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Main article

Measuring the value of integrating GVV into a standalone accounting ethics course

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ABSTRACT

This paper empirically assesses the efficacy of the Giving Voice to Values (GVV) curricular offering. GVV training purports to increase both a person's confidence level in dealing with ethical issues and his or her likelihood to try to resolve and actually report an ethical issue when encountered. While the GVV curriculum has been piloted in nearly 1000 schools, companies, and other organizations on all seven continents, very little empirical research has been conducted to assess its efficacy, especially in accounting education. We integrated the GVV offering utilizing an ethical decision-making framework developed by Mintz and Morris (2014), based on Rest (1986) model of ethical action, into a semester-long accounting ethics class. We extend the existing literature in the field by developing an important theoretical link between Rest (1986) four-stage model of moral action and GVV. When using ANOVA to analyze the treatment and control groups separately, we find significant increases in all four stages of Rest's model for the treatment group. When applying multivariate analysis to the incremental change between the treatment and the control groups, we find significant increases in both students' confidence and their intent to confront ethical issues. Additionally, we find similar increases in students' ethical sensitivity (ability to recognize ethical issues), ethical judgment (determining the best course of action), and their intent to try to resolve and report them between our treatment and control groups for certain vignettes. Student comments suggest the GVV material to be more enjoyable, and faculty believe the depth of the analysis utilizing GVV is better. Faculty also suggest that student engagement is higher with GVV. Our findings suggest that integrating GVV into the curriculum of an accounting ethics course is of value and worth pursuing. Given the ease with which the offering can be implemented, our study may encourage accounting academics to include GVV coverage in other accounting courses as well.

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1. Introduction

The first goal listed in the 2012 Accounting Pathways Commission report of the American Accounting Association, 'Charting a National Strategy for the Next Generation of Accountants,' is to "Build a learned profession for the future by purposeful integration of accounting research, education, and practice for students, accounting practitioners, and educators" (Association, 2012, 11). Central to this goal is the idea that the accounting profession rests on a foundation of maintaining

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the public trust. The Pathways report states “students, faculty, and accounting practitioners need a shared sense of why accounting is important; the scope and breadth of the accounting profession; and what it takes to successfully think, perform, and act with integrity in the study and practice of accounting” (Association, 2012, 21). Nothing appears to be more important to the maintenance of the public trust than increasing the likelihood that accounting professionals will try to both resolve and report ethical issues when encountered. This study empirically evaluates the efficacy of Giving Voice to Values (GVV), a relatively new curricular offering that purports to do just that.

GVV is a complete curricular offering created by Dr. Mary Gentile (2010) through the Aspen Institute and the Yale School of Management (now housed at the Darden School of the University of Virginia). The GVV curricular offering incorporates an action-based case analysis framework that requires students to prepare scripts and role-play ethical dilemmas in an effort to increase the likelihood they will not only report a problem, but also find a way to resolve it.¹ The GVV curriculum offers practical exercises, cases, modules, scripts, and teaching plans for handling a wide range of ethical conflicts in the workplace. Students assume responsibility for leading a discussion and an analysis of ethically charged situations. GVV has been piloted in nearly 1000 schools, companies, and other organizations on all seven continents.

Even though GVV has been extensively used, research surrounding the efficacy of GVV is in its infancy. Liu, Yao, and Hu (2012) suggest that ethics education in accounting shows deficiencies in terms of code-bound content, less systematic formal training, less informal hands-on training, and less usage of team or group work than ethics education in the legal and medical disciplines. One method to implement informal training is the use of case-based instruction, such as GVV, to simulate practical experiences (Liu et al., 2012). Accounting professionals should have both technical expertise and moral expertise; therefore, case studies and role-playing can foster ethics and professionalism in our students (Mintz, 1995). We implemented the GVV program by encouraging undergraduate accounting students to practice voicing their values through cooperative and collaborative learning, scripting, and role-playing.

We apply a quasi-experimental approach to assess the impact of integrating a GVV module into an existing accounting ethics course at two different, medium-sized state universities. The GVV offering utilizes an ethical decision-making framework developed by Mintz and Morris (2014), based on Rest (1986) model of moral action. We find significant increases in students' confidence in dealing with and willingness to confront ethical issues as a result of implementing GVV in accounting ethics courses. Additionally, we find similar increases in students' ethical sensitivity (ability to recognize ethical issues), ethical judgment (determining the best course of action), and their intent to try to resolve and report the issue (take action) between our treatment and control groups for certain vignettes. Student comments suggest the GVV material is more enjoyable, and faculty perceive that the students utilizing GVV provided a deeper level of analysis than did the control group. Faculty also suggest that student engagement is higher with GVV. Our findings suggest that integrating GVV into the curriculum of an accounting ethics course is of value and worth pursuing. Finally, we extend the existing literature in the field by providing a theoretical link between Rest's model of moral action and GVV.

The next section of the paper develops our hypotheses, followed by a more detailed discussion of our research method. We then discuss our assessment instrument and our results. The final section of the paper presents our conclusions and suggestions for future research.

2. Background

GVV teaches students about values and values conflicts to enable them to easily identify the type(s) of issues they will likely encounter, providing a better understanding of their own thinking, as well as the thinking of those who created the dilemma. GVV also teaches students to anticipate what they might hear when they encounter ethical dilemmas, so they can be prepared to intelligently and successfully counter any reason or rationalization provided. In addition, GVV introduces students to a common set of tools and levers they can utilize when they report and attempt to resolve an issue. Common levers include seeking advice internally or externally from a friend, family member, coworker, audit committee member, an AICPA or IMA Ethics Helpline, as well as others. Finally, GVV teaches students how to determine the appropriate person to whom they should report their concerns. Gentile (2010) contends the learning surrounding the identification and use of counter arguments, levers, and reporting avenues helps provide students with the confidence necessary to resolve issues effectively when they encounter them. This is echoed by Christensen, Cote, and Latham (2016), who state “GVV's specifically focuses on skill-building to develop confidence in the face of ethical challenges. . .” (p.2).

In addition to the coverage of the above topics in GVV, students are required to practice utilizing the ethics knowledge they have gained. Gonzalez-Padron, Ferrell, Ferrell, and Smith (2012) state that GVV can “help students learn how to use their knowledge of required ethical conduct and their personal ethical reasoning skills to contribute to ethical decision making” (p. 265), describing GVV as “a highly successful individual communication and action tool used in business ethics education” (p. 267). The materials provided by Gentile (2010) include discipline-specific ethical dilemmas that the students are asked to bring to resolution through the application of the GVV methodology. These cases provide students the opportunity

¹ We refer instructors who wish to implement the GVV curriculum to Gentile (2010) and the www.GivingVoiceToValues.org website where materials are available for download. In addition, Shawver and Miller (2019) book, *Giving Voice to Values in Accounting*, is an excellent resource on how to implement GVV in the classroom.

to develop action plans and practice resolving discipline-specific ethical dilemmas that they may encounter when they move into their chosen profession.

3. Hypotheses development

GVV assumes that most people already know whether something is or is not an ethical issue and already know the right thing to do. GVV is a post-decision-making (post recognition) framework focused on reporting an issue in an effort to resolve it. Based on a study of MBA students conducted by the Aspen Institute, [Gentile \(2010\)](#) contends that most people want to report and resolve an unethical practice. However, they may lack the confidence to do so, may be uncomfortable reporting the issue (i.e., taking moral action), may not believe they can make a difference by reporting it, may not know whom to report it to, or may not know the best way to report it. [Mintz and Morris \(2013\)](#) reach a similar conclusion regarding accounting students.

The process of practicing voicing one's values is an extension of performative ethics, described by [Gentile \(2010\)](#) as developing one's "moral muscle." Gentile suggests that GVV provides the knowledge and confidence needed to increase the likelihood unethical practices will be both questioned and reported when encountered. Theoretical literature suggesting the value of this approach exists. In their work on performative ethics, [Edwards and Kirkham \(2013, 64\)](#) note "the ability for discourse and conversation to produce new ethical realities and, in turn, be guided by that productive process." [Maclagan \(2003\)](#) finds that performative ethics helps to develop communication skills needed to resolve ethical challenges. [Tudway and Pascal \(2006\)](#) find that the declaration of intentions and beliefs can result in a higher likelihood of future action.

The majority of the literature surrounding GVV is descriptive in nature with very little theoretical or empirical research. Descriptive studies focusing on graduate students and/or on disciplines outside of undergraduate accounting suggest that GVV can positively affect students' confidence and willingness to confront unethical actions. This previous research calls for empirical studies to validate its beliefs.²

[Mintz and Morris \(2013\)](#) discuss their experiences integrating GVV into existing introductory and advanced accounting courses, at both the undergraduate and graduate levels, to strengthen coverage of professional accounting values. They find that the students who utilized the GVV active case framework developed better analyses than students who did not. They suggest that the students who only prepared typical written case analyses utilizing a modified ethical decision-making model, based on [Rest \(1986\)](#) model of ethical action, did not experience the role-playing exercises fundamental to GVV, which written analysis cannot duplicate.

[Rest \(1986\)](#) model includes awareness (sensitivity/recognition) of ethical issues, ethical judgment (ability to analyze using ethical judgment), ethical intent (intent to act on one's ethical beliefs), and actual behavior (actually acting in an ethical manner). Rest suggests that the first three stages of the model must be present for a person to take the fourth step of acting ethically. Rest's model has been used to empirically assess the efficacy of many different curricular offerings and theories in accounting students' ethical development ([Armstrong, 1993; Earley & Kelly, 2004; Miller, Becker, & Pernsteiner, 2014; Poneman, 1993; Shawver & Sennetti, 2009; Shawver, 2011](#)). To act ethically, the person must place greater emphasis on moral values than other influencing factors ([Rest, 1986](#)). [Mintz \(2016\)](#) calls for future studies focused on the efficacy of GVV combined with the decision-making framework he developed which blends GVV with Rest's model.

[Mintz \(2016\)](#) developed an ethical decision-making model by integrating the concepts of Rest's four-stage theory of action with GVV (similar to that referenced by [Lynch, Hart, & Costa, 2014](#)). He suggests that the integration of the GVV methodology and this integrated decision-making model into accounting coursework will increase students' actual intent to behave ethically and then act on their values (Stages 3 and 4 of Rest's model; [Mintz, 2016](#)).

Very little empirical research surrounding the efficacy of GVV exists. [Christensen et al. \(2016\)](#) utilized a quasi-experimental approach to try to determine if accounting students who had gone through GVV training would be less likely to cheat on a particular assignment than students who had not gone through the training. They find a much higher level of unethical behavior in the group without GVV training than in the GVV group, suggesting that GVV training can positively affect a person's propensity to act in an honest manner (Rest's fourth stage -moral action). While their findings are supportive of the value of GVV, they do not directly address the central question of whether GVV can positively influence students' confidence enough to increase the actual reporting of misconduct when witnessed. Through post-intervention debriefing of their subjects, they found that students who went through GVV training felt confident in their ethical decision-making ability while those in the control group did not. The authors call for future studies utilizing a similar approach of comparing the efficacy of traditional ethics training to GVV training in educational settings.

[Shawver and Miller \(2018\)](#) designed and incorporated a three-week GVV module into their advanced accounting courses to assess the impact of GVV training on student confidence and the first three stages of Rest's model. They administered a pre-post survey instrument, with 95 students completing both. Their results show that "individuals not only gain confidence, find their voice, and engage others to find support in resolving moral dilemmas, but became more sensitive to ethical issues as a result of completing this ethics module" (p. 158). The three-week module did not result in a statistically significant increase to overall moral development or moral intent (nor was either expected), but the results did show an unanticipated

² Other articles describing GVV include [Chappell, Webb, and Edwards \(2011\)](#), [Ingols \(2011\)](#), [Cote, Goodstein, and Latham \(2011\)](#), [Arce and Gentile \(2015\)](#), [Gonzales-Padron et al. \(2012\)](#), and [Lynch et al. \(2014\)](#).

significant increase in moral sensitivity. The study also finds significant increases in student likelihood to report unethical actions by voicing their values to internal management, company hotlines, and external agencies after completing the module (over other reporting outlets). They call for more research to determine how changes to curricular content might increase students' likelihood of reporting to other outlets. In addition, they specifically suggest researching the impact of GVV's use in accounting ethics courses. They are not alone in calling for testing the efficacy of GVV through its integration into ethics courses.

Gentile (2010) describes GVV as a post-decision-making tool that teaches people how to report and/or resolve an ethical dilemma, increasing a person's confidence and the likelihood to act. She views GVV as affecting ethical action (i.e., Rest (1986) four-stage model of ethical action/behavior). Others (Edwards & Kirkham, 2013; Lynch et al., 2014; Mintz, 2016) suggest that GVV's efficacy may go beyond that posited by Gentile. They believe that combining GVV with the coverage of ethical theory and decision-making frameworks (like those covered in a semester-long ethics course) could positively affect the overall action/behavior of students.

Our study attempts to answer the call for empirical analysis of the efficacy of GVV integrated into an accounting ethics course. There are two primary approaches for the teaching of ethics to accounting students: through stand-alone accounting ethics courses and/or through the integration of ethics into existing accounting courses. While others have tested the efficacy of GVV as an intervention in non-ethics-based accounting courses (Christensen et al., 2016; Shawver & Miller, 2018), our study is the first of its kind to test its efficacy in a course dedicated to the coverage of accounting ethics. Our study builds on Shawver and Miller (2018) by integrating GVV into a course which also covers ethical theory and decision-making frameworks as called for by Edwards and Kirkham (2013), Lynch et al. (2014), and Mintz (2016). Given that GVV is complementary to the other topics covered within an accounting ethics course, the value of such an integration needs to be tested. In addition, our study provides a theoretical link between Rest (1986) model of moral action and GVV.

GVV's foundation is comprised of seven foundational pillars: Values, Choice, Normalization, Purpose, Self-knowledge and alignment, Voice, and Reasons and Rationalizations (Gentile, 2010). Table 1 depicts the interrelationship between Rest (1986) four-stage model of ethical behavior/action, the Mintz and Morris (2014) Ethical Decision-Making model and the seven foundational pillars of GVV. As previously stated, the fourth stage of both Rest's and the Mintz & Morris's models (acting ethically) can only be achieved if the first three stages have been attained.

Gentile argues that most people already know what the right thing to do is, but lack the moral muscle/confidence to take that right action and report unethical behavior when witnessed (in other words, they lack the Voice – pillar 6 to do so).

Arcé and Gentile (2015) describe the culminating objective of GVV as developing the sixth foundational pillar, Voice: "To put it simply, the objective is to create a kind of 'moral muscle memory,' a default to informed ethical voice and action" (p. 537). They go on to suggest that "GVV builds upon the necessary foundation of Awareness and Analysis that is typically set in traditional business ethics classes and develops a focus on Action" (p. 538). Ethical confidence is defined by Robbins (2012, p.143) as the courage to confront and engage with "ethical issues publicly and openly; engage in reasoned debate over ethical issues; and be able to resist the false pressure of 'urgency' through this full reasoning process. They will exhibit leadership in ethically confusing environments." As shown in Table 1, confidence is a measure of the likelihood a person will actually take action to resolve an ethical issue, stage 4 of Rest's model.

We test the impact of GVV on all four stages of Rest's model of ethical behavior through the following hypotheses:

H1: The ethical sensitivity/recognition (Rest (1986) stage 1) of students who completed a GVV module integrated into an accounting ethics course will increase significantly more than the ethical sensitivity/recognition of students in a control group.

H2: The ethical judgment (ability to analyze – Rest (1986) stage 2) of students who completed a GVV module integrated into an accounting ethics course will increase significantly more than the ethical judgment of students in a control group.

H3: The ethical intent (intention to speak up and attempt to resolve unethical actions – Rest (1986) stage 3) of students who completed a GVV module integrated into an accounting ethics course will increase significantly more than the ethical intent of students in a control group.

H4: The confidence (likelihood of taking ethical action – Rest (1986) stage 4) in dealing with ethical dilemmas of students who completed a GVV module integrated into an accounting ethics course will increase significantly more than the confidence of students in a control group.

4. Method

We utilized a quasi-experimental design because we did not randomly assign participants to the treatment and control groups; however, we randomly selected the course sections for GVV integration and control. Our approach is prevalent in educational research of this nature where a way to provide an intervention to just one portion of a class section does not exist (Christensen et al., 2016). The purpose of randomization is to provide assurances that the two groups (treatment and control) are equivalent in their possibilities for growth in the trait being measured (McCall, 1923). Per McCall (1923), to be equivalent, the groups must have like means and like variability among the subjects constituting each group.

Table 1
GVV's connection to ethical theory.

Rest (1986) Four-stage Model	Mintz and Morris (2014) Decision-Making Framework	Gentile (2010) Giving Voice to Values (GVV) Pillars
Ethical awareness/sensitivity	Identify the ethical and professional issues (ethical sensitivity)	Pillar 1: Values (i.e., awareness of common, widely-shared values) Pillar 3: Normalization (i.e., awareness that values conflicts are normal) Pillar 5: Self-knowledge and alignment (i.e., generate a self-story and personal narrative based on who you are (i.e., your character and identity) and your strengths (i.e., virtues)
Ethical judgment	Identify and evaluate alternative courses of action (ethical judgment)	Pillar 2: Choice (recognition that if, how, and when you speak up is a choice you make) Pillar 7: Reasons and Rationalizations (anticipate rationalizations and identify responses/counter-arguments)
Ethical intent/motivation	Reflect on the moral intensity of the situation and virtues that enable ethical action to occur (ethical intent)	Pillar 4: Purpose (i.e., define your purpose and intention)
Ethical character/action	Take action (ethical behavior)	Pillar 6: Voice (i.e., the moral muscle/confidence to act and voice your values)

4.1. GVV module and treatment group

We designed and integrated a GVV module into a senior-level accounting ethics course at two different state universities. Both universities have medium sized accounting programs. The professors from both institutions have extensive experience in the design and teaching of accounting ethics courses and are both authors of this paper. We intentionally decided to utilize the same textbook by Mintz and Morris (2014), *Ethical Obligations and Decision Making in Accounting: Text and Cases* and cover the same chapters, cases, and ethical decision-making framework to ensure the comparability of the data we collected. We utilized the Mintz and Morris (2014) decision-making framework (in both the treatment and control groups for all non-GVV cases). This framework incorporates Rest's four-stage model of ethical behavior.

We designed five smaller individual assignments and one group GVV assignment (outlined below). Following Shawver and Miller (2018), we integrated their complete GVV curricular model into the two courses. We covered the GVV program through lecture, with each student completing an individual reflection using "A Tale of Two Stories" (Gentile, 2010). The instructors asked students to share their reflections surrounding both a time when they encountered an ethical issue and spoke up and a time when they failed to do so. Along these lines, students also reviewed "Ways of Thinking About Our Values" and "Starting Assumptions for GVV" (Gentile, 2010) as a prelude to reading "A Billing Bind" (Gentile, 2010) and answering the following questions (Mintz & Morris, 2017, 83):

- What are the main arguments you are trying to counter? That is, what are the reasons and rationalizations you need to address?
- What is at stake for the key parties, including those who disagree with you?
- What levers can you use to influence those who disagree with you?
- What is your most powerful and persuasive response to the reasons and rationalizations you need to address? To whom should the argument be made? When and in what context?

Students completed the assignment during class and then discussed it in detail, providing them with their first exposure to using the full GVV framework and experiencing the value of having multiple people involved in the process. The instructors then asked the students to self-select into teams (of four) and randomly assigned each group³ one of the following five cases (Gentile, 2010):

1. Jeff Sallett-From the Top, Sort Of
2. Student Privileges with Strings Attached
3. The New Associate
4. The Part-Time Job with a Full-Time Challenge
5. Student Accounting Club Dilemma

The instructors required each team to create and act out a scripted role-play in response to the ethical dilemma within the assigned case. Each student in the group actively participated in the role-play by acting out the role of one or more

³ Self-selection of teams was chosen for team formation because, as the professors have found in previous studies, the quality of group work is better and the level of student satisfaction is higher.

characters. The instructors also required each student to complete an individual case analysis/reflection on each of the other four cases not assigned to their team, by answering the following four questions:⁴

1. What would motivate you to speak up and act or to stay silent?
2. What are the arguments you would try to counter?
3. What would you do and whom would you talk to?
4. What do you hope will happen and what will you do if it does not?

See Appendix A for a complete set of instructions given to the students for both their individual and team assignments. The assignment details were discussed immediately following the analysis of the “A Billing Bind” case. The instructors answered student questions about completing the assignment, including script creation and the role-play itself.

4.2. Control group

We established a control group to enable the measurement of the incremental value of adding the GVV methodology to the rest of the material covered in the accounting ethics course. One instructor who taught three sections of the accounting ethics course at one university excluded the GVV materials from one of the sections of the course. The instructor included no additional topics in the control group section, used the same text material and cases (other than the GVV cases used for the intervention), and the same case analysis framework. Instead of a group role-play assignment, the instructor assigned a group case analysis and presentation to the students in the control group. Therefore, no additional topics were covered in the control group section and the workload was consistent between the two groups.

4.3. Measurement instrument

The instructors asked participants (in both the treatment and control groups) to complete two online surveys.⁵ All students took the first survey at the beginning of the semester, before any material was covered, and the second at the end of the semester, after the material was covered. The questions to measure all independent and dependent variables were identical on the pre- and post-surveys; however, additional questions were added on the post-test survey to allow students to provide feedback about the experience. The professors awarded students extra credit of less than one percent of the total course points for successfully completing both survey instruments. In order to match the pre- and post-survey data and maintain respondent anonymity, we asked students to provide the last four digits of their social security numbers on both the pre- and post-surveys.

Both the pre- and post-surveys included the same five accounting-specific vignettes used by [Shawver and Miller \(2018\)](#) that appear in Appendix B. Each scenario is based on [Stice and Stice \(2006\)](#) levels of earnings management and addresses delaying discretionary spending (operational earnings management); accounting earnings management techniques, including measurement of inventory obsolescence; improper change in accounting method; improper capitalization of operating expenses; and choosing not to report customer product returns.

Based on the ethical dilemmas described by the scenarios, we asked students to respond to six statements both pre- and post, using a seven-point Likert scale ([Shawver & Miller, 2018](#)). Two statements are overall measures, and four are per scenario measures. [Table 2](#) describes the measurement instrument and maps the survey statements to the hypotheses.

4.4. Analyses

We use Analysis of the Variance (ANOVA) to test the main effect of GVV on students' responses to all survey statements. Since the seriousness of the infraction the controller requests the accountant to perform increases from Vignette 1 to Vignette 5, we include *Vignette* and an interaction between *GVV* and *Vignette* in our models. We also include five control variables in all models: age, years of work experience, gender, political view, and the number of ethics courses the student has taken.

To explore the effectiveness of the GVV intervention, we run a multivariate model in which the dependent variable is the change in the measures used for Confidence, Sensitivity, Judgment and Intent from the pre- and post-GVV surveys, the independent variable is the treatment group (GVV treatment = 1; control = 0), and the demographic variables were entered as covariates. This form of testing isolates whether the presence of GVV is correlated with a change in the dependent variable while controlling for other differences between the groups.

5. Results

We invited 205 students to participate in the study. Of those, 196 agreed to take the pre-survey (160 in the treatment group and 36 in the control group). We included a validity check by asking students to provide a given numerical response

⁴ This individual case analysis assignment ensures that all students are ready to participate in the discussion after each role-play and to evaluate the work of their peers fairly.

⁵ Permission for this experiment was obtained through the authors' university institutional review boards as required. We include the survey instrument as Appendix C.

Table 2
Description of measurement instrument.

Ethical sensitivity	
Survey question:	The adjustment made by the staff accountant is ethical. ^b
Responses:	Seven-point Likert scale ranging from 1 = Strongly Disagree to 7 = Strongly Agree.
Measure:	Increase in mean response to the survey statement for five vignettes indicating that the students' ethical sensitivity has decreased.
Maps to Hypothesis 1:	The ethical sensitivity/recognition of students who completed a GVV module integrated into an accounting ethics course will increase significantly more than the ethical sensitivity/recognition of students in a control group.
Ethical judgment to comply and report	
Survey question a:	The staff accountant should do the proposed action ^c ;
Survey question b:	It is likely that my peers would complete the same action requested by the controller. ^d
Responses:	Seven-point Likert scale ranging from 1 = Strongly Disagree to 7 = Strongly Agree.
Measure:	Increase in mean response to the two survey statements for five vignettes.
Maps to Hypothesis 2:	The ethical judgment of students who completed a GVV module integrated into an accounting ethics course will increase significantly more than the ethical judgment of students in a control group.
Ethical intent to confront and peers to comply	
Survey question a:	Rate how likely you are to speak up and confront unethical actions you observe in the workplace. ^a ;
Responses:	Seven-point Likert scale ranging from 1 = Low to 7 = High.
Survey question b:	It is likely that my peers would complete the same action requested by the controller. ^e
Responses:	Seven-point Likert scale ranging from 1 = Strongly Disagree to 7 = Strongly Agree.
Measure:	Increase in mean response to an overall survey statement (a) and the mean response a survey statement (b) for five vignettes.
Maps to Hypothesis 3:	The ethical intent to Comply of students who completed a GVV module integrated into an accounting ethics course will increase significantly more than the ethical intent of students in a control group.
Ethical action/confidence	
Survey question:	Rate your confidence in dealing with ethical dilemmas in the workplace. ^a
Responses:	Seven-point Likert scale ranging from 1 = Low to 7 = High.
Measure:	Increase in mean response to the overall survey statement indicating that the student's confidence has increased.
Maps to Hypothesis 4:	The confidence in dealing with ethical dilemmas of students who completed a GVV module integrated into an accounting ethics course will increase significantly more than the confidence of students in a control group.

^a Shawver and Miller (2018).

^b Singhapakdi, Vitell, and Kraft (1996); Leitsch (2006); Shawver and Miller (2018).

^c May and Pauli (2000); Leitsch (2006); Shawver and Miller (2018).

^d Modified from May and Pauli (2000); Leitsch (2006); Shawver and Miller (2018).

^e Shawver (2011) and Shawver and Miller (2018) and further supported by Izraeli (1988) who found that peer versus personal intent is the better predictor of individual behavior.

to two specific questions. After eliminating incomplete surveys⁶ (25 in the treatment group and none in the control group), we then eliminated those that failed our validity check by not providing the requested numerical response (five students in the treatment group and three in the control group). Our final sample consists of data from 163 match-paired pre- and post-course surveys (130 in the treatment group and 33 in a control group).

Table 3 reports descriptive statistics for the total group, the GVV treatment group and the control group,⁷ which confirm no significant⁸ differences exist between the GVV and control groups for experience in years or political view. However, the treatment group did report a significant difference for age ($p = 0.090$), gender ($p = 0.086$), and number of ethics courses taken ($p = 0.002$) over that of the control group.

Table 4 presents the univariate analysis of the pre- and post-survey results by group (control and treatment) to each of the survey questions. The univariate analysis of the pre-survey responses confirm that no significant differences in the responses between the control and treatment groups exist at the beginning of the semester, except for overall Ethical Intent to confront ($p = 0.082$), overall Ethical intent of peers to comply ($p = 0.015$), and Ethical intent of peers to comply in Vignettes 2 (reduction in estimate; $p = 0.038$) and 4 (capitalize expenses; $p = 0.032$). The lower mean shown for overall Ethical intent to confront for the treatment group indicates the treatment group is starting the semester with significantly lower intent to act and try to resolve the issue than the control group. Similarly, the higher means shown for the overall Ethical intent of peers to comply and for Ethical intent of peers to comply in vignettes 2 and 4 for the treatment groups indicate the treatment group is starting the semester with significantly higher peer intent to comply with the controller's request than the control group.

The univariate analysis of the post-survey responses (Panel B) show no significant differences to any of the survey measures on an overall basis but do show some significant differences by vignette. Since the survey included five accounting-specific scenarios related to one of the levels of earnings management, it is possible that the ethics intervention can impact evaluations of each situation differently as well as impacting the way individuals evaluate ethical situations overall. For

⁶ The vast majority of incomplete surveys had few questions answered.

⁷ While not randomly assigned, one would typically expect similarities between class sections of students who share a major field of study and are taking specific courses within that field.

⁸ Significance level * $p < 0.10$, ** $p < 0.05$.

Table 3
Descriptive statistics.

	Total (n = 163)	Control (n = 33)	Treatment (n = 130)	Tests of Differences
Age^a	21.94	22.67	21.75	F = 1.868 ^c
	2.761	2.30	2.84	(p = 0.090)*
Experience in years^a	0.96	0.78	1.00	F = 0.500 ^c
	2.213	1.79	2.31	(p = 0.440)
Gender^b				
Female	49.69	36.36	53.08	$\chi^2 = 2.941^d$
Male	50.31	63.64	46.92	(p = 0.086)*
Political view^b				
Very/Somewhat Liberal	45.4	30.3	49.23	
Neither Liberal or Conservative	20.24	30.3	17.69	$\chi^2 = 4.450^d$
Very/Somewhat Conservative	34.36	39.4	33.08	(p = 0.108)
Ethics course^b				
None	34.97	51.52	30.77	
One	38.04	45.45	36.15	$\chi^2 = 12.640^d$
>=Two	26.99	3.03	33.08	(p = 0.002)**

Sig *p < 0.10, **p < 0.05.

^a Cell entries report mean.

^b Reported p-values are two-tailed because randomized assignment to experimental condition is expected to distribute individual differences equally across conditions.

^c Cell entries report F-statistic (and p-value in parentheses) for tests of differences among conditions.

^d Cell entries report the Chi-squared statistic (and p-value in parentheses) for tests of different proportions among conditions.

example, Ethical sensitivity is significantly higher for the treatment group in Vignette 2 (p = 0.020), but significantly lower in Vignette 5 (p = 0.050) (where mean values closer to 1 indicate higher ethical sensitivity). Although the treatment group was able to identify Vignette 5 as morally problematic, their attitude change for such an extreme problem was less significant than the change for Vignette 2 where no ethics infraction exists. Change on individual vignettes is a promising result of the ethics intervention even if there were not statistically significant changes in ethical sensitivity overall. For Ethical judgment to comply, the means for the treatment group for Vignette 2 are significantly lower than the control group (p = 0.024), indicating less likelihood that the treatment group would go along or comply with the controller's request. However, Ethical judgment to report the act is significantly lower for the treatment group for Vignette 2 (p = 0.027). Ethical intent of peers to comply is significantly higher for the treatment group in Vignettes 3 (p = 0.043), 4 (p = 0.063), and 5 (p = 0.058).

As the severity of the ethics infraction increases, we expect to see increases in ethical sensitivity operationalized as a decrease in mean score. As one identifies more sensitivity to an unethical action, they also should identify as less likely to comply (both judgment and intent to comply) with the controller's request to complete the unethical action (positive correlation). However, where no infraction exists (V1 and V2), we also expect to see a decrease in ethical sensitivity (operationalized as an increase in mean score) and an increase in the likelihood to comply (judgment and intent to comply) with the action (a positive correlation). As expected, the mean scores for both the GVV and the control group decrease for ethical sensitivity (increase in sensitivity) and decrease for judgment to comply with unethical actions.

For both judgment to report and intent to confront, as the severity of the infraction increases, ethical sensitivity should increase (decrease in mean scores) and both the likelihood to report and the likelihood to confront should increase (negative correlation). For ethical situations (V1 and V2), we expect the likelihood of both reporting and confronting the issue to decrease. As expected, for both the GVV and the control group, when ethical sensitivity decreases, intent to report and confront increases. We report the correlation of the overall scores for our dependent and independent variables in Table 5.

All of the correlations are as expected. We find a positive change in Confidence is correlated to a positive change in the likelihood of confronting unethical actions. We find a significant negative correlation between Ethical judgment to comply and Confidence. We find a significant positive correlation between Ethical sensitivity, Ethical judgment to comply, and Ethical intent for peers to comply. We find a significant negative correlation between Ethical sensitivity and Ethical judgment to report. We find a significant negative correlation between Ethical judgment to comply and Ethical judgment to report.

Prior to testing the hypotheses utilizing multivariate analysis of the incremental change pre- to post-survey between the treatment and control groups, we utilized Analysis of Variance (ANOVA) to measure the change pre- and post-survey of both the control and treatment groups separately for the overall changes to Confidence, Ethical Sensitivity, Ethical judgment to comply, Ethical judgment to report, Ethical intent of peers to comply, and Ethical intent to confront. While we find increases in all these measures for the control group, we only find statistically significant increases in student confidence and intent to confront. However, as shown in Table 6, we find statistically significant increases in all of the measures for those in the GVV treatment group. Although both groups saw positive incremental change in each of these measures over the course of the semester, the GVV group saw larger and more statistically significant changes when comparing pre- and post-test scores than the control group.

Table 4

Univariate analysis of survey responses.

Panel A: Pre-test differences in means and sd by group												
Question	Overall		Vignette 1		Vignette 2		Vignette 3		Vignette 4		Vignette 5	
	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment
Ethical sensitivity	2.47 (0.17)	2.50 (0.88)	3.27 (1.70)	3.05 (1.72)	2.91 (1.74)	3.09 (1.93)	2.33 (1.31)	2.21 (1.33)	2.15 (1.09)	2.36 (1.46)	1.70 (1.07)	1.78 (1.29)
Ethical judgment <i>To comply</i>	2.49 (0.66)	2.58 (0.91)	3.42 (1.73)	3.23 (1.83)	2.79 (1.76)	3.22 (1.88)	2.24 (1.17)	2.34 (1.48)	2.12 (1.08)	2.38 (1.51)	1.84 (1.23)	1.78 (1.15)
<i>To report</i>	5.05 (1.00)	5.22 (0.93)	4.15 (1.56)	4.71 (1.69)	4.66 (1.73)	4.82 (1.70)	5.24 (1.60)	5.28 (1.55)	5.36 (1.58)	5.42 (1.40)	5.88 (1.39)	5.86 (1.49)
Ethical intent <i>To confront</i>	5.03 (1.13)	4.58 (1.37)*										
<i>Of peers to comply</i>	3.25 (0.85)	3.71 (1.00)**	4.42 (1.50)	4.72 (1.39)	3.73 (1.48)	4.36 (1.58)**	2.91 (1.44)	3.25 (1.43)	2.78 (1.22)	3.42 (1.54)**	2.40 (1.14)	2.81 (1.54)
Ethical action/confidence	4.82 (1.51)	4.67 (1.28)										
Panel B: Post-test differences in means and sd by group												
Ethical sensitivity	2.25 (0.85)	2.23 (0.90)	3.12 (1.82)	2.93 (1.77)	3.70 (2.43)	2.79 (1.85)**	1.70 (1.33)	2.02 (1.23)	1.58 (1.00)	1.78 (1.35)	1.18 (0.39)	1.62 (1.27)**
Ethical judgment <i>To comply</i>	2.26 (0.83)	2.18 (0.86)	3.27 (1.94)	2.98 (1.80)	3.73 (2.47)	2.85 (1.83)**	1.64 (1.11)	1.98 (1.28)	1.45 (0.79)	1.65 (1.03)	1.21 (0.42)	1.44 (0.94)
<i>To report</i>	5.28 (0.80)	5.45 (0.97)	4.33 (1.81)	4.59 (1.81)	4.03 (2.11)	4.85 (1.84)**	6.15 (1.12)	5.64 (1.35)**	5.82 (1.74)	5.91 (1.42)	6.06 (1.77)	6.25 (1.17)
Ethical intent <i>To confront</i>	5.70 (0.95)	5.58 (0.90)										
<i>Of Peers to comply</i>	2.90 (0.95)	3.21 (0.99)	4.12 (1.95)	4.39 (1.57)	4.30 (2.11)	3.97 (1.80)	2.33 (1.14)	2.88 (1.45)**	2.03 (0.98)	2.51 (1.38)*	1.76 (1.20)	2.27 (1.42)*
Ethical action/confidence	5.85 (0.94)	5.73 (0.99)										
Panel C: Change in means and sds												
Ethical sensitivity	0.22 (0.68)	0.27 (0.02)	0.15 (0.12)	0.12 (0.05)	0.79 (0.69)	0.30 (0.08)*	0.63 (0.02)	0.19 (0.10)	0.57 (0.09)	0.58 (0.11)	0.52 (0.68)	0.16 (0.02)
Ethical judgment <i>To comply</i>	0.23 (0.17)	0.40 (0.05)	0.15 (0.21)	0.25 (0.03)	0.94 (0.71)	0.37 (0.05)**	0.60 (0.06)	0.36 (0.20)	0.67 (0.29)	0.73 (0.48)	0.63 (0.81)	0.34 (0.21)
<i>To report</i>	0.23 (0.20)	0.23 (0.04)	0.18 (0.25)	0.12 (0.12)	0.63 (0.38)	0.03 (0.14)*	0.91 (0.48)	0.36 (0.20)	0.46 (0.16)	0.49 (0.02)	0.18 (0.38)	0.39 (0.32)
Ethical intent <i>To confront</i>	0.67 (0.18)	1.00 (0.47)										

(continued on next page)

Table 4 (continued)

Panel A: Pre-test differences in means and sd by group												
Question	Overall		Vignette 1		Vignette 2		Vignette 3		Vignette 4		Vignette 5	
	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment	Control	Treatment
<i>Of peers</i>	(0.35)	(0.50)	(0.30)	(0.33)	0.57	(0.39)	(0.58)	(0.37)	(0.75)	(0.91)	(0.64)	(0.54)
<i>to comply</i>	(0.10)	0.01	(0.45)	(0.18)	(0.63)	(0.22)*	0.30	(0.02)	0.24	0.16	(0.06)	0.12
Ethical action/confidence	1.03	1.06										
	0.57	0.29										

Sig * $p < 0.10$, ** $p < 0.05$.

The following questions are rated on a seven-point Likert Scale from 1 = Strongly Disagree to 7 = Strongly Agree: Ethical Sensitivity Question: The adjustment made by the staff accountant is ethical, Ethical Judgment to Comply Question: The staff accountant should do the proposed action, Ethical Judgment to report: The staff accountant in the scenario should report this request, and Ethical Intent of Peers to Comply Question: It is likely that my peers would complete the same action requested by the controller. The following questions are rated on a seven-point Likert Scale from 1 = Low to 7 = High: Ethical Action / Confidence Question: Rate your confidence in dealing with ethical dilemmas in the workplace and Ethical Intent to Confront Question: Rate how likely you are to speak up and confront unethical actions you observe in the workplace.

Table 5
Correlation matrix.

Variable	1	2	3	4	5	6
Ethical action/confidence (1)	1.00					
Ethical intent to confront (2)	0.50**	1.00				
Ethical sensitivity (3)	(0.09)	(0.07)	1.00			
Ethical judgment to comply (4)	(0.17)**	(0.12)	0.68**	1.00		
Ethical intent of peers to comply (5)	(0.09)	(0.14)*	0.46**	0.49**	1.00	
Ethical Judgment to Report (6)	0.04	0.08	(-0.35)**	(0.32)**	(0.25)**	1.00

Sig * $p < 0.10$, ** $p < 0.05$.**Table 6**

Analysis of variance (ANOVA) of pre post change in Ethical sensitivity, Ethical judgment to comply, Ethical judgment to report, Ethical intent to confront, Ethical intent of peers to comply and Confidence.

Control group (n = 33)	Pre-Mean	Pre-Sd	Post-Mean	Post-Sd	Sig.
Ethical sensitivity	2.47	0.712	2.25	0.847	0.184
Ethical judgment To comply	2.48	0.661	2.26	0.833	0.101
To report	3.25	0.852	2.91	0.951	0.051
Ethical intent To confront	5.03	1.132	5.70	0.951	0.002**
Of peers to comply	5.05	0.995	5.28	0.797	0.327
Ethical action/confidence	4.82	1.51	5.85	0.939	0.000**
GVV group (n = 130)	Pre-Mean	Pre-Sd	Post-Mean	Post-Sd	Sig.
Ethical sensitivity	2.80	0.881	2.23	0.886	0.003**
Ethical judgment To comply	2.59	0.912	2.18	0.861	0.000**
To report	5.22	0.931	5.45	0.97	0.010**
Ethical intent To confront	4.58	1.37	5.58	0.905	0.000**
Of peers to comply	3.71	0.999	3.21	0.991	0.000**
Ethical action/confidence	4.67	1.28	5.73	0.994	0.000**

Sig * $p < 0.10$, ** $p < 0.05$ Means (standard deviation) reported for survey.

The following questions are rated on a seven-point Likert Scale from 1 = Strongly Disagree to 7 = Strongly Agree: Ethical Sensitivity Question: The adjustment made by the staff accountant is ethical, Ethical Judgment to Comply Question: The staff accountant should do the proposed action, Ethical Judgment to report: The staff accountant in the scenario should report this request, and Ethical Intent of Peers to Comply Question: It is likely that my peers would complete the same action requested by the controller. The following questions are rated on a seven-point Likert Scale from 1 = Low to 7 = High: Ethical Action/Confidence Question: Rate your confidence in dealing with ethical dilemmas in the workplace and Ethical Intent to Confront Question: Rate how likely you are to speak up and confront unethical actions you observe in the workplace.

5.1. Sensitivity to/recognition of ethical issues

Table 7 reports the results for Hypothesis 1, which proposes that students' ethical sensitivity would increase after completing a GVV module integrated into an accounting ethics course. Since the main effect of GVV is insignificant, our results do not support H1.

5.2. Judgment/analysis of ethical issues

Table 8 reports the results of Hypothesis 2, which proposed that students' ethical judgment (ability to analyze) will increase as a result of completing a GVV module integrated into an accounting ethics course. Since both panels of Table 8 report that the main effect of GVV is insignificant, our results do not support H2. However, there is a significant interaction between the effect of GVV by vignette shown in Panel A and a marginally significant interaction shown in Panel B indicating that ethical judgment varies based on the situation. For, V1 and V2 (the two ethical situations), participants in the study make judgments that they should complete these actions while they are less likely to complete the unethical actions of V3, V4, and V5 after completing the ethics modules.

5.3. Intent to act on ethical issues

Table 9 reports the results of H3, which proposed that students' ethical intent to act (likelihood of speaking up and attempting to resolve unethical actions) will increase as a result of completing a GVV module integrated into an accounting ethics course. Panel A reports that GVV is significant ($p = 0.019$). However, when asked whether their peers would complete the same action requested by the controller, Panel B reports that GVV is not significant, indicating both ethics interventions had similar increases to the Ethical intent of peers to comply. Therefore, our results partially support H3. Further, there is a significant interaction by vignette indicating ethical judgment to comply varies by severity of the issue. For V1 and V2 (the two ethical situations), participants indicated they should comply with these actions, while they are less likely to comply with the unethical actions of V3, V4, and V5 after completing the ethics modules.

Table 7

Results from an analysis of the variance of increases in students' Ethical sensitivity (Hypothesis 1): Response to survey statement: The adjustment made by the staff accountant is ethical.

Source	Sum of Squares	d.f.	Mean Square	F-statistic	p-value
Between groups					
GVV	0.651	1	0.651	0.131	0.717
Vignette	21.306	4	5.326	1.766	0.134
GVV*vignette	30.579	4	7.645	2.535	0.039**
Control variables					
Age	0.061	1	0.061	0.012	0.912
Years of experience	3.890	1	3.890	0.786	0.377
Gender	3.492	1	3.492	0.706	0.402
Political view	0.288	1	0.288	0.058	0.810
Ethics courses	1.215	1	1.215	0.245	0.621

Notes: We manipulated GVV as a between-groups factor with two levels, received or did not receive the GVV module.

Age is a covariate with two levels, ≤ 22 or > 22 .

Years of experience is a covariate with two levels, < 1 or ≥ 1 .

Gender is a covariate with two levels, male or female.

Political view is a covariate with three levels, very/somewhat liberal, neither liberal or conservative, very/somewhat liberal.

Ethics courses is a covariate with three levels, none, 1, or ≥ 2 .

Sig * $p < 0.10$, ** $p < 0.05$.

n = 163.

Table 8

Results from an analysis of the variance of increases in students' Ethical judgment (Hypothesis 2).

Panel A: Ethical judgment to comply. Response to survey statement: The staff accountant should do the proposed action.					
Source	Sum of Squares	d.f.	Mean Square	F-statistic	p-value
Between groups					
GVV	4.402	1	4.402	1.127	0.290
Vignette	24.624	4	6.156	2.047	0.086*
GVV*vignette	55.088	4	13.772	4.580	0.001**
Control variables					
Age	0.020	1	0.020	0.005	0.943
Years of experience	1.270	1	1.270	0.325	0.569
Gender	1.341	1	1.341	0.343	0.559
Political view	9.085	1	9.085	2.325	0.129
Ethics courses	0.003	1	0.003	0.001	0.979
Panel B: Ethical judgment to report. Response to survey statement: The staff accountant should report the proposed action.					
Between groups					
GVV	5.969	1	5.969	1.051	0.307
Vignette	20.050	4	5.013	1.645	0.161
GVV*vignette	24.829	4	6.207	2.037	0.088*
Control variables					
Age	11.180	1	11.180	1.968	0.163
Years of experience	1.611	1	1.611	0.284	0.595
Gender	3.633	1	3.633	0.639	0.425
Political view	19.727	1	19.727	3.472	0.064*
Ethics courses	0.824	1	0.824	0.145	0.704

Notes: We manipulated GVV as a between-groups factor with two levels, received or did not receive the GVV module.

Age is a covariate with two levels, ≤ 22 or > 22 .

Years of experience is a covariate with two levels, < 1 or ≥ 1 .

Gender is a covariate with two levels, male or female.

Political view is a covariate with three levels, very/somewhat liberal, neither liberal or conservative, very/somewhat liberal.

Ethics courses is a covariate with three levels, none, 1, or ≥ 2 .

Sig * $p < 0.10$, ** $p < 0.05$.

n = 163.

5.4. Confidence in addressing ethical issues

Table 10 reports the results of Hypothesis 4, which proposes that students' confidence in dealing with ethical dilemmas would increase after completing a GVV module integrated into an accounting ethics course. Confidence in dealing with ethical dilemmas increased within the GVV group (p -value = 0.063) relative to the control group. Therefore, our results marginally support H4.

Table 9

Results from an analysis of the variance of increases in students' Ethical intent (Hypothesis 3).

Panel A: Ethical intent to confront. Response to survey statement: Rate how likely you are to speak up and confront unethical actions you observe in the workplace.					
Source	Sum of Squares	d.f.	Mean Square	F-statistic	p-value
Between groups					
GVV	8.803	1	8.803	5.645	0.019**
Control variables					
Age	2.690	1	2.690	1.725	0.191
Years of experience	5.617	1	5.617	3.602	0.060*
Gender	0.029	1	0.029	0.019	0.891
Political view	0.036	1	0.036	0.023	0.879
Ethics courses	7.215	1	7.215	4.627	0.033**
Panel B: Ethical intent of peers to comply. Response to survey statement (by vignette): It is likely that my peers would complete the same action requested by the controller.					
Between groups					
GVV	7.285	1	7.285	1.392	0.240
Vignette	39.309	4	9.827	3.559	0.007**
GVV*vignette	27.959	4	6.990	2.531	0.039**
Control variables					
Age	2.122	1	2.122	0.405	0.525
Years of experience	2.415	1	2.415	0.462	0.498
Gender	0.246	1	0.246	0.047	0.829
Political view	3.314	1	3.314	0.633	0.427
Ethics courses	2.125	1	2.125	0.406	0.525

Notes: We manipulated GVV as a between-groups factor with two levels, received or did not receive the GVV module.

Age is a covariate with two levels, <=22 or > 22.

Years of experience is a covariate with two levels, <1 or >=1.

Gender is a covariate with two levels, male or female.

Political view is a covariate with three levels, very/somewhat liberal, neither liberal or conservative, very/somewhat liberal.

Ethics courses is a covariate with three levels, none, 1, or >=2.

Sig * p < 0.10, ** p < 0.05.

n = 163.

Table 10

Results from an analysis of the variance of increase in students' Confidence in dealing with ethical dilemmas in the workplace (Hypothesis 4).

Source	Sum of Squares	d.f.	Mean Square	F-statistic	p-value
Between groups					
GVV	5.762	1.000	5.762	3.515	0.063*
Control variables					
Age	5.443	1.000	5.443	3.321	0.070*
Years of experience	10.387	1.000	10.387	6.337	0.013**
Gender	0.646	1.000	0.646	0.394	0.531
Political view	0.016	1.000	0.016	0.010	0.921
Ethics courses	15.160	1.000	15.160	9.249	0.003**

Notes: We manipulated GVV as a between-groups factor with two levels, received or did not receive the GVV module.

Age is a covariate with two levels, <=22 or > 22.

Years of experience is a covariate with two levels, <1 or >=1.

Gender is a covariate with two levels, male or female.

Political view is a covariate with three levels, very/somewhat liberal, neither liberal or conservative, very/somewhat liberal.

Ethics courses is a covariate with three levels, none, 1, or >=2.

Sig * p < 0.10, ** p < 0.05.

n = 163.

6. Research conclusions

6.1. Ethical sensitivity

As previously reported, Table 4 identifies the treatment group's overall mean for Ethical sensitivity appears to decrease from 2.50 pre-test to 2.23 post-test after completing the GVV module. Lower scores would indicate the treatment group is more sensitive to ethical issues after the intervention. The control group's overall mean for Ethical sensitivity also appears to decrease from 2.47 pre-test to 2.25 post-test after completing the traditional ethics course also indicating increased sensitivity. However, the pre-post test change is not statistically significant for either the treatment or control group and indicates no significant change in ethical sensitivity as a result of either ethics intervention.

These findings might suggest that the basic tenet of GVV, that most people already recognize ethical issues (Gentile, 2010), is accurate, and the similar changes to ethical sensitivity are attributed to the non-GVV material introduced to both the control and treatment groups. However, Table 7 reports a significant interaction effect between GVV and *Vignette*, indicating that the effect of the GVV curriculum on ethical sensitivity varied for each vignette in this study. This result can be explained as a crossover effect. As previously stated, participants in the study indicated V1 and V2 are more ethical after completing the module than the unethical actions of V3, V4, and V5.

6.2. Ethical judgment

As shown in Table 4, the treatment group's overall mean for Ethical judgment to comply appears to decrease from 2.58 pre-test to 2.18 post-test after completing the GVV module. Lower scores would indicate the treatment group's ethical judgment has increased after the intervention. The control group's overall mean for Ethical judgment to comply appears to decrease from 2.49 pre-test to 2.26 post-test. However, the pre-post test change is not statistically significant for either the treatment or control group and indicates no significant change in Ethical judgment to comply for either ethics intervention. As shown in Table 4, the treatment group's overall mean for Ethical judgment to report appears to increase from 5.22 pre-test to 5.45 post-test. Increased scores would indicate the treatment group's judgment to report has increased. The control group's overall mean for Ethical judgment to report appears to increase from 5.05 pre-test to 5.28 post-test. However, the pre-post test change is not statistically significant for either the treatment or control group and indicates no significant change in Ethical judgment to report as a result of either ethics intervention.

The results shown in Table 8 appear to suggest the addition of GVV to an accounting ethics course does not provide statistically significant increases to ethical judgment to comply or ethical judgment to report over a traditional accounting ethics course. This may be because ethical reasoning methods are addressed in both courses and assignments to enhance these skills were given to both groups. These results are consistent with a study by Shawver and Miller (2018) that did not find an increase in student judgment as a result of integration of a GVV module in an advanced financial accounting course.

6.3. Ethical intent

A primary tenet of the GVV curriculum is that people who have been through the training will be more likely to try to resolve and report an ethical issue than will those who have not received such training (Arce & Gentile, 2015; Gentile, 2010; Gonzalez-Padron et al., 2012; Mintz & Morris, 2013; Mintz, 2016; Shawver & Miller, 2018). As shown in Table 4, the treatment group's overall mean for Ethical intent to confront increased significantly from 4.58 pre-test to 5.58 post-test after completing the GVV module. The control group's overall mean for Ethical intent to confront showed an insignificant increase from 5.03 pre-test to 5.70 post-test. As shown in Table 4, the overall mean for the treatment group for Ethical intent for peers to comply decreased insignificantly from 3.71 pre-test to 3.21 post-test after completing the GVV module. A decrease in this mean represents an increase in intent. The control group's overall mean for the Ethical intent for peers to comply showed an insignificant decrease from 3.25 pre-test to 2.90 post-test.

The results appear to suggest that the addition of GVV to an accounting ethics course does provide statistically significant increases in ones' ethical intent to confront unethical acts but does not extend to an intent to do the right thing for all vignettes. Stated another way, ethical intent to do the right thing varies by vignette. The lack of significant differences in the main effect for the second question surrounding peer intent may be due to the use of ethical reasoning methods in both the control and treatment groups. It could be that the GVV instruction did not do enough to enhance moral intent beyond what is covered in traditional accounting ethics courses without GVV for this measure.

6.4. Ethical action/confidence

These results appear to suggest the addition of GVV to an accounting ethics course does provide marginally significant increases in confidence in dealing with ethical dilemmas in comparison to an ethics course that does not include GVV. However, the number of ethics courses, age, and experience are significant demographic variables that increase confidence, while the other demographic variables (gender & political orientation) are not. Through an increased number of ethics courses and experiences, students become more confident in dealing with ethical dilemmas because their ability to analyze such dilemmas improves with repetition and practice, two elements of learning.

7. Implications and usefulness

7.1. Contributions to the literature

The results of this study are encouraging. Overall, we find we prefer teaching accounting ethics with GVV integrated into the course curriculum than teaching accounting ethics without GVV. In addition, we find the depth, quality, discussion, and student understanding of each case to be greater with GVV. Through ANOVA analysis we find significant increases in all

stages of Rest (1986) model of moral action. These findings suggest there is value in integrating GVV into an accounting ethics course.

In applying multivariate analysis to analyze the incremental change between the treatment and the control groups for each of the hypotheses, we find significant increases to the confidence and willingness to confront unethical actions after implementing GVV in accounting ethics courses. Our study is the first of its kind to statistically test the importance of using GVV in teaching accounting students about ethics; more specifically, how to better develop their ethical intent to speak up and confront unethical accounting actions they encounter in the workplace. We have observed that students typically know what the right thing to do is, but they have difficulty understanding just how to voice their points of view in an effective way on accounting matters. They are not sure how to make a positive difference in resolving accounting conflicts. The GVV methodology is designed to help with that. Absent the motivation to speak up and confront unethical actions head on, it is unlikely that students will be successful in dealing with the kinds of ethical dilemmas they will face in the workplace.

Our study also develops an important link between Rest (1986) model of moral action and GVV. This link can be used by others in their design of future studies. Our results provide a baseline given that both the GVV group and the control group had similar impact for confidence level, ethical sensitivity, and ethical judgment. Our study might be used as a stepping-stone to experiment with different pedagogical tools to integrate GVV into the accounting curriculum. The key now is determining whether enhanced coverage of GVV changes the post-GVV mean scores for the treatment group when compared to the control group for certain accounting manipulations and fraud. Another approach would be to work with colleagues to incorporate GVV into more areas in the curriculum, not just one course. The additive effect might make treatment group students more capable to spot and act on ethical issues. Along these same lines, testing the efficacy of GVV within a private university with a required ethics course or a religious institution with broader ethics requirements would be worth pursuing. A possible limitation to the generalizability of our study's findings is overall sample size (two institutions, 130 in the intervention group and 33 in the control group). The use of a small control group sample size was found to produce similar results as a larger one by Hutchins, Brown, Mayberry, and Sollecito (2015). Future researchers can also refine our study, use different types of instructional materials, and test different variables to see if the results differ from ours.

7.2. Qualitative research

We believe there would be value to additional testing of the efficacy of GVV. We believe refinements to the nature and scope of GVV instruction should be made in future studies, perhaps by incorporating videos and inviting speakers who have struggled with ethical issues in accounting practice. Future research could also test the impact of using additional types of cases to determine whether GVV works better on some types of ethical dilemmas than others, as our findings might suggest.

Qualitative research might be used to gain a better understanding of the underlying reasons and motivations for students to act on their opinion by speaking up and confronting unethical accounting methods. This could help to develop ideas or hypotheses for potential quantitative research. Students could be assigned case studies in a group setting and asked to explain what they would do if faced with an ethical dilemma described in a case study. The group setting might elicit responses different than if students are asked to respond without the influence of other classmates. Therefore, individual interviews might also be conducted. The idea is to use such a qualitative study to develop a more targeted quantitative study as a follow-up based on the qualitative data discovered.

7.3. Pedagogical issues

An important issue is how to maximize the usefulness of using GVV in teaching about the broader ethical issues in accounting. We believe case studies go further than other teaching methodologies because students can be given a written assignment using questions posed by GVV or a group presentation with or without role-playing. Accounting educators will find a diverse set of cases in Mintz and Morris (2020) that link discussions of GVV to specific topics in accounting. Appendix D lists eight of the 18 GVV cases covered in the book with brief descriptions to guide educators in integrating GVV throughout the curriculum.

Another excellent resource is the *Giving Voice to Values in Accounting* book by Shawver and Miller (2019). It includes five comprehensive cases that use GVV and an article by Cote and Latham (2016), "Building Action-Oriented Tools to Tackle Ethical Challenges in the Accounting Profession," that provides specifics on integrating GVV in intermediate accounting, accounting information systems, and auditing courses. Suggestions for in-class activities and assignments and exams are provided as well.

7.4. Concluding comments

Our study is a first attempt to measure the efficacy of using GVV in accounting ethics instruction. The results of the study raise many questions about how to proceed from here. Future researchers might look at it as a starting point to develop different kinds of studies that introduce different types of variables and look at GVV instruction in a different way. Given we found the depth of the analysis to be greater in the GVV group than the control group, future studies might consider focusing on this attribute. GVV instruction for accounting students is in its infancy. We believe our study contributes to knowledge in the field and provides a foundation for future research.

Declaration of Competing Interest

None.

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Appendix A. Assignments

A.1. Individual assignment

Each student will complete an individual assignment about each case (5 total cases) that answers the following questions. These questions should be answered prior to the scheduled group presentation for each case.

- What would motivate you to speak up and act or to stay silent?
- What are the arguments you would try to counter?
- What would you do and who would you talk to?
- What do you hope will happen and what will you do if it does not?

A.2. Case analysis

Each team must answer the following questions (turn in hardcopy):

- What are the main arguments, *reasons and rationalizations* you need to address?
- What's at *stake* for the key parties, including those who disagree with you? What's at *stake* for you?
- What *levers* can you use to influence those who disagree with you?
- What is your most *powerful and persuasive response* to the reasons and rationalizations you need to address?
- To *whom* should the argument be made? When and in what context?

A.3. Role-plays

Each team will work together to script a response to the ethical problem.

- This hardcopy script must be turned in.
- Each team acts out the script in class.
- Create people as needed to interact with.
- Act out what each person might say or do.
- What would you do?
- Who would you talk to?
- How would they respond?
- How is the dilemma resolved?

Appendix B. Vignettes evaluated by participants in pre- and post-surveys.

Vignette 1 A staff accountant prepared the preliminary financial statements for the fourth quarter and sent it to the controller for approval. After review, the controller asked all managers to delay all discretionary spending hoping to increase reported net income by 3%. The staff accountant agreed to delay discretionary spending based on the controller's request.

Vignette 2 A staff accountant prepared the annual schedule of estimated inventory obsolescence and sent it to the controller for approval. The controller asked that the staff accountant reduce the estimate and provided justification and disclosure for the change. The adjustment will result in a 2% increase in reported net income, which allows this publicly traded company to reach expected financial targets. The staff accountant agreed to make the adjustment.

Vignette 3 A staff accountant prepared a schedule to calculate depreciation on production machinery and sent it to the controller for approval. The controller asked that the accountant change the depreciation method and increase the useful life of the production machinery without providing additional justification or disclosure for the change. The adjustment would result in a 3% increase in reported net income for this publicly traded company. The accountant agreed to make the adjustment.

Vignette 4 A staff accountant prepared the preliminary financial statements for the fourth quarter and sent it to the controller for approval. After review, the controller asked the staff accountant to capitalize expenses for routine maintenance of production machinery. In the past, these costs were expensed. The adjustment would increase net income by 4% for this publicly traded company. The accountant agreed to make the adjustment.

Vignette 5 A staff accountant prepared the preliminary financial statements for the fourth quarter and sent it to the controller for approval. After review, the controller asked that the accountant ignore all customer returns received during the last week of the fourth quarter in order to increase reported net income by 5%. The accountant agreed to make adjustments to the financial statements and record these transactions in the first quarter of the next year.

Appendix C. Survey questionnaire.

C.1. Demographic questions:

1. In terms of your political views, circle how would you characterize yourself Very Liberal Somewhat Liberal Neither Liberal or Conservative Somewhat Conservative Very Conservative
2. Circle your occupation: Assistant Accountant/Clerk Accountant Analyst Auditor Management Student Other (please specify) _____
3. How many years of professional work experience do you have? _____
4. Circle how many college ethics courses have you taken? (circle one) 0 1 2 3 or more
5. Please circle your gender Male Female
6. Please specify your age. _____

Overall questions:

7. Rate your confidence in dealing with ethical dilemmas in the workplace. Low 1 2 3 4 5 6 7 High
8. Rate how likely you are to speak up and confront unethical actions you observe in the workplace. Low 1 2 3 4 5 6 7 High

Per vignette questions:

For each vignette included in Appendix B, the students answered the following questions:

1. The adjustment made by the staff accountant is ethical. Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
2. The staff accountant should do the proposed action. Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
3. It is likely that my peers would complete the same action requested by the controller. Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
4. The staff accountant in the scenario should report this request. Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Appendix D. Descriptions of GVV cases in Mintz and Morris (2020)

D.1. A team player

Ethical dilemma for audit staff member who discovers a deficiency in inventory procedures but is unable to convince the group to report it.

D.2. Taxes and the cannabis business

Declaring the appropriate amount of sales revenue from cash transactions in the cannabis business and the impact on taxable income.

D.3. A faulty budget

Ethical and professional responsibilities of an accountant after discovering an error in his sales budget.

D.4. Jugglyfoot

Pressure imposed by a CEO on external accountants to change financial statement clarification of investments in securities to defer reporting a market loss in earnings.

D.5. Franklin industries whistleblowing

Considerations of internal accountant how best to voice her values to convince others to act on questionable payments to a related-party entity.

D.6. Family Games, Inc

Ethical dilemma for controller being asked to backdate a revenue transaction to increase performance bonuses in order to cover the CEO's personal losses.

D.7. Solutions Network, Inc

Ethical challenges of a controller in voicing values when the company uses round-trip transactions to meet earnings targets.

D.8. Research triangle software innovations

Advisory services staff member recommends the software package of an audit client to another client and deals with push back from her supervisor who is pushing the firm's package: issues related to leadership and application of GVV in resolving the matter.

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