.14**	**<0.01**	**0.95, 1.20**	**0.97, 1.18**
Conditional indirect effects (via *Financial Impact*)						
Low Extraversion	**0.31**	**0.08**			**0.15, 0.45**	**0.18, 0.42**
High Extraversion	0.06	0.11			-0.15, 0.28	-0.12, 0.24
Index of moderated mediation (via *Financial Impact*)						
Extraversion (low=0, high=1)	**-0.25**	**0.13**			**-0.51, 0.02**	**-0.46, -0.02**

Note: 5,000 bootstrap samples are used. Both 95 and 90 percentile bootstrap confidence intervals are reported. Significant effects are bold.

The Issue of Materiality

The untabulated results show that students are significantly more familiar with immaterial matters than material ones (p<0.01, two-tailed). In addition, a student's perceived importance of ESG to society and the company differs significantly between material and immaterial topics (p=0.02; p=0.01). However, they perceive immaterial ESG topics as being more important than material ESG topics, both for the firm and for society. Their perceived importance of ESG to a firm's financial performance and to a firm's long-term value creation do not differ between material versus immaterial ESG topics (p=0.49; p=0.14).

These results are inconsistent with the SASB materiality map's classification of material versus immaterial ESG topics for the apparel, accessories, and footwear industries. Since the SASB standards are developed from the investors' perspective, their perceived materiality of ESG topics may not align with that of other stakeholders such as customers and employees. One possible explanation for this divergence is that students may not view ESG in the same manner as investors do. Instead, they may view ESG through the lens of customers and employees of firms. ESG topics that were once considered immaterial can become financially material, a new

idea of dynamic materiality proposed during the World Economic Forum in 2020, suggesting the evolving nature of the impact of ESG on financials and long-term value of companies. Another possible explanation is that students tend to be more familiar with these topics that are taught at school (e.g., ethics) and thus perceive these topics to be more important.

DISCUSSION AND CONCLUSION

Our results suggest that students' familiarity with ESG increases with age and years of work experience, but not with their standing in college. This may indicate that the extant accounting curriculum may not provide sufficient exposure to ESG-related topics. Although our results may not apply to all student populations, we recommend that ESG-related topics be introduced early in the curriculum to provide students with repeated exposure to ESG in their college education.

Educators may develop a separate course, for instance, Ethics or Sustainability in Accounting, or incorporate ESG components into multiple existing courses, such as Introductory Managerial Accounting, Cost Accounting, Financial Accounting, and Contemporary Issues in Accounting. We find that more than half (53 percent) of our respondents expressed a preference for ESG-related cases to be incorporated in some accounting courses. Twenty-five percent would prefer setting ESG-related topics to be taught as a stand-alone course, while 20 percent would like to learn about ESG through independent studies. In addition, as suggested by Simmons et al. (2023), based on our findings, the most important learning objectives for teaching ESG should include understanding the connections between ESG and financial reporting and understanding how ESG creates long-term value for stakeholders.

One potential way to incorporate ESG into an existing course is to use real-world cases, such as Chipotle's food safety crisis and their ESG practice, or scenarios similar to these used in our study to encourage students to consider the impact of these activities to the firm and society, and to discuss why these activities are important. The cases can be incorporated piecemeal in a variety of different relevant courses. For example, the scenarios concerning product quality and supply chain can be integrated into Managerial or Cost accounting class.

In addition, our study highlights that it may be important to redefine materiality from the perspective of all stakeholders rather than focusing on only shareholders. Our findings provide insight into developing a model for sustainability education suggested by Rohweder and Virtanen (2009), which integrates the context, activities, and intrinsic changes. While the context provides a framework regarding the width and depth of discussion of sustainability, intrinsic changes are needed in the learning process as they are related to the attitudes and views of individuals toward sustainability. Activities are the ways to realize educational practices for sustainability through partnership, cooperation, and participation. It also adds to the discussion of the pedagogical approach to educating "change agents for sustainability" (Hesselbarth and Schaltegger 2014), who are responsible internally and externally for initiating and managing a specific change initiative in sustainability (Caldwell 2003). In terms of activities, based on our

findings, we recommend using collaborative teaching so that students can be assigned to different group settings with a goal of balancing their personality traits in each group to promote critical thinking and improve communication.

Next, we discuss the limitations of our study and avenues for future research. First, we do not make claims of any directional causality. Future research may employ experiments or longitudinal studies to test directional causality. Second, we call for studies to further examine whether our results can be generalized beyond the specific demographics of our students. Third, there are potential covariates such as student political orientations and student demographics. Future research could further investigate the degree to which these factors affect the relationship between a student's personality traits and their attitudes toward and familiarity with ESG. Future research can also experiment and explore the differential effects of introducing ESG in different courses and alternative formats.

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