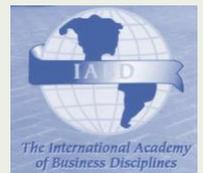

QRBD

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QRBD - QUARTERLY REVIEW OF BUSINESS DISCIPLINES

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FROM THE EDITORS

We begin this issue of *Quarterly Review of Business Disciplines* with the research of Brian Wilson, Linda McCann, and Craig Miller, who explore deep learners' perceptions of online homework systems (OHS) and whether some student groups benefit from OHS at the expense of others who do not. Their survey analyzes deep learning vs. surface learning, perceptions of long-term retention, study attitudes, solving problems, and overall satisfaction. H. Paul LeBlanc III's study not only investigates false claims made by politicians but also what long-term effect this type of public communication has on listeners and subsequent perceptions on the importance of truth-telling by political leaders. Wonseok Choi, Lawrence Zeff, and Mary Higby explore whether technology is effective in building trust in what they describe as digital natives, U.S. students and students from China, by utilizing three forms of interaction: face to face, social media, and virtual meetings. The results identify some unexpected findings.

Francis Mensah and K. Matthew Wong use a panel data set to investigate the relationships between stock market development and economic growth in five African countries comparing both short term and long-term results. Ram Kesavan, Oswald Mascarenhas, and Michael Bernacchi develop and explore a new strategy of 'protective marketing' to be applied to all stakeholders including casino gambling customers who are negatively impacted by it. As always, this issue of QRBD is an interesting read.

Margaret A. Goralski, *Quinnipiac University*, Editor-in Chief

Charles A. Lubbers, *University of South Dakota*, Associate Editor

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EXPLORING DEEP LEARNERS PERCEPTIONS OF ONLINE HOMEWORK

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Craig Miller, University of Minnesota Crookston

ABSTRACT

Do deep learners perceive on-line homework systems (OHS) differently from surface learners? This question is important because accounting instructors control the assignment of OHS to both kinds of learners. A second question is if one of the groups benefits from the use of OHS at the expense of the other group? Prior studies document students' satisfaction with OHS, but not from the lens of deep/surface learning theory. This exploratory study analyzes survey results from 207 accounting students to compare responses between learners with deep versus surface characteristics. Survey questions focused on perceptions of long-term retention, study attitudes, solving accounting problems and overall satisfaction. The survey results suggest that deep learners perceive OHS assignments similarly to surface learners, but five statistically significant exceptions were discovered: (1) more surface learners feel they are using OHS to get a grade or (2) to pass the course, (3) more deep learners find OHS helpful for long-term memorization, (4) deep learners are more likely to believe OHS is best suited for "A" students, and (5) deep learners are more likely to prepare in advance of an OHS session. Additional study is recommended. While this study found that the perception of OHS is favorable for both deep and surface learners, it also found that in both types of learners approximately 30% would prefer to use pencil and paper and create their own study tools.

Keywords: On-line homework systems, Accounting, Deep/surface learning theory

INTRODUCTION

What a student does in terms of learning activities, enhances or detracts from the learning process. Further, the instructor controls the types of activities assigned. From those two premises it follows that the quality of the learning assignments matters.

In accounting education, instructors utilize online homework systems (OHS) provided by large textbook publishing houses (e.g. Wiley, McGraw-Hill, Pearson). Publishers tout that OHS improves and increases student time on task while reducing instructor grading time. "The online homework system allows professors to use Internet technology to implement homework problems that students are able to complete online" (Peng, 2009). Phillips & Johnson (2011) stated that OHS provides greater content practice and more timely feedback to students. In addition they found that OHS provides structure to questions, in the form of response fields or drop-down menus, which may aid students in organizing or analyzing questions. OHS advantages include 24 hour accessibility and diversity in how students can study and practice (Wu & Cheng, 2015).

At the same time, accounting educators continue to be challenged with the task of reaching different student populations. Student populations include those who eagerly embrace accounting studies due to curiosity and desire for understanding, as well as those students whose main goal is to fulfill credit requirements. One theory that has been used to distinguish between these two types of students is that of the deep versus surface learner.

The goal of this exploratory research project was to survey students and determine if deep learners perceive OHS differently from surface learners. The study included if deep learners perceive long-term retention, OHS study value, solving accounting problems, and overall OHS satisfaction differently from surface learners.

LITERATURE REVIEW

Online Homework Systems

Elliot (2002) explored which aspects of a student's educational experience were more important in influencing student satisfaction. He found instructional effectiveness ranks second, behind student centeredness, in importance in predicting student satisfaction. University instructors should not ignore student satisfaction when it comes to assigning learning activities.

“Publishers advertise their online homework managers as a key component of their textbook inventory and assert that they improve learning” (Woolley, 2015, p. 337). Floami and Simons (2012) conducted a survey of students including a variety of accounting courses (managerial, intermediate, cost and advanced), a variety of instructors, and a variety of publisher platforms. They concluded that students react positively to the use of OHS regardless of course, instructor or OHS platform. Their results indicate that students perceive OHS to be (1) easy to use, (2) OHS makes students study more, and (3) it increases students understanding of concepts.

Managerial accounting students described OHS advantages as (1) instant feedback, (2) links to access course resources, and (3) around-the-clock availability (Gerard, 2015). Dillard-Eggers, Wooten, Childs, & Coker (2008) found implementing OHS in principles of accounting increased student performance and students believed OHS was an effective way to study. Despite this they also found that 31% of students felt that pencil/paper assignments would increase learning. Titard, DeFranceschi, & Knight (2014) found that Financial and Managerial accounting students who scored at least 70% on the OHS assignments performed statistically higher on exams than students achieving less than 70% on OHS assignments. Woolley (2015) found that financial accounting students perceived OHS to be helpful, but that using an OHS did not improve exam performance. Sundaram & Roberts (2015) compared paper and OHS homework assignments to performance results and found no difference. When they examined students' ability to complete an integrative accounting cycle problem they discovered OHS users performed better. They found that using an OHS increased time spent on assignments and a student preference for instant feedback. Gerard (2015) noted that a check feature was used by several students to guess through their managerial accounting assignments. Peng (2009) found that some students increase OHS effort apparently due to the shortcut provided online, rather than using the system to learn. He also stated that interactivity is one of the most acclaimed OHS features. Maxwell, Smoker, & Stites-Doe (2018) found that OHS can increase student engagement when students are satisfied with the OHS functionality and when students believe the OHS tool matches their personal learning style. When

principles of accounting students were given the option (not required) to use OHS, students that chose the OHS were found to have a higher grade point average and earned a higher grade in the course. Although using an OHS appeared to provide a greater benefit to low-performing students compared to high-performing students. (Wooten & Dillard-Eggers, 2013).

General chemistry educators noted that OHS significantly improved retention rates, students perceived OHS as worth the effort, and overwhelmingly recommended it be assigned to future general chemistry students (Richards-Babb, Henry, & Robertson-Honecker, 2011). These students used Wiley-Plus for the OHS. In teaching economics, Wu & Cheng (2015) found significant improvement in student performance after implementing Sapling Learning. Improvements were made in exam scores, essay assessments, and attendance rates. In introductory finance courses, Smolira (2008) found that students prefer online homework to traditional assignments turned into the instructor. The students perceived that the online homework increased their understanding and the time they spent on the materials. Graduate students were found to be even more satisfied with OHS than undergraduates. Settlage & Settlage (2015) examined perceptions to OHS, specifically Aplia, for microeconomics. They found that the stronger a student's favorable opinion of OHS the better they tended to perform in the class.

Accounting and non-accounting students have expressed a preference to use an OHS. Mixed results are found whether using an OHS provides better exam and course results. Instant feedback has been noted as an OHS advantage, yet the ability to "game" assignments in lieu of learning has also been noted.

Deep and Surface Learners

The concept of deep versus surface learning arose in 1976 with the scholars Marton and Saljo. The concept has subsequently been explored by a number of educators, including John Biggs (Biggs, 2012). "Understanding exactly how students approach learning has been widely investigated and has been conceptualized as deep and surface learning approaches" (Everaert, Opdecam, & Maussen, 2017, p. 78). Referring to a deep or surface approach to learning is now commonly used (Lucas, 2004). Characteristics of deep learning includes a pursuit of meaning involving vigorous interaction with subject matter, relating new subject matter to existing knowledge, and critical evaluation forming logical arguments and conclusions (Lau & Lim, 2015). Biggs described two learners, Susan and Robert. He states that Susan comes to class eager, prepared and with questions. She reflects on her learning and virtually teaches herself. Through reflection Susan invokes higher cognitive thinking skills such as analyze, theorize, relate and generalize. On the other hand Robert comes to class unprepared. He approaches learning as accumulating just enough bits and pieces of knowledge to pass the course. Robert focuses more on skills such as memorize, describe, enumerate, and identify. Biggs stated that the approaches to learning of Susan (deep) and Robert (surface) are not personality traits but approaches that can be changed by intervention of the teacher with appropriate learning activities. Biggs also developed a learning process questionnaire to tease out deep from surface learners among middle school students (Biggs, 1987).

Central to Biggs' deep versus surface concept is his idea of what is good teaching. Biggs points out that educational institutions and individual teachers often have three different points of view

about learning. Using a systems model Biggs framed the assumptions fundamental to three common theories regarding teaching:

1. Learning is primarily a direct result of individual differences between students.
2. Learning is primarily the result of appropriate teaching.
3. Learning is the result of students' learning-focused activities which are engaged by students as a result both of their own perceptions and inputs and of the total teaching context. (Biggs, 2012, p. 43)

Biggs states that learning activities are key to engaging surface learners and what the instructor asks the student to do is critical. It is essential that the learning activities are designed to elicit deep understanding, not just memorize bits and pieces of information, regardless of the learner's disposition to the subject. Lucas (2001) stated that accounting, as in other disciplines, deep and surface learning approaches can be identified.

OHS is something that instructors ask the student to do. When OHS assignments simply utilize multiple choice questions and one correct response answers to mathematical problems it is reasonable to question OHS as a tool that promotes deep understanding and higher cognitive skills. "Educators hold deep learning and the search for meaningful understanding in high regard" (Baeten, Kyndt, Struyven & Dochy, 2010, p. 284). "Developing deep approaches to learning is claimed to enhance students' engagement with their subject material and result in improved analytical and conceptual thinking skills" (Hall, Ramsay, & Raven, 2004, p. 489). Although findings suggest it may be easy to prompt a surface approach, but more difficult to develop a deep approach to learning (Hall, Ramsay, & Raven, 2004).

Lau & Lim (2015) found that "surface learning is not completely useless as it constitutes the first step towards deep learning" (p. 862). They also report "that female undergraduates are more inclined to adopt deep learning" (p. 865). A deep learning approach is not always required in terms of successful assessment (Baeten, Kyndt, Struyven & Dochy, 2010). In summarizing Biggs, Beattie, Collins, & McInnes (1997) pointed out that deep and surface approaches designate student engagement within the context of a specific task to be accomplished. Students learn what is required for success and seek out what will be tested then allocate time and resources to be successful (Wynn-Williams, Beatson, & Anderson, 2016). One should not assume that a surface approach to learning is necessarily inferior (Lucas, 2001). Jackling (2005) confirmed that differences in perception of learning context relates to students motives and strategies. Favorable perception of the learning context tended to be associated with deep learning. If students perceived that a task required memorization then a surface strategy was used.

The concept of deep and surface learners is not without opposition. Beattie, Collins & McInnes (1997) have said it is an overly simplistic dichotomy. They trace the deep versus surface concept as an historical development and evolving concept. In particular they conclude that students modify their learning approaches based on the situation to include "...perception of the relevance of the learning task, the attitudes and enthusiasm of the lecturer and the expected forms of assessment" (p. 10).

Hall, Ramsay & Raven (2015) suggest that accounting educators “...through changes in the learning environment, may be able to influence the learning approaches adopted by accounting students” (p. 498). They believed that their introductory financial accounting students lacked engagement with the material and that this lack of engagement led to surface learning strategies. In restructuring tutorial sessions they found that at the end of the semester, “accounting students exhibited a small but statistically significant increase in their deep learning approach, and a small but statistically significant reduction in their surface learning approach” (Hall, Ramsay & Raven, 2015, p. 189). They attributed the small increase in utilization of deep strategies to the change in what the students did during the tutorials, specifically more engaging group work. Baeten, Kyndt, Struyven, & Dochy (2010) stated students tended to use a deep approach when teachers are involved, focused on students and on changing student conceptions.

Phillips & Graeff (2014) implemented an in-class accounting simulation attempting to make accounting concepts less abstract in nature. Their simulation was found to improve students’ confidence, increase understanding, and helped students move from a surface knowledge of the content to a deeper knowledge level.

Zlatovic, Balaban & Kermek (2015) measured the degree to which students believed they met deep versus surface learning goals based on announcing the type of on-line test. When it was announced that the on-line test would be an essay test, students perceived that they were then better at matters suggesting deep learning. When it was announced that the test would be a multiple choice test, students perceived that they were then better at matters implying surface strategies. Their study supports the concept that deep versus surface learning strategies are influenced by what students are asked to do, in this case essay versus multiple choice assessment.

In surveying second year accounting students Booth, Lockett, & Mladenovic (1999) found students were rated significantly higher on surface strategy, motive, and approach. In studying first-year undergraduates taking their second accounting course Everaert, Opdecam, & Maussen (2017) found accounting students scored slightly higher for deep learning as opposed to surface learning. In addition they found a deep approach had a positive effect on academic performance. Elias (2005) surveyed both first and second accounting course students finding that a deep learning approach was correlated with students’ expected course grade and overall GPA.

Student Assignments

“The aim of the educational process in accounting, as in all disciplines, it to achieve high quality learning outcomes” (Booth, Lockett, & Mladenovic, 1999, p. 277). What students are asked to do matters. For example, in a collection of essays on the case study method the educator John Dewey addressed good teachers.

“They give the pupils something to do, not something to learn; and the doing is of such a nature as to demand thinking, or the intentional noting of connections; learning naturally results... The most significant question which can be asked, accordingly, about any situation or experience proposed to induce learning is what quality of problem it involves... it is indispensable to discriminate between genuine and simulated or mock problems...” (As cited by Barnes, Christensen, & Hansen, 1994, p. 10)

OHS may not meet Dewey's standard for good teaching due to the heavy reliance on mock problems. In addition, OHS often relies on one right answer questions. Educator Marjorie Siegel points out:

In recent years, the well-worn image of classrooms as places where teachers talk and students listen, memorize, practice and display knowledge has begun to fade as educators recognize that there is more to teaching and learning than words.... Enquiry models invite learners to see themselves as knowledge makers who find and frame problems worth pursuing, negotiate interpretations, forge new connections, and represent meanings in new ways. Unlike the instructional routines associated with the transmission model, which have led students to believe there is no ambiguity in learning, no risks to be taken, no new knowledge to be made, enquiry models give a central place to instructional practices and strategies that encourage generative and reflective thinking. (Seigel, 1995, p. 455-456)

“Despite offering benefits over paper-and-pencil homework, an OHS is not perfect. Feedback is often limited to the accuracy of students' answers, remaining silent about the methods students use to reach their answers. Further, an OHS provides little help to students who ‘do not know where to start’ because the system can assess only the outcome of the problem-solving process” (Phillips & Johnson, 2011, p. 89).

Because OHS often lacks ambiguous, generative or reflective thinking, deep learners may find OHS assignments less satisfying than other types of assignments. Peng (2009) stated that educators should not assume students will benefit equally from OHS. Wooten & Dillard-Eggers (2013) point out that no single study tool will be best for all learners in all situations. The goal of this exploratory research project was to survey students and determine if deep learners perceive on-line homework systems (OHS) differently from surface learners.

RESEARCH DESIGN

Accounting students at four Minnesota universities were surveyed regarding OHS usage. Universities included three state and one private institution. Students were enrolled in either financial accounting, managerial accounting, cost accounting, or auditing. A total of 222 surveys were gathered and 207 were complete and deemed classifiable between deep and surface learner. Survey questions were analyzed regarding (1) long-term retention, (2) study attitudes, (3) accounting problem solving and (4) overall satisfaction.

Three survey questions were used to identify deep learners, Table 1 shows the questions used. If 3-of-3 or 2-of-3 questions were answered as “materials interesting”, “help my reasoning and problem solving skills”, or “exploring matters in more depth”, as opposed to “pass the course” or “fear of poor grade”, then respondents were coded as deep learners. All others were coded as surface learners. Of the 222 surveys collected there were 68 respondents coded as deep learners, 139 coded as surface learners, and 15 incomplete surveys. All statistics were run list-wise to eliminate non-responders. For each category the premise was that no statistically significant differences would be found between respondents coded as deep learners, as opposed to respondents coded as surface learners on the survey.

Table 1. Questions to classify respondents between deep and surface learners.

Q2: Which of the two sentences below BEST describes you as a student?	
I work hard at my accounting studies because I find the material interesting.	39.8%
I work hard at my accounting studies because I need to pass this course.	58.3%
Q4: Which of the two sentences below BEST describes you as a student?	
I work at my accounting studies because I fear getting a poor grade on tests and examinations.	56.5%
I work at my accounting studies because I believe accounting studies help my reasoning and problem solving skills.	42.5%
Q7: Which of the two sentences below BEST describes you as a student in an accounting course?	
I usually do as much work as I need to pass the course and get the grade I want. I have other interesting things to spend my time on.	72.5%
I usually spend extra time on my accounting studies, exploring matters in more depth than is necessary to get the grade I want.	26.1%
Deep Learner	32.9%
Surface Learner	67.1%

RESULTS

Survey responses were explored regarding (1) long-term retention, (2) attitudes regarding OHS study value, (3) solving accounting problems, and (4) overall satisfaction with OHS. Table 2 reports the survey questions and frequency statistics which are organized by question category. In Table 3 Levene's test of equality was used to determine statistical significance among responses. Responses to five of the sixteen survey questions were statistically significant between deep and surface learners. Tables 3 reports both the equality of variances and the equality of means. Note that questions are grouped by category within the table. Significance was determined using a value of .05 or lower.

Long-term retention

Six questions regarding long-term retention were analyzed. Questions and frequency statistics are reported in Table 2. Levene's test of equality of variances was run on all questions and two questions were found in Table 3 to be statistically significant showing non-homogeneity of variance within groups.

In terms of frequency Q6 (Question 6) in Table 2 reports approximately 70% of both groups perceived that OHS is a helpful tool for long-term retention. Similarly, Q11(b) reports approximately 70% of both groups indicated that given a high stakes need to learn they would prefer OHS with immediate feedback over a textbook, pencil, paper and solutions key approach. Regarding study tools Q17 reports over half but less than two-thirds of both groups prefer using OHS to creating their own study tools.

Three long-term retention questions were found to have statistically significant differences in Table 3. The first is Q15 which found 71.9% of surface learners versus 45.6% of deep learners (Table 2) believe that when they work with OHS, they feel they are completing the assignment to get a grade rather than to retain accounting knowledge. The second statistically significant difference is Q23 and corroborates the first statistically significant finding. Around 60% of surface learners versus 28% of deep learners (Table 2) believe that graded OHS assignments best prepare them to obtain points towards passing the course, as opposed to retain knowledge.

The third statistically significant difference is Q11 regarding attitudes towards memorization. For deep learners 66.2% responded (Table 2) that OHS is helpful for the long-term memorization of accounting concepts. For surface learners 56.8% reported that OHS helps with memorization to simply pass the test. The distribution of responses were found to be significantly different, however the response frequencies were not a dynamic difference.

One interpretation of the differences in responses between deep and surface learners is that deep learners are more likely than surface learners to approach OHS with the intention of using it in a deep manner. This is consistent with a deep learner approach to obtain and retain knowledge. This may be an obvious outcome, but this result also validates the separation of learners into two distinct groups. It is a new finding that deep learners are not "turned off" by OHS. In addition deep learners use OHS as a means to obtain long-term retention and accounting knowledge. OHS then does not benefit the surface learner at the detriment of the deep learner. At the same time, it is interesting

Table 2. Question Response Rates

Long Term Retention		
	Deep Learner	Surface Learner
Q6: My perception of the OHS is that it helpful tool for long-term retention of accounting concepts.		
Yes	73.5%	71.2%
No	26.5%	28.8%
Q11: My perception of the OHS is that it helps with:		
Memorization of accounting terms and concepts to pass the test.	33.8%	56.8%
Memorization of accounting concepts for the long-term and to pass the test.	66.2%	43.2%
Q11(b) Assume that something really important (more than a grade) was at stake - such as getting the perfect job. And, assume further that in one year, you had to demonstrate your accounting knowledge via multiple choice test. What means would best prepare you for that test in one year?		
Use OHS with immediate feedback provided.	69.1%	69.1%
Use a textbook, pencil, paper and solutions key.	29.4%	30.9%
Q15: When you work with OHS, which statement BETTER describes how you feel?		
The on-line homework feels like I am completing the assignment to get a grade.	45.6%	71.9%
The on-line homework feels like I am learning to retain knowledge.	54.4%	28.1%
Q17: For memorizing accounting terms, I learn more when I:		
Use an on-line quiz tool with immediate feedback provided.	61.8%	55.4%
Create my own study tools.	36.8%	44.6%
Q23: When I think about OHS I believe the graded assignments best prepare me to:		
Retain accounting knowledge.	72.1%	39.6%
Obtain points towards passing the course.	27.9%	59.7%

(continued on following page)

Table 2. Question Response Rates *continued*

Study Value Attitudes		
	Deep Learner	Surface Learner
Q5: Which of the following is MORE important to you with respect to the OHS?		
It organizes my studying and homework for me.	60.3%	69.1%
It engages me in a deeper way, such that I spend more time studying accounting.	36.8%	30.2%
Q8: My perception of OHS is that it is best for students who typically get		
"A" grades	79.4%	62.6%
"C" grades	16.2%	37.4%
Q10: Assume that you are locked in a room for one hour with an accounting textbook and a computer with accounting on-line homework. You must study. Would you prefer to?		
Answer multiple choice questions in the OHS.	63.2%	72.7%
Outline the key concepts in the textbook.	36.8%	27.3%
Q13: My perception of the on-line homework system is that it is valuable because		
It helps me learn accounting better than I could learn it on my own.	51.5%	51.1%
Knowing that it is graded helps me to get my homework done.	47.1%	48.9%
Q22: When I think about using the OHS versus handwriting accounting problems with pencil and paper, I believe		
OHS is more challenging	44.1%	32.4%
OHS is less challenging	55.9%	67.6%
Q26: Before doing the on-line homework assignment, I read the text and/or go over class notes or other materials.		
Yes	60.3%	34.5%
No	39.7%	65.5%

(continued on following page)

Table 2. Question Response Rates *continued*

Solving Accounting Problems		
	Deep Learner	Surface Learner
Q3: The OHS helped me to understand the problem solving process that accountants use.		
<u>Yes, I usually found it helpful.</u>	85.3%	79.1%
No. Understanding the process of problem solving was usually extra work on top of my normal studying.	14.7%	20.9%
Q16: Assume that the in-class examinations (tests) or assignments will be done with pencil and paper. What method would BETTER prepare you for achieving the grade you want on test or assignment questions that require calculations?		
<u>Use a textbook, pencil, and solutions key.</u>	36.8%	50.4%
Use an on-line homework system that provides feedback.	63.2%	49.6%
Q19: How well do you believe the on-line homework prepares you for the examination (test) questions or in-class assignments that require solving problems? Usually it is:		
<u>GOOD preparation</u>	82.4%	75.5%
POOR preparation	17.6%	24.5%
Overall Satisfaction with OHS		
Q28: I prefer it when accounting instructors set up GRADED homework through:		
<u>OHS.</u>	80.9%	79.9%
assignments not associated with the OHS.	17.6%	20.1%

to note that per Q11(b) (Table 2) approximately 30% of students would prefer to use pencil and paper or their own study tools. This is less than half of students, but still a significant number.

Study Value Attitudes

Six questions regarding study approach were analyzed. Questions and frequency statistics are reported in Table 2. Levene’s test of equality of variances is reported in Table 3 and two questions were found to be statistically significant showing non-homogeneity of variance within groups.

In terms of frequency Q5 (Table 2) reports that for both groups 60% or more believe that OHS is valuable because it organizes their studies as opposed to engaging them in a deeper fashion. Further per Q10, students would prefer to study using OHS multiple choice questions as opposed to

Table 3. Independent Samples Test

Levene's Test for Equality of Variance		t-test for Equality of Means								
		Equal Variance Assumption	F	Sig.	t	df	Sig. 2-tailed	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower	Upper
Q6	assumed	.495	.483	.345	205	.730	.023	.067	-.109	.155
	not assumed			.348	135.789	.728	.023	.066	-.108	.154
Q11	assumed	7.758	.006	-3.170	205	.002	-.230	.073	-.373	-.087
	not assumed			-3.216	138.269	.002	-.230	.072	-.372	-.089
Q11b	assumed	.159	.691	.115	205	.908	.0079	.0684	-.1269	.1427
	not assumed			.116	134.594	.908	.0079	.0681	-.1268	.1425
Q15	assumed	14.440	.000	-3.804	205	.000	-.264	.069	-.400	-.127
	not assumed			-3.667	121.213	.000	-.264	.072	-.406	-.121
Q17	assumed	5.992	.015	-.972	205	.332	-.0710	.0731	-.2152	.0731
	not assumed			-.982	136.833	.328	-.0710	.0723	-.2141	.0720
Q23	assumed	12.405	.001	4.545	205	.000	.3213	.0707	.1819	.4607
	not assumed			4.672	143.105	.000	.3213	.0688	.1854	.4573
Q5	assumed	2.524	.114	-1.107	205	.270	-.0766	.0692	-.2130	.0598
	not assumed			-1.090	127.829	.278	-.0766	.0703	-.2157	.0625
Q8	assumed	50.894	.000	2.841	205	.005	.1903	.0670	.0582	.3223
	not assumed			3.098	167.130	.002	.1903	.0614	.0690	.3115
Q10	assumed	6.324	.013	-1.384	205	.168	-.094	.068	-.229	.040
	not assumed			-1.345	123.777	.181	-.094	.070	-.233	.044
Q13	assumed	2.071	.152	-.152	205	.879	-.0113	.0741	-.1574	.1349
	not assumed			-.152	133.644	.879	-.0113	.0740	-.1577	.1351

(continued on following page)

Table 3. Independent Samples Test *continued*

Levene's Test for Equality of Variance		t-test for Equality of Means								
		F	Sig.	t	df	Sig. 2-tailed	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Lower	Upper									
Q22	assumed	7.110	.008	1.654	205	.100	.117	.071	-.023	.257
	not assumed			1.618	125.868	.108	.117	.073	-.026	.261
Q26	assumed	1.799	.181	3.609	205	.000	.258	.071	.117	.398
	not assumed			3.569	129.322	.001	.258	.072	.115	.400
Q3	assumed	4.893	.028	1.062	205	.290	.062	.058	-.053	.176
	not assumed			1.112	150.213	.268	.062	.055	-.048	.171
Q16	assumed	10.340	.002	-1.850	205	.066	-.136	.073	-.281	.009
	not assumed			-1.871	137.078	.064	-.136	.073	-.280	.008
Q19	assumed	5.375	.021	1.105	205	.270	.068	.062	-.053	.190
	not assumed			1.150	147.887	.252	.068	.059	-.049	.185
Q28	assumed	.466	.495	.300	205	.765	.0176	.0588	-.0982	.1335
	not assumed			.304	138.444	.761	.0176	.0579	-.0968	.1321

outlining a chapter. Both groups are equally divided in Q13 regarding whether or not the main benefit of OHS is better learning or the fact that it is graded. Finally, overall 62% of both deep and surface learners in Q22 perceive OHS to be less challenging than handwritten assignments.

Two study value attitude questions were found to have statistically significant differences in Table 3. The first is Q8 (Table 2) which reports 62.6% of surface learners believe that OHS is best for students who typically get “A” grades. In comparison 79.4% of deep learners believe that OHS is best for students who typically get “A” grades. It is notable that in aggregate more learners perceive OHS as best for “A” students, while at the same time more learners also perceive that OHS is less challenging than handwritten assignments.

The second statistically significant difference is Q22. Table 2 reports 60.3% of deep learners will read the textbook and/or go over class notes prior to attempting the OHS assignments. The opposite is true for surface learners, with only 34.5% reading the textbook and/or going over class notes prior to attempting the OHS assignments. This result is consistent with the interpretation proposed previously, that deep learners approach an OHS session with an attitude for higher study value.

Solving Accounting Problems

Three questions regarding perceptions about solving accounting problems were analyzed. Frequency statistics are reported in Table 2. Levene's test of equality of variances (Table 3) was run on all questions but no statistically significant differences were found in responses between the two groups. In general, both deep and surface learners believe that OHS prepares them for understanding the problem solving process of accountants. Both groups also believe OHS is good preparation for exams.

Overall Satisfaction with OHS

No statistically significant difference was found in Table 3 between deep and surface learners on their preference to have graded assignments done through OHS. Table 2 reports the frequency of responses regarding graded assignments. It shows that 80% of respondents prefer that their graded assignments be based on OHS. This finding is consistent with the findings of Floami & Simons (2012) and Smolira (2008) regarding student satisfaction with OHS.

DISCUSSION

Do deep learners perceive OHS differently from surface learners? In many regards no differences were discovered between the two groups. OHS was found to organize students' studies and was the preferred study tool. However, students perceived OHS to be less challenging than handwritten assignments.

Differences were found regarding the outcomes of OHS assignments. Surface learners were more likely to feel OHS was to get a grade or pass the course as opposed to retaining knowledge. Deep learners were more likely to feel that OHS helps with long term memorization.

Is OHS used at the expense of either deep or surface learners? There was no evidence that this is the case. Both groups found value in using OHS. The two groups were found to approach OHS differently, which is consistent with the concept of deep and surface learners.

LIMITATIONS AND FUTURE STUDY

Students surveyed were enrolled in face to face classes. How online students perceive OHS is left for future study. In addition, this study utilizes survey results and represents student opinions and perceptions. There is no empirical data reporting actual performance differences between the deep and surface learners using OHS. This is also an opportunity for further study. As the surveys were conducted over a variety of accounting courses and diverse student groups attending four different types of colleges and universities, the researchers believe the results can be generalized to other US colleges. This is believed true even though our sample population was all within one Midwest state.

The research question format of giving students two choices, in some cases yes or no and in other cases two different possibilities, was both a weakness and strength of the survey. In formulating survey questions for this research study both alternative choices were informed by the Biggs

(1987) survey. The question topics about perceptions were informed by the revised two factor study process questionnaire by Biggs, Kember, & Leung (2001). A weakness of asking students to choose one of two possibilities is that there are often more than two possibilities. However, an essay survey allowing for many possibilities was believed to be less likely to be completed by students. Very few students chose not to participate and less than 7% of surveys were unusable due to being insufficient. The high participation rate strengthens the reliability of the survey.

The researchers believe the deep learner groups meet the external validity criterion because the questions used to separate deep from surface learners were informed by looking at other researchers' questionnaires on this matter. In addition, the survey was constructed to elicit this attribute by asking multiple questions that probed for the same information. This method allows reasonable assurance that the results are internally valid.

CONCLUSION

The researchers of this paper have taught lower and upper division accounting courses to students that are representative of varied college environments, including two-year community colleges, urban state universities, a rural land grant university, and an urban religion-affiliation college. Members of the research team experienced the transition from when instructors were primarily responsible for creating and grading learning activities to the current prevalence of publisher created on-line learning systems. The researchers of this paper have a common goal of creating excellent learning experiences for students.

As experienced educators, the researchers are aware of deep and surface learning theory and have indeed noticed such dichotomy in their teaching environments. Therefore, the question arose as to whether when approaching OHS assignments one of these groups benefit from the implementation of on-line tools at the expense of another. In addition, the question of whether deep learners perceive OHS differently than surface learners was of interest.

Based on survey responses the researchers identified students that fit each description. The researchers could find no definitive percent as to students in accounting courses that can be considered deep versus surface learners. This survey's classification found approximately one-third of students being deep learners and this matched their general perceptions within the classroom. Regardless, the researchers believe the statistically significant conclusions are valid to the two groups irrespective of the true distribution of "deep" and "surface" learners.

The research cited earlier in the paper indicates that on-line study tools are generally perceived favorably by students and these perceptions were corroborated in this survey. However, the statistical analysis in this research shows that the two groups (deep and surface) perceive on-line learning tools differently and in noteworthy ways. At the same time, no evidence is seen that OHS impairs or is less satisfying to deep learners as compared to surface learners. This finding suggests for all accounting instructors some level of comfort with continued use of on-line learning supplements. The deep learners apply their "deep learning" methods of reading the text and reviewing notes before doing the assigned homework, in greater numbers, than surface learners.

At the same time, it was noted that approximately 28% of students (Table 2, Q6) do not feel that OHS is a helpful study tool for long-term retention of accounting concepts. It is advisable that accounting instructors include more experiential activities in their on-line assignments that have the potential for increasing long-term retention. Instructors can include cases, simulations, and group activities to provoke greater long-term retention.

Instructors should recognize that a large percentage of both deep and surface learners perceive OHS as a satisfying learning experience, while a smaller percentage of both deep and surface learners do not perceive it as satisfying. In addition, deep learners are more likely than surface learners to approach OHS with advance preparation, such as reading the text or notes beforehand. Deep learners are also found to perceive that they obtain accounting knowledge and long-term retention of concepts as opposed to just completing OHS to get a grade or pass the course.

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COMMUNICATION ETHICS AND PUBLIC DECEPTION: THE EFFECTS OF MISINFORMATION ON DESENSITIZATION TO TRUTH TELLING

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ABSTRACT

In a recent *Washington Post* article, Kessler (2018) claimed that the current U.S. President averaged fifteen false claims a day in 2018. In the past two years, the news media has reported on false claims made by the President and his spokespersons and confederates on an almost daily basis. Scholarly research on the subject of public deception by political leaders recently has not kept pace with this phenomenon. More importantly, scholarly research has not looked into the long-term effects of such public communication on the listeners. This paper takes two approaches to the study of this phenomenon. First, a content analysis of newspaper articles published on the topic of the current President's "false" claims was conducted (N = 178). Second, a survey of U.S. adults was conducted (N = 300) to determine the cumulative effects on citizens' perceptions on the importance of truth-telling among political leaders. Both analyses were compared to determine the degree of disconnect that may exist between reporting and public perception of presidential deception and circumvention, and the communicative virtues of truth-telling and integrity.

Keywords: Public Deception, Truth-telling, Post-truth Politics, Communication Virtues, Ethics

INTRODUCTION

Many commentators and scholars have used the term "post-truth" to refer to the current cultural and political era in the United States. This new term (Temmerman, Moernaut, Coesemans, & Mast, 2019) can be traced to the path to a Trump presidency (Gibson, 2018). In fact, news organizations, such as the *Washington Post*, have kept track of the false claims made by President Trump beginning with his Republican Party nomination during the 2016 presidential campaign. The *Washington Post* reports on the outcomes of *Fact Checker* which keeps a constantly updated list of falsehoods spoken or written by President Trump. According to Kessler, by the end of the year in 2018, President Trump had "accumulated more than 7,600 untruths during his presidency" (2018, p. 2). Newspapers have also reported on falsehoods written or spoken by members of Trump's administration, including his spokespersons and associates.

Kessler (2018) also reported on the outcomes of polls which find a majority of Americans perceiving Trump as dishonest. The President's seeming willingness, along with his confederates, to be dishonest, and the American public's perception of dishonesty in him and his administration, demonstrates a possible discrepancy between the personal communication virtue of honesty and the effects of public deception. This study investigates the frequency of reporting of public deception by Trump and his confederates and the perception of eligible U.S. voters regarding the importance of truthfulness by political leaders.

REVIEW OF LITERATURE

Public Deception Reported in the News

To the casual observer, news headlines describing misleading or false claims by political leaders, and recently and in particular Donald Trump, are a regular occurrence. This regularity may be heard in political conversations between friends and family members with the often-heard phrase, “all politicians lie.” The question for researchers is to what degree has this seeming expectation about the public communication of political leaders permeated United States society. Additionally, researchers might ask to what degree does this form of communication effect society. Southwell and Thorson (2015) argued that debates regarding what counts as fact have existed for many years through the communication professions but that “being wrong” has consequences from regulatory agencies and watchdog groups.

In a democratic society, factual and truthful information is important for setting effective policy for the good of that society. To be sure, the framers of the *U.S. Constitution* understood the importance of an informed society by enshrining freedom of the press in the *First Amendment*. Recently, however, the press has been under attack as a source of factual and truthful information. One source of this attack has been the rise of “fake news.” Frank argued that the rise of fake news has “eroded the credibility of mainstream news sources” (2018, p. 379). Scholars argue that “fake news” creates its own folklore (Mould, 2018). This folklore may serve as a narrative for shaping public opinion and influencing buy-in for public policy which may not be in the best interest of society.

“Fake news” could be characterized as misinformation, disinformation or outright public deception. The purpose of such communication may include self-serving agendas. According to Galleotti (2015) the tendency to engage in political deception is influenced by self-deception, which in turn is driven by “self-serving wishes.” Clark (2017) argued that the press is a target of pathological lying by individuals seeking publicity. The possibility exists that promotion of “fake news” by political leaders occurs to further ideological agendas. According to Buschman (2019), democracy requires the ability to deal with and address fake news through access to true information and “informed discernment.”

The rise of “fake news” may be attributable to corporate media consolidation, or more likely the recent increase in the use of social media for political campaigns. Madison and DeJarnette (2018) state that in the modern era lies more often spread faster than truth through the digital media ecosystem. Emanuelson (2018) posited that fake news arose out of the ubiquitous nature of social media which contributed to the public’s distrust of traditional news outlets.

In fact, President Trump utilizes social media, and in particular Twitter, as a method for disseminating falsehoods. According to Brookey and Ott (2019), Trump’s Twitter brand matters to him. This medium for communicating is not new to Trump. In fact, Allen and McAleer (2018) found that Trump utilized Twitter to disseminate his factually incorrect opinions on climate numerous times between 2011 and 2015. Perez-Curiel and Naharro (2019) demonstrated the widespread political influence of Donald Trump as a main news source through his Twitter account, which currently has over 45 million followers.

However, the current U.S. administration's use of social media to further a political agenda may have a downside. Goldstein (2018) demonstrated that public response to demonstrably false assertions by a confederate (advisor) of President Trump regarding a "claimed" terrorist tragedy in Bowling Green Kentucky constituted public identification of the messaging as "bad faith communication" by the administration. Alongside these specific communication events, news about the use of social media to influence the 2016 U.S. Presidential Election may have tempered society's acceptance of social media as an alternative news source. However, Innerarity (2018) argued against regulation of "fake news" in political rhetoric because doing so would erode democratic debate.

Given the tendencies of the current U.S. President to use misleading or false claims as reported in traditional news outlets, which may also use the President's own statements and those of his associates posted through social media as sources of evidence for those claims, the following research question is proposed:

RQ₁ How do traditional media news outlets frame the communication of the current U.S. President and his associates?

This research question presupposes that misleading and false claims by a political leader are, on the face of it, unethical. Research shows that U.S. participants do view dishonesty as a vice.

Ethics and Public Communication

Previously, LeBlanc and Magallanes (2007) found that U.S. residents found the communication virtues of honesty and integrity were important in personal relationships, as well as modesty and patience. In that study, LeBlanc and Magallanes found that ethical virtues were positively correlated, that ethical vices were positively correlated, and that ethical virtues were negatively correlated to ethical vices.

In a recent study, Wells and Molina (2017) found that honesty is critically important in public administration, and that this finding is consistent with previous research. Similarly, Jones (2016) argues that authenticity in political discourse is a virtue which counteracts the effects of deception and concealment. Political discourse may be created and disseminated by individuals seeking or holding office, or by their associates. However, statements from those sources also may be disseminated through reporting means such as through traditional and alternative news sources. Froehlich (2017) argues that information professionals are ethically bound to be competent and informed in order to promote the good of society. According to Turner (2018), journalists' tolerance for the circulation of false claims against President Obama, without publicly debunking them, likely increased the proliferation of "fake news" during 2016 and 2017.

While the sources may have different purposes, goals or agendas, the goal of the present study is to investigate the ethical expectations placed on political leaders as sources of information. To meet that end, the following research question is proposed:

RQ₂ What are the components of ethical communication for political leaders?

Additionally, another purpose of this study is to determine if personal virtues and vices translate into expectations for behaviors of public officials. To test the assumption that context (public or private) does not matter, the following hypotheses are proposed:

- H₁ Ethical virtues of communication are positively correlated.
- H₂ Ethical vices of communication are positively correlated.
- H₃ Ethical vices of communication are negatively related to ethical virtues of communication.

As political leaders are the focus of this study, some responsibility for distinguishing between truth and false may lie with the audience of these political messages. Turri and Turri found through three different experiments that individuals can “reliably distinguish between trying to tell the truth but failing, on the one hand, and actually lying, on the other” (2015, p. 166). The authors conclude that deception requires objective falsehood, and not merely a perception of “intent to deceive.” They suggest that public communication could be improved if the public focuses on the deception and dishonesty of communicators. According to Endsley (2018), a number of factors contribute to the seeming inability of the public to discern facts from misinformation, including: a) deliberate information attacks, b) social network propagation, c) poor assessment of information reliability, and d) biases that disallow disagreements with preexisting beliefs.

Webley (2018) argued that both administrators and the courts have abused the public information function of providing “concise” preambles to public policies and regulations by creating overly long and technical descriptions of those regulations. By abusing that function, government agencies make it more difficult for the public to understand what the government is doing. However, intent to deceive over a period of time to meet some political goal may have inoculating effects on audiences. Pennycook, Cannon and Rand (2018) demonstrated that prior exposure to potentially plausible but untrue ideas in social media help solidify belief in blatantly false news stories.

Potential plausibility of an untrue claim may increase an audience member’s likelihood of dismissing concerns about the possible deceptive intent of the message sender. Canter, Ioannou, Youngs, and Chung (2016) demonstrated that an individual’s perceptions of the other’s openness, genuineness, nondeceptiveness, trustworthiness and the plausibility of the other’s verbal messages predicted judgments of truthfulness in the other. Relatedly, Baker, Porter, ten Brinke, and Mundy (2016) found that an individual’s first impressions of the other’s trait trustworthiness influence judgments of honesty in subsequent situations, even when they are not warranted.

On the other hand, if an audience member first perceives the message sender of ill-intent, that individual may be primed to observe nonverbal cues of the sender. DeWaele, Claeys, Cauberghe, and Fannes (2018) found that visual cues of deception by spokespersons negatively affect viewers attitudes toward the organization. In such cases, subsequent reception of messages by the same sender might be viewed with suspicion.

Such suspicion by numerous individuals could negatively affect public trust in the political leader generally, or trust in policy proposed by the political leader. According to Galan, the use of misleading public information reduces the citizen’s (consumer’s) ability to choose a correct action,

“thus violating free competition” (2018, p. 94). Additionally, Moore (2018) argues that public trust is a function communication and not transparency per se, as “transparent” public information can also be made unintelligible. Public information may assist in resolving suspicion, but only if the public trusts the source. If the source, such as an agency or agency head, is associated with the political leader viewed with suspicion, then the public might be suspicious of the source by association. As noted earlier, democracy depends on factual and truthful information to set effective public policy. Edyvane (2015) argues that political “spin” is unethical and anathema to the democratic ideal of truthfulness. However, the author argues that private standards of behavior may be out of place when applied to a public context. Love and Ahiaga-Dagbui (2018) argue that evidence-based research is needed to make informed policy decisions. A suspicious public may be unwilling to accept such evidence following exposure to untruths from the associated administration.

Agencies could counteract deceptive messages from political leaders and may be motivated to do so, in some cases, by watchdog groups, or by internal auditors and inspectors charged with that responsibility. Behnk, Barreda-Tarrazona, and Garcia-Gallego (2018) found that a functioning punishment mechanism increases the likelihood of honesty, and that the relationship between monitoring of behavior and increased honesty is curvilinear. The question that remains is whether a damaged public trust can be overcome or rectified by these internal or external audits when the very basis of what counts as truth has been under attack.

One medium for such attacks on truth has been new digital technologies (social media) such as Facebook and Twitter. According to Amadae (2018), the combined use of strategic communication and new digital technologies create challenges for the norm of truthfulness that underlie public institutions. Nunez (2018) argues that technology has transformed communication by making available information as a “raw material” for political disruptions, including the “fragmentation of public opinion,” and the creation of suspicion towards traditional sources of information. Relatedly, Kopp, Korb and Mills (2018) demonstrated experimentally that a very small population of deceivers can influence uncertainty and false perceptions of much larger population. If these small groups of deceivers can propagate false claims and misleading information virally through new digital technologies, then fighting the effects of such intentional deception becomes more difficult.

Regardless, intentional deception, when discovered might reveal the agenda of political leaders. As well, the revelation of such deception by sources including current or former associates of those political leaders through traditional or alternative news media, social media, or other means, might influence public opinion. According to Bail (2015), leaking of classified information reveals contradictions between public pronouncements of policy and the intent of the ruling class. The author also notes that rival political factions intentionally amplify these contradictions through the mass media for gain.

Political Ideology and Communication Ethics

Political deception may be driven by a desire by partisans to advance their party’s agenda. This communicative activity requires a willing audience. To be sure, citizens choose which party, or no party as is the case with independents, they belong. Mercier (2017) argued that acceptance of

misinformation is most strongly influenced by preexisting beliefs. Such preexisting beliefs may disallow citizens the ability or desire to hear the other side or to consider perspectives other than their own. Modern communication technologies, such as social media, which is designed to build networks between friends or like-minded individuals may exacerbate these tendencies. For example, Perl, Howlett, and Ramesh (2018) posit that willful ignorance linked to dissemination of ideas through social media contributes to political polarization and amplification of misinformation efforts.

According to McNeill (2018), the source of information, particularly if the source is “known,” such as a friend, is more influential toward belief that the information is true, than by the information seekers own “research” activity. Put another way, the author argues that the informal, conversational way that social media information is disseminated by known others has more weight on the believability of the information, than information gathered by the individual through his or her own efforts. The seeming outsized influence of “fake news,” however, may be overstated. Nelson and Taneja (2018) found that the audience for “fake news” leading up to and following the 2016 presidential election was a relatively small subset of the overall news audience.

However, there may be differences in acceptance of “fake news” and false narratives depending on party affiliation. Clementson (2018) demonstrated that stronger party affiliation predicted a significantly weaker ability to detect deception. Additionally, Anson (2018) demonstrated that individuals with moderately low political expertise consistently rate themselves as much more politically knowledgeable than their political opponents, and are more likely to rely on partisan sources of information in their judgement of those opponents.

According to Jost (2017), conservatives are more tolerant of the policies of the administration only when the administration is headed by a Republican, compared to liberals. This finding suggests that conservatives are more willing to accept the messages if they originate from only their own party. When conservatives’ party is the ruling party, this tendency may be exacerbated, which in turn may have contributed to the rise of the post-truth era described by scholars. According to Deligiaouri, “the easy adoption of post-truth narratives in politics creates and ‘ill’ political culture in which some politicians do not feel obliged to present real facts” (2018, p. 312). This may be especially true when a political leader is advantaged through deception. Bleakley argues that President Trump is primarily responsible for the ascendancy of the post-truth era through “consistent disavowal of reputable media organizations” (2018, p. 432).

Given the ethical, or unethical, nature of political deception that has recently been noted in traditional mainstream media, as it may apply to political parties, the following hypotheses are proposed:

- H₄ Economic ideology influences attitudes regarding communication virtues among political leaders.
- H₅ Economic ideology influences attitudes regarding communication vices among political leaders.
- H₆ Social ideology influences attitudes regarding communication virtues among political leaders.

H₇ Social ideology influences attitudes regarding communication vices among political leaders.

To test these hypotheses, and to answer the related research questions, the following methods were employed.

METHODS

Study 1

To answer the first research question as it pertains to the context of this study, a *Nexis Uni* search of all news items published between January 20, 2017 and December 31, 2018, using the search terms “President,” “Trump,” “false,” “lies,” and “misleading.” These terms were selected as all five appeared in the first sentence of the Kessler (2018) article. All five terms were entered into the Boolean search simultaneously. A general search using just these search terms found over 10,000 articles (*Nexis Uni* did not specify the exact number over 10,000). Given the lack of specificity of the total population of news articles available in the database, a sampling frame was created. The sampling frame restricted results to published articles presented as news from major news organizations headquartered in the United States. Major news outlets were limited to the top six newspaper publications by circulation. According to Watson (2019), the top six newspapers in order of circulation are: *USA Today*, *Wall Street Journal*, *New York Times*, *New York Post*, *Los Angeles Times*, and *Washington Post*. To verify the reliability of Watson’s list, other sources were reviewed (see Table 1).

Table 1. Top six newspapers by circulation listed by reference

Order	Reference		
	AgilityPR (2019)	Cision (2019)	WorldAtlas (2017)
1	Wall Street Journal	USA Today	USA Today
2	USA Today	Wall Street Journal	New York Times
3	Los Angeles Times	New York Times	Wall Street Journal
4	New York Times	New York Post	Los Angeles Times
5	Houston Chronicle	Los Angeles Times	New York Post
6	Chicago Tribune	Washington Post	Chicago Tribune
Other	Washington Post (8th)		Washington Post (7th)

The *Wall Street Journal*, *New York Times* and *New York Post* are published in New York. *USA Today* and the *Washington Post* are published in the District of Columbia area which includes Arlington, Virginia (home to *USA Today*). Due to the search parameters provided for in *Nexis Uni*, and the publication location of the top six newspapers, the search was limited geographically to California, New York, the District of Columbia, and to news items in the “Politics” section of a newspaper. In total, 178 distinct news articles meeting the search parameters were collected for the study. Although published separately, several articles were republished in another outlet or later edition. Removing repetitive articles, or articles that did not meet other search criteria such as geographic location, resulted in a final list of 122 articles. Of these articles, 50.00% were from *The New York Times*, 24.59% were from *The Washington Post*, and the remaining 25.41% were various other newspapers (n = 12, see Table 2). Newspaper articles not published in Watson’s

(2019) list of the top six were removed from further analysis. Articles from sources with subsample counts below five (the statistical limit of Chi-Square tests) were also removed from further analysis. Consequently, only articles sourced from the *New York Times* and the *Washington Post* during the period under investigation were used in Study 1 (n = 91). Chi-Square tests revealed a statistically significant difference for publication outlet ($\chi^2(1) = 19.51, p < .001$), source ($\chi^2(1) = 10.56, p < .001$), and geographic location ($\chi^2(1) = 27.59, p < .001$).

Table 2. Publication outlet and original source of news articles

Publication	Total		Source	Total	
	N	%		N	%
USA Today	1	0.8	USA Today	1	0.8
Wall Street Journal	0	0	Wall Street Journal	0	0
New York Times	61	50.0	New York Times	61	50.0
New York Post	1	0.8	New York Post	1	0.8
Los Angeles Times	3	2.5	Los Angeles Times	3	2.5
Washington Post	21	17.2	Washington Post	30	24.6
Other newspapers	35	28.7	Other newspapers	26	21.3
Total	122	100.0	Total	122	100.0

Each article was reviewed for claims regarding the behavior of the current U.S. President and his associates as reflecting communication virtues or vices. Specifically, claims regarding the two communication virtues of “truthfulness” and “integrity” and the two communication vices of “circumvention” and “deception” were sought and noted as occurring or not occurring within each article. Each type of claim was coded once if it occurred in the article, regardless of the number of times the claim may have been restated or repeated. These particular virtues and vices were investigated as they comport with the factors discovered in Study 2 (see below). Additionally, a fifth category of “associates” was utilized for articles containing claims regarding the four specific communication behaviors assigned to associates of the President.

Study 2

Respondents. This study (IRB #19-103) was approved by the local IRB on January 17, 2019. *Qualtrics* was contracted for a sample of U.S. adults who were eligible to vote. The non-probability sample comprised 300 individuals from throughout the United States (N = 300). The sample consisted of 68.3% females and 31.7% males. A breakdown of the ethnic characteristics and education level of subjects are provided in Table 3.

Table 3. Ethnicity and education level of study participants

Ethnicity	Total		Education level	Total	
	N	%		N	%
Latino/Latina	17	5.7	High school graduate	85	28.3
African-American	37	12.3	Some college	93	31.0
Asian-American	13	4.3	College graduate	88	29.3
Caucasian	214	71.3	Master’s/Professional	25	8.3
Other	19	6.3	Doctorate	9	3.0

The average age of participants ($N = 300$) was 42.57 years ($sd = 14.91$). The average annual income of participants ($n = 283$, 17 non-reporting) was \$60,281.99. Additionally, participants were asked to self-report their voting tendencies on economic and social policies. Results of this inquiry are provided in Table 4.

Table 4. Voting tendencies of participants by policy type

Economic Policy	Total		Social Policy	Total	
	N	%		N	%
Liberal	67	22.3	Liberal	79	26.3
Progressive	28	9.3	Progressive	27	9.0
Independent	111	37.0	Independent	102	34.0
Libertarian	4	1.3	Libertarian	6	2.0
Conservative	90	30.0	Conservative	86	28.7

Measurement. The Attitudes Toward Public Deception survey was based upon the Communication and Ethics survey utilized by LeBlanc and Magallanes (2007). This earlier survey was developed based constructs of ethical behavior specified by Verschoor (2003), Zauderer (1994), and Klenke (2005). Thirty 7-point Likert-type scale items were utilized to measure attitudes about ethical communication behaviors in public leadership contexts. The survey measured attitudes about public deception by political leaders. Of the 20 items, 10 were positively loaded to measure ethical virtues, and 10 were negatively loaded to measure vices. In general, the survey was reliable. Cronbach’s alpha revealed a reliability score of .70 for the positively loaded items (with one item, DV15, removed), and a reliability score of .86 for the negatively loaded items. For the positively loaded items, a high score represents strong agreement with ethical virtues. For the negatively loaded items, a high score represents strong agreement with vices.

To answer the second research question, a Principal Axis Factoring (PAF) analysis using direct oblimin rotation was conducted on positively loaded and negatively loaded items separately, with a .50 loading decision criterion. Results of the PAF analysis of positively loaded items revealed two factors related to ethical virtue: Truthfulness and Integrity. The Truthfulness factor accounted for 37.58% of the variance (initial Eigenvalue = 2.77; Rotated SS = 1.96). Reliability measure for the Truthfulness factor was $\alpha = .73$. The Integrity factor accounted for 7.94% of the variance (initial Eigenvalue = .94; Rotated SS = 1.77). Reliability measure for the Integrity factor was $\alpha = .64$ and was not used in further analysis.

Results of the PAF analysis of negatively loaded items revealed two factors related to ethical vices: Circumvention and Deception. The Circumvention factor accounted for 39.41% of the variance (initial Eigenvalue = 4.45; Rotated SS = 3.65). The Deception factor accounted for 9.31% of the variance (initial Eigenvalue = 1.35; Rotated SS = 2.71). The reliability measure for the Circumvention factor was $\alpha = .84$. The reliability measure for the Deception factor was $\alpha = .79$.

RESULTS

Study 1

Of the 91 articles analyzed, deception by the President was mentioned at least once in 44 articles (48.35%). Deception by any of the President's associates was mentioned at least once in 32 articles (35.16%). A Chi-square test failed to find a significant difference in deception reporting between sources ($\chi^2(1) = 0.09$, ns). However, a significant difference was found in deception of associates reporting and sources ($\chi^2(1) = 8.01$, $p < .01$), with the Washington Post more likely to report on deception of associates than other sources. Additionally, a Cramer's V test failed to find a significant association between articles describing deception by the President and articles describing deception by one or more of his associates, $V = .070$, ns.

Less frequently mentioned was the act of circumventing rules by the President in articles published during the period under review. Specifically, circumvention of the rules by the President was mentioned at least once in 13 articles (14.28%). The communication virtues of truthfulness ($n = 5$, 5.49%) or integrity ($n = 1$, 1.10%) of the President occurred less frequently in the articles collected. In total, 72 different authors are credited across the 91 articles (*New York Times*, $n = 54$; *Washington Post*, $n = 18$).

Study 2

Hypothesis testing was conducted using the ethical virtues and vices revealed through Factor Analysis. In general, hypotheses 1, 2 and 3 were supported. For Hypothesis 1, a strong and statistically significant positive relationship was found between the Truthfulness and Integrity factors, $r = .697$, $N = 300$, $p < .001$. As noted in the Methods Section, the Integrity factor did not meet the reliability criterion and will not be used for further analyses. However, the results of the Pearson Correlation are reported here to justify the use of an oblique rotation method in the Principle Axis Factoring technique. For Hypothesis 2, a strong and statistically significant positive relationship was found between the Circumvention and Deception factors, $r = .600$, $N = 300$, $p < .001$. As with the ethical virtues factors, the correlation between ethical vices factors justified the use of oblique rotation.

For Hypothesis 3, a moderate and statistically significant negative relationship was found between the Truthfulness virtue and Circumvention vice factors, $r = -.420$, $N = 300$, $p < .001$. However, a weak but statistically significant negative relationship was found between the Truthfulness virtue and Deception vice factors, $r = -.116$, $N = 300$, $p = .045$. It should be noted that the Deception factor included three survey items which attached the justification for deception as "for the protection of the country."

To determine if economic political ideology influenced the relationship between these factors, the sample was separated into three groups: Liberal ($n = 67$), Independent (111), and Conservative (90). Pearson Correlation revealed differences between these groups in the relationship between factors (see Table 5).

Table 5. Correlation between factors by economic political ideology

Ideology	Truth by Circum.	Truth by Deception	Circum. by Deception
Liberal	-.428	ns	.520
Independent	-.330	ns	.734
Conservative	-.509	ns	.450

All results at the $p < .001$, unless otherwise noted.

To determine if social political ideology influenced the relationship between these factors, the sample was separated into three groups: Liberal ($n = 79$), Independent (102), and Conservative (86). Pearson Correlation revealed differences between these groups in the relationship between factors (see Table 6).

Table 6. Correlation between factors by social political ideology

Ideology	Truth by Circum.	Truth by Deception	Circum. by Deception
Liberal	-.400	ns	.547
Independent	-.385	ns	.723
Conservative	-.408	ns	.509

All results at the $p < .001$, unless otherwise noted.

For Hypothesis 4, oneway ANOVA revealed an economic ideology effect on subjects' attitudes regarding the truthfulness of political leaders, $F(2, 265) = 3.912$, $p = .021$, partial $\eta^2 = .029$. Post-hoc tests with Bonferroni correction revealed significant difference only between the Independent ($n = 111$) and Conservative ($n = 90$) groups ($m_{diff} = -.356$, $s.e. = .127$, $p = .017$), with conservatives ($m = .186$, $sd = .790$) reporting a more positive attitude toward the importance of truth-telling by political leaders compared to independents ($m = -.170$, $sd = .948$). When age was taken into consideration, the effect was non-significant.

For Hypothesis 5, oneway ANOVA failed to demonstrate an economic ideology effect on subjects' attitudes regarding the circumvention of rules by political leaders, $F(2, 265) = 1.913$, ns . Tests also failed to show an economic ideology effect on subjects' attitudes regarding deception by political leaders, $F(2, 265) = 1.084$, ns . Age treated as a covariate did not alter the outcome.

For Hypothesis 6, oneway ANOVA revealed an social ideology effect on subjects' attitudes regarding the truthfulness of political leaders, $F(2, 264) = 6.679$, $p < .01$, partial $\eta^2 = .049$. Post-hoc tests with Bonferroni correction revealed significant difference only between the Independent ($n = 102$) and Conservative ($n = 86$) groups ($m_{diff} = -.458$, $s.e. = .125$, $p < .01$), with conservatives ($m = .260$, $sd = .662$) reporting a more positive attitude toward the importance of truth-telling by political leaders compared to independents ($m = -.198$, $sd = .950$). When age was taken into consideration, the effect was less strong but still significant ($F(2, 263) = 3.514$, $p = .031$, partial $\eta^2 = .026$).

For Hypothesis 7, oneway ANOVA failed to demonstrate an social ideology effect on subjects' attitudes regarding the circumvention of rules by political leaders, $F(2, 264) = 1.596$, ns . Tests also failed to show an economic ideology effect on subjects' attitudes regarding deception by political leaders, $F(2, 264) = .476$, ns . Age treated as a covariate did not alter the outcome.

Age did have predictive power on attitudes regarding truthfulness ($R^2 = .09$, $F(1, 298) = 29.60$, $p < .001$, 95% CI [.012, .025]), and circumvention ($R^2 = .12$, $F(1, 298) = 39.51$, $p < .001$, 95% CI [-.028, -.015]), but not on attitudes toward the use of deception by political leaders. A Spearman's rho demonstrated relationships between age of subjects and degree of economic conservativeness ($r_s = .19$, $N = 300$, $p < .01$), and between age of subjects and degree of social conservativeness ($r_s = .15$, $N = 300$, $p = .011$).

DISCUSSION

The evidence presented therein indicates that considerable political, public deception is occurring and that the public is being informed about this deception through traditional news media sources on a regular basis. Although the first study focused primarily on two news sources, the *New York Times* and the *Washington Post*, it should be noted that: a) these were not the only sources reviewed, and b) these first two sources were often the location of first publication which were subsequently republished in other sources, including local papers and through other broadcasts such as network and cable news, and Internet search engines (e.g., *Yahoo News*). According to Glader (2017), the *New York Times* remains the agenda setter for news in America, due to its leadership in political news and by adhering to “ethical standards of reporting.” Glader also claims that the *Washington Post* maintains an intellectually robust tradition as the paper that “brought down President Richard Nixon with its reporting on the Watergate scandal in the early 1970s” (2017, p. 1). It is important to note that four of the top six newspapers by circulation (*USA Today*, *Wall Street Journal*, *New York Post*, and *Los Angeles Times*) failed to publish significant enough number of articles using the search terms for this study. Both the *New York Post* and the *Wall Street Journal* are published by News Corp.

The evidence also indicates that individuals perceive personal communication ethics as applicable to public figures. The components of ethical communication for political leaders, such as truthfulness and lack of deception, were very similar to those individuals viewed as important in their personal relationships. Additionally, communication virtues for both public and private contexts were highly correlated, as were communication vices. In both contexts, public and private, communication virtues and vices were negatively correlated.

Finally, both economic and social political ideology played a role in the relationship between communication virtues and vices. In particular, truthfulness (virtue) was negatively correlated with circumvention of rules (vice), whereas circumvention of rules was positively correlated with deception (vice) regardless of self-identified social or economic political ideology. However, independents, overall, viewed those relationships as more important than either conservatives or liberals. This finding suggests two possible explanations. First, as Clementson (2018) found, party affiliation (Republican or Democrat) may be more strongly associated with willingness to accept the messages or actions of their political leaders. This study found that independents were potentially less likely to accept those messages. If there is any truth to the adage that “all politicians lie,” this might demonstrate increases in the proportion of self-identified independents as shown the larger than expected ratio of independents in this study sample.

This study suggests that one way that citizens may be dealing with the rise of “fake news” and the post-truth era is to eschew identification with either of the two traditional political parties.

Although this study did not examine that potential phenomenon directly, the study does seem to corroborate the findings of Jost (2017) that conservatives are more tolerant of the policies of the administration, given that President Trump is identified with the conservative political ideology within the Republican Party. If true, this support for the current president's policies is troubling if those policies are based on information that is demonstrably false. The question for scholars and citizens alike is whether acceptance of a post-truth era could have long-term negative effects on the country, and the freedom of its citizens.

Both studies involved limitations that should be noted here. For the first study, the *Nexis Uni* search was limited to the three largest markets for traditional political news in the United States. To be sure, other geographical regions both within and outside the United States could have provided alternative perspectives on public deception and the implications for communication ethics. The policies of the United States, both domestic and foreign, have an impact on other countries. Thus the communicative actions of political leaders in the United States would be of interest to these audiences as well. The choice was made to limit to these markets due to the sheer number of articles found in the initial search, as well as the likelihood that a significant portion of these articles would have been reprints or republications from primary sources. It should also be noted that the initial search in *Nexis Uni* produced 10,000+ articles, although an exact number was not provided by the database, which made a random sample from the total population of articles too difficult to determine.

For the second study, the sample included only eligible U. S. voters as selected by *Qualtrics*. The researcher had no control over the selection process and had to rely on the proprietary methods employed by *Qualtrics*. The survey was based on an earlier survey geared towards measuring attitudes regarding communication ethics in personal relationships (LeBlanc & Magallanes, 2007). That survey was used as the basis for creating the survey for the current study, as it was assumed similar communication ethics might exist in both public and private spheres. Principal Axis Factoring revealed similar underlying factors across both contexts demonstrating validity in the structure of both communication virtues and vices, although there were a few minor differences. Future study might compare the data across both contexts directly to determine the strength of those relationships.

Other directions for future study might include investigating whether public perception of public deception holds true after the release of the Robert Mueller report, or after the completion of Donald Trump's term in office. Other scholars may also want to investigate to what degree U.S. citizens place faith in either traditional news sources or social media after the completion of U.S. investigations into election meddling by foreign actors through the Internet. Additionally, future study might look at the long-term effects of sustained public deception on the electorate in terms of voter political engagement. To be sure, public deception has consequences which may be detrimental to freedom.

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APPENDIX

Attitudes Toward Public Deception

The purpose of this survey is to measure public perception attitudes regarding public deception. Please answer all of the following questions in reference to your attitudes about public deception using the following scale:

1 – Strong Disagree 2 – Disagree 3 – Somewhat Disagree 4 – Neutral
5 – Somewhat Agree 6 – Agree 7 – Strongly Agree

1. Truthfulness is very important in public life.
2. It is okay for leaders to lie in order to protect their organization.
3. Truthfulness is very important in one's personal life.
4. Taking blame for a failed action is essential in a leader.
5. In order to advance a political agenda, sometimes leaders have to ignore the rules.
6. Loyalty from citizens is necessary to achieve the nation's goals.
7. It is permissible for a political leader to withhold information to protect the country.
8. Success is measured by superiority.
9. A political leader who admits he/she was wrong is weak.
10. Tolerance from citizens is needed in order to meet the nation's goals.
11. Strong confidence is a good quality of a leader.
12. It is permissible for a political leader to be intentionally vague to protect the country.
13. Political leaders should only deceive in matters of national security.
14. Personal integrity is necessary for political leadership.
15. Strength of belief is more important than being factually correct.
16. It is permissible for a political leader to lie to protect the country.
17. Ethical communication is not necessary to move the country forward.
18. A political leader should not be held accountable for his or her decisions.
19. It is acceptable to lie to protect oneself in a personal relationship.
20. Political leaders who admit their mistakes should be admired.

Demographics

Please answer the following questions about your identity.

- A. What is your age? _____
- B. What is your gender? Male Female Transgendered
- C. What is your ethnicity? _____
- D. What is your highest level of education attained?
High school diploma Some college/Associate's degree Bachelor's degree
Master's or professional degree Doctoral or terminal degree
- E. What is your gross annual income in U.S. dollars? _____
- F. What is your voting preference on economic policy issues?
Liberal Progressive Independent Libertarian Conservative
- G. What is your voting preference on social policy issues?
Liberal Progressive Independent Libertarian Conservative

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**DIGITAL NATIVES IN CHINA AND THE UNITED STATES:
IS TECHNOLOGY EFFECTIVE IN BUILDING TRUST?**

(当有信任, 没有证据是必要的

When there is trust, no proof is necessary—Chinese Proverb)

Wonseok Choi, University of Detroit Mercy

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Mary A. Higby, Retired

摘要 ABSTRACT

We started this research by considering students' learning preferences. Our students, digital natives, seem to be enthralled with anything electronic. We were surprised that our findings did not support this. We compare students from China, a dramatically different culture, and the U.S. as they complete group assignments using three forms of interaction: face-to-face (FTF); social media (technology-based); virtual meetings (technology-based). We use a pre-tested survey to compare experiences and preferences of both samples. Similarities and differences are presented and discussed. Results indicate more effective project performance for both samples occur with FTF interaction than any form of technology-based communication. Both samples also agree that FTF is the most preferred form of interaction and virtual meetings are the least preferred. FTF interactions lead to higher performance than do virtual interactions, and outcome, grades, satisfaction, experience and efficiency are all higher. FTF communication is also more effective than social media in dividing up project work and encouraging the exchange of ideas.

U.S. students experience an even more positive view of FTF communication, while Chinese students rely more heavily on social media. The major role of social media for Chinese respondents is to gather additional personal information to expand the radius of trust. Since this expanded radius increases the comfort level, it allows for enhanced group and individual performance. The role of trust is the same in both American and Chinese cultures, although the Chinese need greater personal interaction to gain the requisite level of trust for high performance.

Keywords: U.S./Chinese comparative study, Digital natives, Group work, Face-to-face and technology-based communication, Trust.

引言 INTRODUCTION

A Confucian analect states: 三人行必有我師 -- If three walk together, one should be my teacher: You have something to learn from everyone.

We started this research by considering today's students and their learning preferences. Our students are sometimes called digital natives, who seem to be enthralled with anything electronic. We therefore expected to find that technology would be the basis for their preferred communication mode with other students when completing course assignments that require group interaction. Choi, Zeff and Higby (2017; 2018) found instead that American students much prefer FTF communication styles over any form of technology-based communication. As global interaction continues to expand and becomes more the norm, we were curious to see how students in other parts of the world might respond to the same issues presented to U.S. students. Chinese students come from a dramatically different culture and comparing this culture with that of the United States of America is the focus of the present study.

Many studies concentrate on the latter part of this Confucian analect, that is, they study the area of knowledge acquisition. This paper, however, is concerned with the communication processes used within group settings in classroom situations, concentrating instead on the former portion of this idiom. Our focus, therefore, is the communication methods used and preferred by students in their interactions with teammates during a group project. Rather than trying to understand the types of technology used by students in gaining knowledge for a college level course, we are interested in understanding how students interact in groups to enhance their learning experience. This paper is based on the premise that interaction with peers is both a beneficial and desirable part of the learning experience. Consequently, this research goes beyond the role of technology and the various forms that might take, including both social media and virtual meetings. Instead, consideration is given to the relative preference for and use of face-to-face (FTF) and specific forms of technology-based communication.

Students have a variety of learning styles and these style differences may be magnified as a result of coming from different cultural backgrounds. When classes have international students, particularly with an increase in group activities as a strategy to increase participation and provide a more complete educational experience, faculty may enhance student performance by accounting for these cultural differences. Hofstede's (2018) framework of country culture reminds us of the role that cultural differences play in understanding differences for inter-cultural comparisons. China represents a very different cultural experience than that reflected in the U.S. Indeed, it is essentially a polar opposite along four of Hofstede's six cultural dimensions (Hofstede, 2018). This paper presents results from a comparative study using data collected from students in the U.S. and China to help us answer our research question: what are the similarities and differences between Chinese and American student experiences when using FTF and/or technology-based communication in completing group projects?

文献评论 LITERATURE REVIEW

枪打出头鸟 Early birds get shot: Nonconformity gets punished

Culture is defined as "the collective programming of the mind which distinguishes the members of one group or category of people from another" (Hofstede, 1991, p.5). Collectivist societies have strong relations within the "in-group" (Pavlou & Chai, 2002) – the extended family and familiar acquaintances (Hofstede & Bond, 1988). In-group relations focus on maintaining harmony by

going along with the group's wishes and promoting long-term relationships (Bond & Smith, 1996). To maintain this desirable relationship with the in-group, the most important thing for an individual is to guarantee the group's well-being (Triandis, 1990). People identify with established attitudes in collectivist societies, which then become part of their inner group circle (Smith & Bond, 1993). On the contrary, members of individualist cultures, such as the U.S., are not predisposed to maintain group harmony. Internalization, rather than identification, is the more effective means of influence in an individualist culture (Bond & Smith, 1996).

Culture is used as the basis for examining business relationships between the West (particularly the U.S.) and the East (recently, especially China). And both Chinese and American cultures agree that trust is important in the development of these relationships (De Cremer, 2015). Trust is also important in influencing group processes and group performance (Alge, Wiethoff, & Klein, 2003; Mayer, Davis, & Schoorman, 1995; Morris, Marshall, & Rainer, 2002). In particular, trust is regarded as an essential ingredient for cooperation (Putnam, 2001). According to Triandis (1989), people in individualist cultures are more cooperative with group members than those from collectivist cultures when groups are formed for the first time.

Levels of trust differ across national contexts and societies as do both the nature of and the cultural support for trust (Delhey, Newton, and Welzel, 2011, Dyer and Chu, 2003; Zaheer & Zaheer, 2006). For instance, Fukuyama (1995; 2000) divides societies into high-trust and low-trust categories. Members of high-trust societies (e.g., Germany, the U.S.) normally have a ready trust for their compatriots, which continues until he or she proves untrustworthy. On the other hand, members of low-trust societies (e.g., China, Korea) only trust those they know best: family and close friends (Lewis, 2006). This concept of high/low trust is labeled as radius of trust by Delhey et al. (2011). In China, trust is automatically bestowed on the extended family while those outside the family are inherently distrusted (Child & Möllering, 2003). In a seven-nation study, Huff and Kelley (2003) show that a higher propensity to trust, and higher external trust, exists in business relations in the U.S. than in Asia. They note that collectivist cultures, such as those in Asian countries, exhibit a bias against out-groups, resulting in low levels of trust of outsiders. The Chinese create in-group membership with affect-based trust, necessary to account for a high level of collectivism, and Americans rely mainly on cognitive-based trust since their high level of individualism results in a much broader radius of trust (Chua, Morris & Mor, 2012; De Cremer, 2015; Delhey et al., 2011; Hofstede, Hofstede, & Minkov, 2010).

Digital natives is a term popularized by Prensky (2001) to describe people who have grown up fully immersed in digital technology, now adept and engaged in technology-based communication. Because the majority of students in college courses today are digital natives (Sarkar, Ford, & Manzo, 2017), we concentrate on this group of students in our survey and results. Digital natives describes the generation born roughly between 1980 and 2000 (Bullen & Morgan, 2011). Effective learning is more likely to take place when teaching styles are aligned with learning styles. Technology can assist digital natives during the learning process and, as a result, can enhance academic performance (Sarkar et al., 2017). While the use of digital technology is growing, and younger people use technology-based communication more than older people, empirical evidence clearly shows that issues arising from digital communication are not defined by age. Moreover, the implications for education resulting from digital use are far from clear (Bullen & Morgan, 2011).

Digital natives utilize two basic forms of technology-based communication: virtual communication and social media. Virtual teams are more effective when mutual trust exists between team members (Hakonen & Lipponen, 2009). Undergraduate management students' perceptions of what makes a successful virtual group were investigated by Gapp and Fisher (2012), who suggested a high level of comfort among group members was one of the critical factors for virtual group success. Trust, however, is harder to create in a virtual team that meets rarely, or not at all. Personal interaction is not available for reassurance, and often results in a decay of trust due to this long-distance communication (Jang, 2013; Lewis, 2006). The notion of swift trust, a form of trust occurring in temporary organizational structures which can include quick starting groups or teams, exists in virtual teams (Jarvenpaa, Knoll, & Leidner, 1998; Jarvenpaa & Leidner, 1998). Studies suggest that swift trust appears to be fragile and often wildly inaccurate (Crisp & Jarvenpaa, 2013; Lewicki & Bunker, 1996; McKnight, Cummings, & Chervany, 1998; Meyerson, Weick, & Kramer, 1996). Some of the failures in collaborative virtual learning environments are based on the lack of appropriate social interaction (Akar, Öztürk, Tunçer, & Wiethoff, 2004). They suggest that it becomes the instructor's responsibility to clarify misunderstandings between group members, e.g., when there is tension because of using different languages and coming from different cultures.

Social media, as indicated by Bartosik-Purgat, Filimon, and Kiygi-Calli (2017), is a useful tool of communication and cultural differences need to be included in the design of subject and teaching materials. Hall (1976) categorizes cultures according to whether they are high-context (e.g., China) or low-context (e.g., the U.S.). Communication in a high-context culture is one that relies on the context of the moment and the culture to provide much of the meaning, thereby leaving a lot unsaid. Communication in a low-context culture is just the opposite, that is, it requires all information to be transferred to another person since there can be no expectation of the context already being understood from the culture (Lewis, 2006). Thus, high-context individuals will need more social interaction before they can correctly understand a message. People in a culture of high peer pressure, which is a part of collective culture, tend to expect more reciprocity in social media interaction, especially among in-group members, because they are interested in tracking others in the group (Park, Jun, & Lee, 2015). Social media to support university learning “did not significantly predict academic performance as measured by CGPA [cumulative grade point average]. SMUNAP [social media usage for nonacademic purposes] . . . significantly negatively predicted academic performance” (Lau, 2017, p. 290).

The role of technology-based communication is widely studied (see, e.g., Sakar, 2012). When comparing these forms of communication to face-to-face communication (FTF), research studies “assert that face-to-face communication is superior to computer-mediated communication” (Purvanova & Bono, 2009, p. 344). Our research is intended to help students and faculty members better understand the role each of these three communication methods, FTF, virtual and social media, play in students' efforts to perform well on group project assignments in their university studies.

研究方法论 RESEARCH METHODOLOGY

The authors became interested in gaining a more complete understanding of Chinese student experiences in the classroom when they were involved in a series of seminars with Chinese businesspeople looking to expand into Western countries, including the United States. Our student body is comprised almost entirely of these digital natives, and our interest in how comparable Chinese students approached their studies is a natural outgrowth of our interests in our own

students. As interactions between Chinese and Americans continue to increase, furthering our understanding of this dramatically different culture becomes even more important. We had considerable interaction with a Chinese scholar and used this relationship to help us understand how Chinese students might interpret and respond to an existing student survey, created by Choi et al. (2018). This Chinese scholar translated the survey and collected data from her university. This university is State owned and operated. She was both very open and helpful in her contributions and discussions about Chinese students. However, she chose not to be included as a contributing author of this study.

Questionnaire Development

A 66-item survey, created by Choi et al. (2018) for collecting data from students at a U.S. university and used with permission in this study, was translated and pre-tested by a Chinese scholar so a comparative sample could be collected from students at a university in China. After data collection, the survey was back translated by an independent interpreter to ensure the quality and accuracy of the results. Due to translational interpretation, two questions (i.e., items 25 and 51) are excluded from the analysis. A four-point Likert scale (i.e., 1, "Strongly Disagree"; 2, "Disagree"; 3, "Agree"; 4, "Strongly Agree") was used for each question. A forced-choice questionnaire is preferred since it provides a more reasoned response (Smyth, Dillman, Christian, & Stern, 2006) and lessens the compromise effect, thereby decreasing the relative proportion of average responses (Dhar & Simonson, 2003).

Samples

南橘北枳 South Orange North Trifoliate Orange: Things change with their contexts.

American Students. U.S. student data were collected during the 2016-17 academic year at an urban Midwestern United States university. All 82 students were taking courses in a college of business administration and all of them are digital natives. Demographic information indicates 80.5% (66) of these students were born between 1990 and 2000, with the remaining 16 students being born between 1980 and 1989. Furthermore, 58.5% (48) are female and 60.9% (50) are graduate students. All but one student (98.8%) has access to and uses a smartphone, while every respondent indicates he/she has access to and uses a computer.

Chinese Students. Students at a state-run university in a large, industrial city in southeastern China filled out the same questionnaire in the summer, 2017. Usable surveys include 145 mainly undergraduate responses (7.6% [11] were graduate student responses). Three students (2.1%) were born between 1980 and 1989 while 97.9% (142) of all students in this sample were born between 1990 and 2000. Females comprise 65.5% (95) of the sample. Responses indicate 96.6% (140) have and use smartphones and 49.0% (71) have access to and use computers.

Analytical Approach

To help answer our research question, we test whether our respondents are significantly in agreement or disagreement with each item (significantly above or below the 2.5 neutral point of the 4-point Likert scale) using a one-sample t-test. The results of t-tests, the significance level, are shown in the column of each student sample in the tables. We also apply ANOVA analyses to see if the means of the students' responses are significantly different between U.S. and Chinese participants. The results of ANOVA analyses, *p* values, are shown in the last column of the tables. We use SPSS (version 22.0, 2013) to analyze questionnaire results.

RESULTS

不經一事 不長一知 Wisdom only comes through experience

Our research question focuses on the differences between Chinese and American students' experiences and preferences in using FTF, virtual communication and social media when working on group projects in their university classes. Although previous research focused on the impact of FTF, virtual communication and social media on performance, processes and preferences, we are more concerned about the potential impact of culture from these two samples. We present our results to maintain focus on this comparison. Of the 66 items on the questionnaire, agreement is found between both samples as to their conclusions (agree or disagree with the item) on 41 of the questions—over 60% of them. In all these cases, both samples responded significantly beyond the neutral point of 2.5 on the Likert scale. Of these 41 questions on which the two samples agree, 24 of them (58.5%) are significantly different in their level of agreement or disagreement with the item. We present the data in three sections and their corresponding Tables: agreement on results; difference in strength of response; and, difference on results. We also separate out the results dealing with virtual and FTF meetings, and social media and FTF interaction based on the results of Choi et al. (2018).

Agreement on Results and Strength of Response

Based on the experiences of both Chinese and American students, they agree on each of the 17 items listed in Table 1, below. In addition, all responses are significantly different from the neutral point of 2.5 on the Likert scale while not being significantly different in strength of response. For example, item 46 indicates that both groups of students disagree that virtual meetings result in better outcomes than FTF meetings, and there is no statistical difference in their strength of response.

Table 1. Agreement on Results and Strength of Response

	No	Question	China		US		<i>p</i>
			M	SD	M	SD	
Performan ce	46	Virtual meetings result in better outcomes than face-to-face meetings	2.13**	0.55	2.15***	0.59	.846
	43	I earn a higher grade when my group has more virtual meetings	2.21**	0.50	2.21***	0.68	.970
	17	I earn a higher grade when group has more face-to-face meetings	2.85**	0.65	3.00**	0.75	.112

	6	Our group performance improves most when only social media interactions are used	2.21**	0.68	2.02**	0.65	.050
	10	Virtual meetings provide more satisfaction than face-to-face meetings	2.13**	0.46	2.06**	0.65	.389
	53	My satisfaction with other group members is greater when we have more face-to-face meetings than virtual meetings	2.94**	0.62	3.00**	0.76	.504
	36	Virtual meetings provided better experience for me than face-to-face meetings	2.30**	0.55	2.23**	0.73	.451
	29	Virtual meetings are more efficient than face-to-face meetings	2.31**	0.75	2.20**	0.69	.255
Process	54	Face-to-face meetings result in stronger relations between team members than virtual meetings	3.08**	0.56	3.10**	0.81	.856
	35	Face-to-face meetings encourage project-related interactions between group members	3.20**	0.63	3.05**	0.72	.100
	33	Face-to-face meetings distract group members from project tasks	2.36*	0.68	2.21**	0.75	.123
	32	I am more often bored or uninterested during face-to-face meetings than I am in virtual meetings	2.21**	0.69	2.05**	0.69	.087
	3	Face-to-face meetings are more effective than social media interactions in encouraging the exchange of ideas	3.15**	0.62	3.07**	0.77	.400
	2	I gain more project-related information from face-to-face meetings than I do from virtual meetings	3.08**	0.59	2.96**	0.87	.247
	11	Communication is more effective in virtual meetings than in face-to-face meetings	2.10**	0.58	2.13**	0.73	.671
	50	Face-to-face meetings are a better way to divide project work than social media interactions	2.96**	0.53	2.90**	0.70	.484
Pf*	64	I prefer virtual meetings over face-to-face meetings	2.12**	0.67	2.12**	0.80	.995

*** $p < .001$; ** $p < .01$; * $p < .05$; n ranges from 143 to 145 (Chinese) and from 80 to 82 (American).

Virtual and FTF Meetings. Seven items on the questionnaire relate to performance issues comparing FTF and virtual meetings (see 46, 43 and 17, 10 and 53, 36, and 29 in Table 1, above). All of these questions indicate that both Chinese and American students' experiences suggest that FTF interactions lead to higher performance than do virtual interactions. So, outcome is better, grades are higher, satisfaction is higher, experience is better, and efficiency is higher with FTF rather than virtual meetings. Their experiences also indicate that FTF meetings have better processes than virtual interactions. Items 54, 35, and 2 indicate that relations are stronger, project-related interaction is more encouraged, and more project-related information is gained from FTF meetings. Both samples also concluded that group members are not distracted (item 33) and boredom occurs less frequently (item 32) in FTF interaction while communication is less effective in virtual meetings (item 11). Experiences of both student groups indicate that FTF interactions result in both higher performance and better processes than virtual meetings. They also agree that virtual meetings are not the preferred interaction method over FTF discussions (see item 64).

Social Media and FTF Interaction. Three items (6, 3 and 50) describe experiences with social media during completion of group assignments. FTF interactions are more effective than social media in dividing up project work and in encouraging the exchange of ideas. Both sets of students disagreed with the statement that social media alone most improves group performance.

Agreement on Results, Difference in Strength of Response

Survey results reflect that experiences of both the Chinese and American students are similar in their conclusions for the following 24 items in Table 2, below. They significantly differ, however, in the degree to which they agree or disagree with these survey questions. Twenty-two of these

items present a consistent pattern of responses whereby the U.S. students, compared to their Chinese counterparts, experience a more positive view of FTF interactions, whether in comparison to either virtual meetings or social media interactions, or simply describing the impact of FTF discussions. Likewise, when a question asks if one's experience with some other form of interaction is better than FTF encounters, the U.S. experience is described in greater disagreement than Chinese responses. So, for example, item 42 in Table 2, below, states that "Virtual meetings result in stronger relations between team members than face-to-face meetings." Both samples significantly disagree with this statement and the U.S. response is significantly more extreme than is the Chinese response.

Table 2. Agreement on Results, Difference in Strength of Response

	№	Question	China		US		p
			M	SD	M	SD	
Performance	24	Face-to-face meetings result in better outcomes than virtual meetings	2.86***	0.61	3.11***	0.71	.006**
	30	My class grade is improved with face-to face teamwork	2.86***	0.51	3.13***	0.68	.001***
	28	Social media helps groups work only after you get to know group members	3.21***	0.66	2.70*	0.77	.000**
	21	My groups perform better when meeting face-to-face than using social media	2.86***	0.60	3.09***	0.72	.013*
	40	Face to face interaction is a good way to improve group effectiveness	2.81***	0.63	3.15***	0.76	.000***
	59	My grades on group projects are better when I feel more comfortable with my group members	3.27***	0.54	3.09***	0.81	.045*
	12	The use of social media improves team effectiveness	3.02***	0.61	2.75***	0.64	.002**
	63	Face-to-face meetings help me to feel more comfortable with my group members	2.98***	0.57	3.16***	0.69	.033*
	37	Face-to-face meetings provide more satisfaction than virtual meetings	2.81***	0.64	3.05***	0.72	.009**
	14	Face-to-face meetings are more efficient than virtual meetings	2.72***	0.74	3.07***	0.75	.001***
Process	20	Face-to-face meetings are effective in building trust with group members	3.12***	0.61	3.34***	0.57	.009**
	42	Virtual meetings result in stronger relations between team members than face-to-face meetings	2.34**	0.69	2.13***	0.72	.025*
	23	Face-to-face meetings help me to get to know my group members better	3.15***	0.62	3.34***	0.74	.040*
	9	I find face-to-face interactions better than social media interactions	2.96***	0.65	3.22***	0.70	.005**
	4	Social media encourage project-related interaction between group members	2.94***	0.58	2.68*	0.63	.003**
	15	Group members are more focused on a task during a face-to-face meeting.	2.71***	0.69	2.91***	0.71	.036*
	52	I remember more information from face-to-face meetings than I do from virtual meetings	2.78***	0.65	2.99***	0.74	.030*
	38	I am often more confused after face-to-face meetings than I am after virtual meetings	2.26***	0.71	1.99***	0.72	.007**
	31	Communication is more effective in face-to-face meetings than in virtual meetings	2.71***	0.66	3.05***	0.79	.001***
	27	Social media interactions help me understand my group members' strengths more than face-to-face meetings	2.33**	0.70	2.11***	0.71	.028*
	41	Group members are more likely to ask for help in face-to-face meetings	2.84***	0.61	3.03***	0.70	.041*
Pe fe	58	I prefer to build trust with group members during face-to-face meetings as opposed to social media interactions	2.83***	0.74	3.22***	0.71	.000***

48	I like to be in teams where I know everyone beforehand	2.82***	0.59	3.01***	0.67	.026*
26	I prefer face-to-face meetings over virtual meetings	2.66**	0.73	3.21***	0.71	.000***

*** $p < .001$; ** $p < .01$; * $p < .05$; n ranges from 144 to 145 (Chinese) and from 79 to 82 (American).

Two items (48 and 59) do not relate to FTF interaction and result in both groups responding in a significantly positive way. American experiences lead to a stronger preference for knowing everyone beforehand while Chinese experiences suggest comfort level with group members is a greater determinant in grades than for U.S. students.

Virtual and FTF Meetings. Looking at Table 2, above, eight items compare FTF sessions with virtual meetings. In six of these items (24, 37, 14, 52, 31 and 26), both samples agree that FTF sessions are better and more preferred than virtual meetings. In particular, performance such as outcomes, satisfaction and efficiency are considered to result directly from FTF interaction significantly more than from virtual meetings. Better communication and information are also experienced more from FTF meetings. Item 26 reflects the higher preference for FTF over virtual meetings by both samples. In each of these results, moreover, the experience and preference of the American students are significantly more favorable toward FTF than of the Chinese students. The other two items (42 and 38) indicate that Chinese respondents have less negative experiences with virtual meetings resulting in stronger relations between team members while they disagree less than their American counterparts that they are more confused after FTF than virtual sessions.

An additional seven items describe situations where FTF interactions have a positive impact on both performance and process issues (see items 30, 40, 63, 20, 23, 15 and 41 in Table 2, above). On performance items, grade is more improved, group effectiveness is improved, and comfort level is higher with FTF communication. Likewise, on process issues, building trust is more effective, students know members better, people are more focused and are more likely to ask for help in FTF situations. In each of these experiences, both sets of respondents strongly and significantly agree with these statements, although the U.S. students, as we indicated by the pattern described earlier, are in significantly more agreement than the Chinese students.

Social Media and FTF Interaction. Several items indicate that Chinese and American students have similar experiences in their usage of social media in the completion of group assignments during coursework. Comparing these experiences involving social media's impact directly on performance and process factors suggests that Chinese students experience a more positive or less negative effect than the corresponding American students (see items 28, 12, and 4 in Table 2, above). Likewise, when analyzing the responses from the two student groups to items comparing FTF and social media interactions, Chinese students agree that FTF interaction is more effective than social media. However, they agree significantly less so than their U.S. counterparts. Items 21, 9 and 58 in Table 2, above, support this result. Item 27 indicates that the Chinese respondents disagree that social media provides more understanding of group members than FTF meetings and do so less than American students. Thus, Chinese students, while acknowledging the more positive impact of FTF interactions on performance, have a more positive view of social media than American students.

Disagreement on Results

Table 3, below, reveals very different experiences between our two samples. Thus, the conclusions from these experiences are also very different. Item 39, for example, indicates that American students are neutral to the statement that several virtual meetings are more effective than one long FTF session, while the Chinese respondents agree with it.

Table 3. Disagreement on Results

			China		US		
	No	Question	M	SD	M	SD	<i>p</i>
Performance	34	My grades suffer when more virtual meetings are used	2.43	0.66	2.23***	0.62	.033*
	61	When I work in groups, we perform better with social media interaction	2.72***	0.57	2.50	0.69	.010**
	5	When my group members have a face-to-face meeting, we waste more time	2.51	0.72	2.27*	0.92	.027*
	1	Project demands require more virtual meetings than face-to-face meetings	2.19***	0.64	2.49	0.72	.002**
	39	Several virtual meetings are more effective than even one long face-to-face meeting	2.64*	0.73	2.35	0.74	.005**
	66	Face-to-face meetings typically take less time than virtual meetings.	2.24***	0.78	2.48	0.81	.034*
	65	Social media interactions help me to feel more comfortable with my group members	2.74***	0.63	2.35*	0.64	.000***
Process	16	Social media (e.g., Facebook, Instagram) are effective in building trust with group members	2.72***	0.65	2.48	0.76	.014*
	62	Social media interactions help me to get to know my group members better	2.78***	0.65	2.48	0.64	.001***
	47	Social media interaction improves group activities	2.91***	0.59	2.59	0.71	.000***
	44	Group members are more focused on a task during a virtual meeting.	2.60	0.68	2.21***	0.69	.000***
	57	I am more often bored or uninterested during virtual meetings than I am in face-to-face meetings	2.37*	0.71	2.65	0.73	.005**
	55	Social media interactions increase the exchange of ideas related to the group project	2.87**	0.65	2.56	0.71	.001**
	49	I gain more project-related information from virtual meetings than I do from face-to-face meetings	2.49	0.65	2.26**	0.67	.014*
	8	I am often more confused after virtual meetings than I am after face-to-face meetings	2.69**	0.68	2.43	0.77	.008**
	7	Social media interactions cause distraction from group work	2.38*	0.62	2.74**	0.72	.000***
	22	I remember more information from virtual meetings than I do from face-to-face meetings	2.66*	0.76	2.24**	0.78	.000***
Pre	19	I prefer to work in groups formed by the instructor	3.21***	0.58	2.12***	0.78	.000***

*** *p* < .001; ** *p* < .01; * *p* < .05; *n* ranges from 142 to 145 (Chinese) and from 79 to 82 (American).

Virtual and FTF Meetings. Chinese students, compared to students in the United States, indicate a significantly more positive experience with virtual interactions (see items 22, 49 and 66, in Table 3, above). Here, Chinese respondents, relative to their American counterparts, find they remember more, are neutral to gaining project-related information from, and FTF interaction does not take less time than virtual meetings. Item 44 shows that the U.S. sample finds people are not more focused during virtual meetings while the Chinese sample is neutral to this statement, indicating they are less negative to virtual meetings. Chinese respondents are also less negative than the Americans regarding boredom during virtual meetings (item 57, disagreement vs. neutral). A

consistent pattern emerges here: virtual meetings are experienced as more positive by Chinese students in their group projects than the American sample.

Two items (34 and 44) deal exclusively with virtual meetings and one item (5) deals only with FTF interactions. So, virtual meetings are described by the Chinese sample as being neutral in their impact on grades and focus. The American students respond quite differently. These responses strongly disagree with their Chinese counterparts and, instead, indicate that virtual meetings have no negative impact on grades and no positive impact on focus. Item 5 deals with wasting time during FTF meetings. The Chinese sample has a neutral response to whether time is wasted in FTF sessions, although the U.S. students indicate that there is a more definite conclusion here, namely, there is no negative impact of FTF interaction on this issue.

Social Media and FTF Interaction. Five items dealing with social media (see 61,16, 62, 47 and 55) indicate that the U.S. students' experience shows a neutral response to the impact on performance and trust building. The Chinese sample reflects a very different experience as it shows a significant level of agreement with each of these five statements. Social media play a more important and positive role in group relations for Chinese students than they do for their American counterparts. This finding is reflected even more strongly in items 65 and 7, since they indicate significant and opposite conclusions. Chinese respondents have positive views of social media in feeling more comfortable with their group members and not causing distractions, while American students disagree with both of these issues. Thus, the Chinese experience suggests that social media enhance personal interaction while the U.S. experience does not agree with this. Likewise, Chinese students find that social media provide a greater feeling of comfort with their group members, although the U.S. experience finds no such feeling. American students use direct FTF meetings as the major, perhaps sole, way to gain more comfortable feelings with group members and believe this to be enough in creating an effective group performance. Chinese students use social media along with FTF interactions to gain the same levels of comfort and performance.

DISCUSSION AND CONCLUSIONS

数字当地人 Digital Natives

We are surprised that digital natives come to these conclusions! These data suggest very strongly that both American and Chinese students find that FTF communication is the most effective mode of communication and results in the highest level of performance. As a result of this experience, both groups prefer FTF significantly over any form of technology-based communication. There are some significant differences, although the overall conclusion is unmistakable. Choi et al. (2018) found that technology-based interactions, to accomplish both goals of any group formation, namely, task completion and personal interaction, can be split into at least the two distinct categories of virtual and social media. The major difference between American and Chinese students is found in the use of the social media aspect of technology-based interaction. Specifically, while the Chinese sample found FTF to be more effective and satisfying than any technology-based process, they were significantly below the American sample in this finding. Moreover, the Chinese students apparently use social media to fill in any gaps they have with FTF to more fully reach the interpersonal goal of any group activity.

The Resulting Model

A consistent model is created by these results. Choi et al. (2018) suggest that U.S. respondents experience a strong reliance on FTF communication and this form of interaction results in the best performance and most desirable process of team member completion of group projects in classroom situations. The present study suggests that Chinese students likewise have the same basic experience in completion of group assignments in their university studies. The major difference seems to be: Chinese find that class group performance is a function of both FTF and social media communication while Americans note that this same performance is a function of FTF interaction alone. This general picture shows that U.S. students found FTF more effective than did the Chinese sample, and apparently, any deficiency was overcome by Chinese students with social media to gain additional intimate knowledge of their team members. Thus, Chinese respondents use social media to supplement the effects of FTF to reach both goals of task completion and social interaction, while American students found both goals were fulfilled solely by FTF interaction.

Country-based Differences

Chinese student experiences parallel what Choi et al. (2018) found with United States students, that group interaction develops two sets of activities to accomplish one or both of two goals: performance or on-task accomplishment; and, process or social/off-task fulfillment. Direct interpersonal interaction, for example, face-to-face collaboration, is intended to fulfill both of these goals. All forms of communication technology, as the basis of interaction, are intended to substitute for direct human collaboration while still fulfilling the same two goals. Our initial expectations include almost a one-to-one correspondence between technology-based communication and FTF. U.S. students determine that digital communication is not an adequate replacement for FTF in fulfilling either of these two goals (See, Choi et al., 2018). The Chinese students in the present study agree that technology-based communication tools do not adequately substitute for FTF in accomplishing on-task goals, consistent with the American respondents. They do find, however, that social media elements of digital interaction supplement, though do not replace, FTF in fulfilling the social/off-task aspect of group interaction.

Figure 1, below, describes the U.S. students' experience with and preference for both FTF and technology forms of communication. Heavy shading indicates the strong preference for FTF and much less preference for either form of technological communication, based on their experience with the three forms of interaction studied in this research (FTF, virtual meetings and social media).

Figure 1. U.S. Experience/Preference

Forms of Communication	FTF	High Performance/ Most Preferred	Highly Effective Interaction/ Most Preferred
	Virtual Meeting	Low Performance/ Least Preferred	Not Applicable
	Social Media	Not Applicable	Not So Effective Interaction/ Least Preferred
		Performance	Process

Goals of Group Interaction

Likewise, Figure 2, below, shows what the Chinese student sample experiences and prefers the role to be of each form of communication in accomplishing the two goals of group interaction. Note how the shading of the FTF role in fulfilling the process goal of group activities is somewhat less than it is for the performance function. In addition, the shading for the role of social media is somewhat greater than that of virtual meetings. Looking at both Tables, therefore, we note that the U.S. students experience greater process success with FTF than do their Chinese counterparts while the Chinese sample experiences greater impact with social media than the U.S. sample.

Figure 2. Chinese Experience/Preference

Forms of Communication	FTF	High Performance/ Most Preferred	Effective Interaction/ Much Preferred
	Virtual Meeting	Low Performance/ Least Preferred	Not Applicable
	Social Media	Not Applicable	Somewhat Effective Interaction/ Somewhat Preferred
		Performance	Process

Goals of Group Interaction

Trust (相信): Explanation for the Differences

Cultural differences help explain the variance between the need for and use of particular forms of communication in satisfying one or both of the goals of group interaction. The degree of collectivism or individualism is often cited as a general characteristic of societies (Taras, Kirkman, & Steel, 2010). China, for example, is described as a highly collectivist society while the United States is characterized as a highly individualistic country (see, Hofstede et al., 2010, for example). Delhey et al. (2011) note how the radius and level of trust vary across cultures. They indicate that China's high collectivism results in a very low radius of trust, that is, their in-group is only composed of family and close friends. Since group members are not typically included within their in-group, students require much more information about teammates before trust is sufficiently increased to include them. This explains their use of and reliance on social media to provide an additional source of personal information enhancing the basis for inclusion of peers within the in-group. Americans, because they have such a high level of individualism, begin with a much wider radius of trust and, as Lewis (2006) reminds us, maintain that trust until and unless the person becomes untrustworthy. Hence, many people are readily included as members of the in-group, including most of the team members. While the radius of trust is dramatically different between the U.S. and China, the level of trust is approximately the same for both cultures (Delhey et al., 2011). This notion of radius of trust helps explain why the Chinese students have a need to gain personal information about group members from sources in addition to FTF interaction. That is, a very narrow radius of trust indicates that Chinese students need to interact with their teammates on a more personal level and use social media as a supplement to FTF communication. In addition, they find the private interaction of social media more conducive to gaining this information than the more public forum of group FTF meetings. Students from the United States, with a very broad radius of trust, gather all the personal information they need solely from FTF interaction. After each sample reaches the appropriate level of trust to be comfortable, they can then attain their desired level of task performance.

Concluding Comments

Overall, Chinese and American students both prefer FTF over any kind of technology-based communication. In addition, both sets of experiences indicate FTF results in more effective outcomes in every area studied here. Differences identified throughout the data are culture-based. A Chinese student, for example, whose cultural background creates a very narrow radius of trust, needs to find additional sources of interpersonal knowledge before high levels of group and individual performance are achieved. The Chinese student, therefore, is focused on supplementing, not replacing, FTF communication to provide this desired level of intimate personal knowledge.

Implications

While designing group assignments, faculty often assume homogeneous student groups and may not pay enough attention to differences within them. However, as we found in this study, students with different backgrounds and cultures have different experiences and preferences regarding successful communication methods for group interaction and the need for additional sources of personal information to account for the initial radius of trust. Diversity is increasing in both universities and workforces. One of the main reasons we faculty use group assignments in class is

to help students be more effective and successful in the workplace. If faculty do not include potential influence of these differences in group interaction in the design of group assignments, we would not be able to achieve this goal.

Future Research. Our findings raise several questions and areas of additional data to be collected in future research. For example, more information is needed regarding different cultures and their impact on student preferences for and experiences with the different modalities of communication so faculty can create effective practices for group interaction in class. More information is also needed on all three forms of in-group exchanges (FTF, virtual and social media) by more direct comparisons between each/all of these communication approaches. Finally, just as cultural differences between a wider variety of cultures is desirable, so too, more country/culture comparisons in student uses of interaction modalities is recommended.

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AFRICAN STOCK MARKET DEVELOPMENTS AND ECONOMIC GROWTH

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ABSTRACT

Stock market development has been fundamental to the domestic financial liberalization programs of most emerging markets. Recently, it has also become a major channel of foreign capital flows to emerging economies. Using a panel data set, this study investigates the relationships between the stock market development and economic growth in five African countries (Ghana, Cote d'Ivoire, Nigeria, South Africa and Mauritius). The results show that in the long run, the growth of the stock market size is not related to GDP growth. However, in the short run, the growth of the stock market seems to stoke improvement in liquidity and income growth. Our results partially support previous empirical studies. In terms of government policy, an increase in market capitalization and income level, and a favorable exchange rate can be used to drive economic growth in the short run. In the long run, economic growth can be achieved by growing the income level, increasing the value of stocks traded, and encouraging more companies to list on the stock exchanges.

Keywords: Africa, Economic Growth, Stock Markets

INTRODUCTION

The stock market is an important source of financing in emerging economies. World Bank (2005) reports that stock market development has been fundamental to the domestic financial liberalization programs in most emerging markets. Additionally, the stock market has become a major channel of foreign capital flows to emerging economies in recent years.

Conceptual theory indicates that stock market development might enhance economic growth. Such reasoning has been buttressed by empirical evidence. Levine and Zervos (1996) show that stock market development plays a pivotal role in sowing future economic growth. Though there are enormous advantages in sourcing funds from the stock markets for business development, it appears that most African countries are not taking full advantage of it.

The large amount of academic and policy interests over the last decade in promoting stock market development in African countries raises a number of interesting questions. For instance, what benefits does a country gain from having a stock market? What is the relationship between stock market development and economic growth? This study seeks to add to the extant literature on the subject by performing an in-depth analysis of the effect of stock market on economic growth in five African countries.

In view of the diversity of Africa in terms of economic and political situations, this study focuses on Ghana, Cote d'Ivoire, Nigeria, Mauritius and South Africa. These five countries are at various

stages of economic development but compared with their neighbors in general, they tend to be better developed financially with a functioning banking sector. After all, stock market indicators are closely related to the banking sector development as well (see Demirguc-Kunt & Levine, 1996). Our focus on these countries is also dictated by data availability and their quality.

Ghana's economy has been strengthened by a quarter century of relatively sound management, a competitive business environment, and relatively stable political landscape. But in recent years it has suffered the consequences of loose fiscal policy, high budget and current account deficits, and a depreciating currency. Ghana has a market-based economy with relatively few policy barriers to trade and investments in comparison with other countries in the region.

After the end of its long (over 10 years) civil conflict in 2011, Cote d'Ivoire has experienced a surge in foreign investments and economic growth. In June 2012, the IMF and the World Bank announced US\$4.4 billion in debt relief for the country under the Highly Indebted Countries (HIPC) Initiative. For the last 5 years the country's growth rate has been among the highest in the world.

South Africa is selected for this study based on an array of political and economic indicators. South Africa is a middle-income emerging market with an abundant supply of natural resources. The country has a well-developed financial, legal, communications, energy and transport sectors and the largest stock market in Africa, which ranks among the top 20 in the world. However, the economic growth of South Africa has decelerated in recent years to about 0.3% in 2016. The country's economic policy has focused on controlling inflation. Political infightings within the country's ruling party and the volatility of the country's currency, Rand, adversely affected the country's economic growth.

Nigeria is one of the largest economies in the Sub Saharan Africa and relies heavily on oil export as its main source of foreign exchange earnings and government revenues. Since the 2007-2009 global financial crisis, Nigeria's economy has been driven by growth in agriculture, telecommunications, and services. Regulatory constraints and security risks have hampered new investment in oil and the sector contracted every year since 2012. In part due to lower oil prices on the international market, Nigeria entered economic recession in 2016 (see www.cia.gov).

Since its independence, Mauritius has undergone a remarkable economic transformation from being a low income, agriculturally based economy to become a diversified, upper middle income economy with growing industrial, financial and tourism sectors. Mauritius' sound economic policies and banking practices helped mitigate the negative effect of the global financial crisis in 2007-2009. GDP has grown in the 3% to 4% range between 2010 and 2016. The country continues to rank first in sub-Saharan Africa on the World Bank's Doing Business Report.

THE STOCK MARKETS

The Ghana Stock Exchange (GSE) was inaugurated in 1989. Since the inauguration, its listings have been included in the main index, the GSE All-Share Index. In terms of performance, the GSE ranked in 1993 as the 6th best performing emerging stock market, with a market return of 116%. In the following year, 1994, it became the top performing stock market among all emerging

markets with a return of 124.3%. Partly because of high inflation and interest rates, its stock market return went down to 6.3% in 1995. As of December 2006 the market capitalization of the Ghana Stock Exchange was about US\$760 million. By December 31, 2011, the market capitalization had risen to US\$3.9 billion. It currently lists 42 equities from 37 companies and 2 corporate bonds.

Unlike other countries in Africa that have their own stock exchange, Cote d'Ivoire shares the only regional exchange, BRVM (headquartered in Ivory Coast), in Africa with seven other French speaking West African countries within the West African Economic and Monetary Union (WAEMU). These countries are Benin, Burkina Faso, Guinea Bissau, Mali, Niger, Senegal and Togo. BRVM was opened in 1998 and has a branch in each WAEMU country. Although the exchange is majority owned by the private sectors, the member states collectively own 13.4% of the capital. Trading on the BVRM is computerized with satellite links. Brokers and agents can transmit orders and edit quotation results to the central site in Abidjan while they are sitting at workstations in their desks located in national branch offices. Trades are cleared and settled at the Depositaire Central/Banque de Reglement SA. BRVM is dominated by Ivorian companies. For the purpose of this paper, the exchange is considered wholly owned by Cote d'Ivoire.

South Africa's stock market, Johannesburg Stock Exchange (JSE), is the oldest and largest stock exchange in Africa. JSE is currently ranked as the 19th largest stock exchange in the world by market capitalization. A number of heavyweights such as British American Tobacco, SABMiller, BHP Billiton and GlencoreXstrata account for a large share of the market. There are almost 400 companies listed on the Main Board and the alternative market, AltX. A number of initiatives were introduced in the late 1990s to improve the efficiency of the exchange. The first major change occurred in November 1995, when the Stock Exchanges Control Act changed the ways in which stocks were traded in South Africa, opening the door of trading to non-South Africans, and allowing brokers to buy and sell stocks for their own accounts. The trading system is now automated through an electronic clearing and settlement system.

The Nigerian Stock Exchange (NSE) was established in 1960. In terms of market capitalization, it is ranked as the 3rd largest stock exchange in Africa. It has 176 listed companies and all listings are included in the Nigerian Stock Exchange All Shares index.

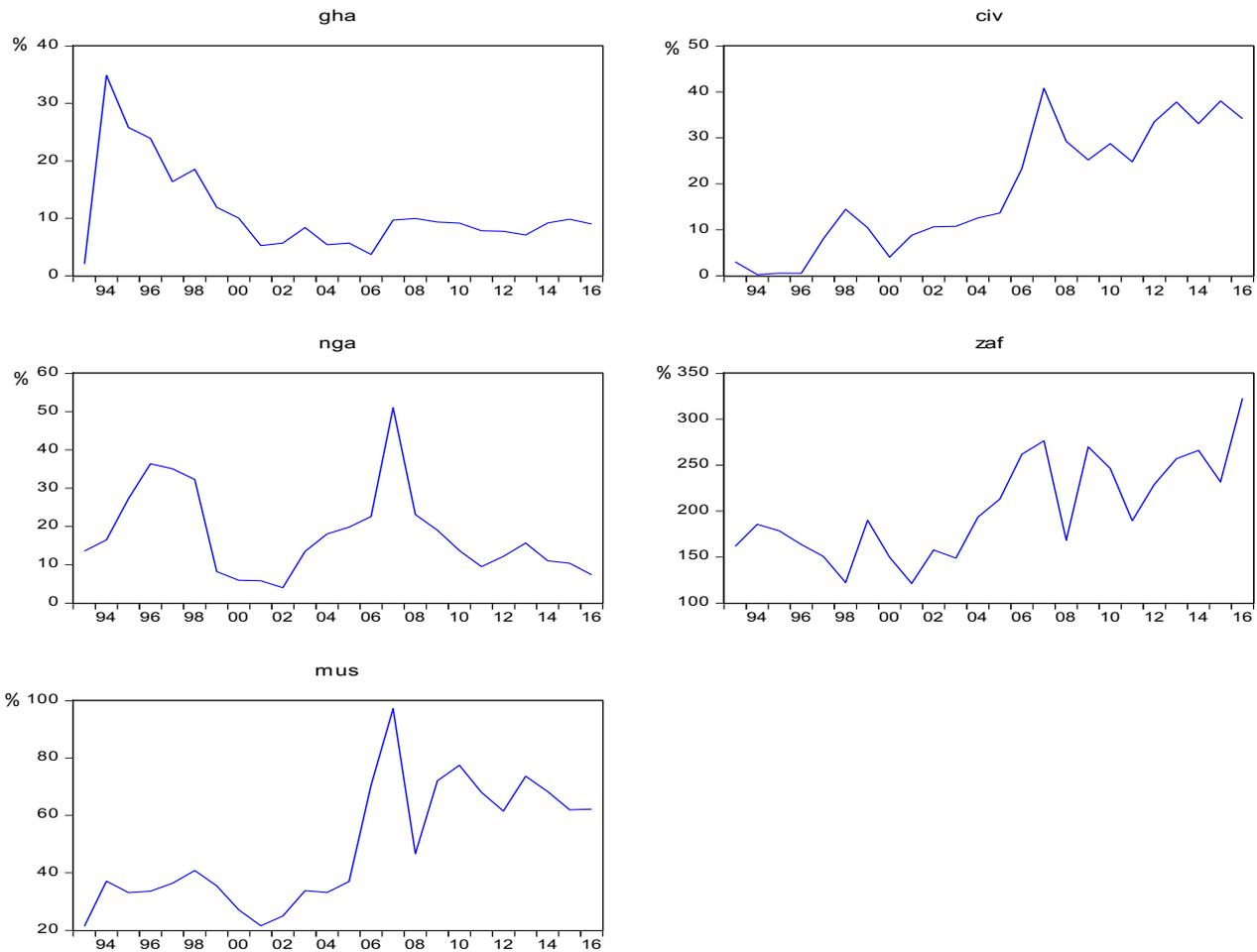
The Stock Exchange of Mauritius (SEM) was incorporated in 1989. SEM initially started its operation with only five listed companies and a market capitalization of merely US\$92 million. The size of the market has grown from a market capitalization to nominal GDP ratio of less than 4% in 1989 to a current market to nominal GDP ratio exceeding 100% in an economy that has witnessed a 4% average growth rate during the last 25 years.

Growth Pattern of Market Capitalization

These five Africa countries have demonstrated diverse experiences in terms of market capitalization as a percentage of economic growth during the period under consideration, as shown in Figure 1 below. This can be explained partly by the different degree of financial reforms in these countries. The market capitalization to nominal GDP ratio of the countries - Ghana, Cote d'Ivoire, Nigeria, South Africa and Mauritius peaked in 1994, 2007, 2007, 2016, and 2017 respectively. The ratios in Cote d'Ivoire, Nigeria and Mauritius have shown inconsistent growth trend before

and after their respective peaks. On the other hand, the ratio in Ghana has been declining throughout the period after its peak in 1994. To the contrary, South Africa has witnessed an upward trend in the ratio in recent years. It is noteworthy that, with the exception of Ghana, all the selected countries registered a significant decline in market capitalization to nominal GDP ratio in 2008 owing probably to the global financial crisis.

Figure 1. Market Capitalization as Percentage of Nominal GDP per Year



Source: World Development Indicators and Authors

LITERATURE REVIEW

There are numerous studies examining the nexus between financial development and economic growth. One of the popular theories is the bi-directional hypothesis. Proponents of this hypothesis assert that there is a two way relationship between financial development and economic growth. As such, financial market development follows economic growth which in turn serves as a catalyst for the growth in financial market. This hypothesis is supported by Khalifa Al-Yousif (2002) using time series and panel data from 30 developing countries. He examines the causal relationship

between financial development and economic growth and finds that the relationship between financial development and economic growth is bi-directional.

The bi-directional hypothesis is also confirmed by Akinlo & Egbetunde (2010). They study the long run causal relationship between financial development and economic growth for 10 countries in Sub Saharan Africa. The authors find that financial development is cointegrated with economic growth in many of the countries. Out of the 10 sample countries, a bi-directional relationship between financial development and economic growth existed in six of the countries – Kenya, Chad, South Africa, Sierra Leone and Swaziland. Other studies have likewise noted this type of feedback effect (see also Liuntel & Khan , 1999).

On the contrary, Oya and Domar (2006) contend that there is no causal relationship between financial development indicators and economic growth. They posit that the discernable relationship between financial market development and economic growth are merely results of historical idiosyncrasies. They further argue that financial market development should follow economic growth, which means that financial market development is demand driven. However, Tamimi et al. (2001) find no clear evidence that financial market development is affected by economic growth.

This Demand-Following hypothesis is used by Onwumere et al. (2012) to test the relationship between stock market development and economic growth in Nigeria. According to the hypothesis, the growth of the economy causes increased demand for financial services which, in turn, leads to the development of financial markets. Using time series data, they demonstrate that economic growth has positive but non-significant impact on market capitalization ratio and turnover ratio of the Nigerian stock exchange but has a negative impact on the Nigeria stock market value traded ratio.

Calderon-Rossell (1990), using annual data from 42 countries during the period 1980–87, shows that stock market liquidity and economic growth are significant determinants of stock market growth. Yartey (2007) modifies Cadeleron-Rossell’s model by adding institutional quality variables such as governance, legal protection, and accountability. His study examines the impact of political risk, law and order, and bureaucratic quality on stock market development using panel data techniques to estimate the regression models. The results show that the variables, especially the economic impact, are positive and significantly linked to stock market development.

Another hypothesis that has been well examined is the “Finance-Led Growth” hypothesis. It is believed that Schumpeter (1911) laid the foundation for this hypothesis. He theorizes that a well-functioning financial system would serve as a catalyst for technological innovations through efficient resource allocation from unproductive sectors to productive sectors. According to Choong et al. (2004), the existence of a well-functioning financial intermediation process channeling scarce resources from surplus units to deficit units provides efficient allocation of resources. As a result, the finance sector should lead other sectors in the growth process. Levine and Zervos (1998) show that the stock market can influence economic growth positively by encouraging savings among individuals and providing equity financing opportunities for firms.

Having reviewed both conceptual theory and the empirical literature, this research posits the following hypotheses:

- Stock market development drives economic growth
- Stock market development determinants are not in fact positively related to economic growth.

METHODOLOGY AND DATA

This study collected secondary data from five African countries. Series considered are nominal GDP, market capitalization to nominal GDP, money supply M2 to nominal GDP, turnover of volume traded ratio, value of stocks traded to nominal GDP, number of listed companies on the stock exchange, per capita GDP, foreign exchange rate, private inflows FDI to nominal GDP representing private capital obtained, exchange rate and inflation. Credit from the bank to private businesses, gross domestic savings to nominal GDP, and broad money (M2) money supply are used as indicators of banking sector development. The time frame spans the years 1993 to 2016. Data were obtained from World Bank Development Indicators.

Singh (1997) asserts that the stock market is expected to accelerate economic growth by boosting domestic savings and increasing the quality and quantity of investments. The stock market is supposed to boost savings by providing individuals with a supplementary financial tool in addition to bank savings.

The majority of studies in the literature employ broad money (M2) as a percentage of nominal GDP to measure financial depth. However, King and Levine (1993) argue that this approach does not tell us whether the liabilities are those of the central bank, commercial banks or other depository institutions. Yartey (2007) contends that while the broad money (M2) is a suitable measure of banking sector development, he supports King and Levine's assertion. Therefore, he uses credit to private firms to estimate banking sector development in his model rather than using the broad money supply. This paper considers bank credit to private firms and gross domestic savings in addition to M2 to assess the effect of the depth of banking sector development on stock market development.

For stock market development to occur, there is a need for a stable macroeconomic environment. Low and predictable rates of inflation are more likely to contribute to stock market development and economic growth. Both domestic and foreign investors are unwilling to invest in the stock market where there are expectations of high inflation. Garcia and Liu (1999) find that sound macroeconomic environment, among other variables, is an important determinant of stock market development in emerging markets. Abimbola and Olusengun (2017) posit that there are high degrees of positive relationship between exchange rate, stock price movement and aggregate output. Based on these studies, this paper considers inflation and exchange rate as indicators of macroeconomic stability and for that matter determinants of stock market development in the selected countries.

We also includes income level as one of the indicators of stock market development because it has been found to be highly correlated with the size of the stock market. Proponents of the demand

driven hypothesis argue that expansion of an economy will create new demand for financial services. We use per capita GDP to measure the income level. To measure private capital flow in this paper, we use foreign direct investment ratio. This is because foreign investors have emerged as major participants in emerging stock markets in the last few decades.

Following the literature, the principal proxy for stock market development is market capitalization as a percentage of nominal GDP. We should also note that different measures of stock market development are highly correlated (Demiguc-Kunt and Levine, 1996).

Other variables of stock market development such as the number of listed companies, changes in the stock market index, turnover ratio of volume of stocks traded, have also been used in the literature. In order to unravel the effect of stock market on economic growth in the five selected countries, this paper also includes economic growth on stock market development indicators and other complementary variables.

Empirical Analysis

The estimation techniques employed for this study are Panel Dynamic OLS and Panel OLS models. The empirical model used to test the effect of stock market development on economic growth is based on Demirguc-Kunt and Levine (1996), Levine and Zervos (1998), Cadeleron-Rossell (1991) and Garcia and Liu (1999).

The baseline model - functional equation under the production function:

$$Y=f(SMD) \tag{1}$$

Estimation of the regression model:

$$Y_{it}=\alpha_i + \beta SMD_{it} + \beta M_{it} + E_{it} \tag{2}$$

Where,

Y_{it} = GDP,

α_i = the unobserved country specific,

E_{it} = residuals

SMD_{it} = a matrix of stock market development variables as follows:

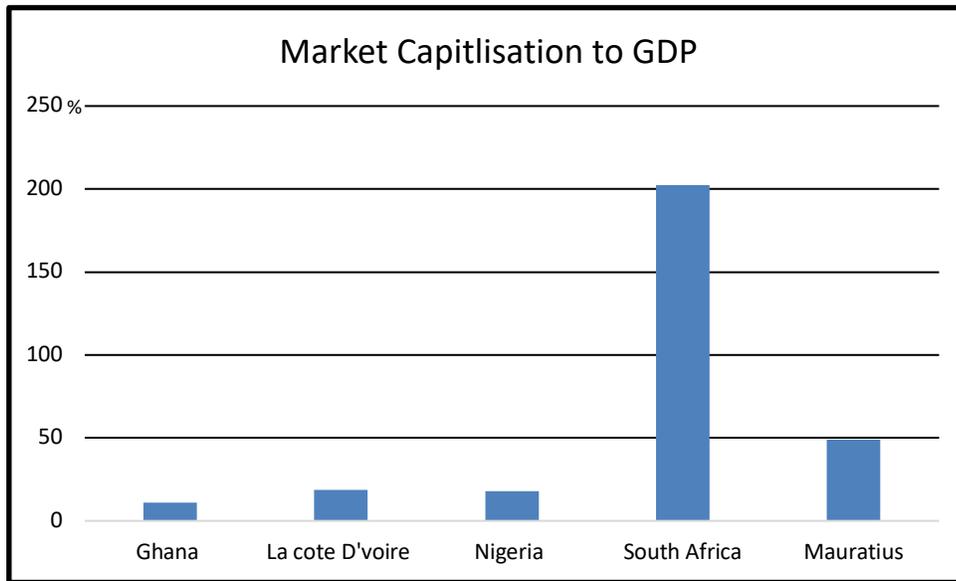
- i. Stock market value traded as a percentage of nominal GDP,
- ii. Turnover ratio of shares traded,
- iii. Number of listed companies on the exchange
- iv. Market capitalization to nominal GDP,

M_{it} = other complementary variables as follow:

- v. per capita GDP
- vi. Bank credit to the private sector as a percentage of nominal GDP,

- vii. Gross domestic savings as a percentage of nominal GDP,
- viii. Private capital flows (FDI) as a percentage of nominal GDP,
- ix. Broad money (M2) as percentage of nominal GDP,
- x. Exchange rate as a barometer of capital mobility
- xi. Inflation rate.

Figure 2. Average Market Capitalization to Nominal GDP (1993-2016)



Source: World Development Indicators and Authors.

Judging from Figure 2 above, South Africa undoubtedly has the most highly developed stock market during the period, whereas Ghana has the least developed stock market sector. More specifically, the average market capitalization to nominal GDP values for the five African countries are as follows:

1. South Africa = 202.4%;
2. Mauritius =48.98%
3. La cote d’Ivoire =18.6%
4. Nigeria=17.99%
5. Ghana = 11.1%

EMPIRICAL METHODS

This study first tested the stationarity of the data series (unit root value). We also applied the cointegration tests to ensure that variables are not cointegrated. In addition, a correlation test was used to ascertain the status of correlation before the final regression tests.

The correlation test indicated that broad money (M2) is highly correlated with bank credit to the private sector (see Appendix 1). So we dropped bank credit to the private sector as a variable in the regression model and used M2 to nominal GDP instead because M2 money supply is broader.

Variables were tested for stationarity at both the ‘level’ and ‘first difference’—summary of various types of unit root test such as Levin, Lin & Chu t*, Breitung t-stat, ADF - Fisher Chi-square, PP - Fisher Chi-square and Im, Pesaran and Shin W-stat are shown in Appendix 2. The tests were performed to identify the possibility of structural breaks within the data set. After taking the first difference of the variables, all variables are confirmed to be stationary.

The cointegration test was carried out (Kao Residual Cointegration Test Method) on all the variables to check if they are co-integrated. The null hypothesis of no co-integration cannot be accepted (see Appendix 3). All the variables have certain long run relationships, hence co-integrated. The number of the variables limited the used of Johansen cointegration test of Pedroni (Engle-Granger based) method.

Having examined the data series with the tests above, this research then applied the Panel OLS regression and Panel Dynamic Least Squares (DOLS) model with 120 annual observations from the five African countries.

Panel OLS Equation

$$\begin{aligned}
 \text{LGDPM} = & 0.798821768281 - 0.0051963091314 * \text{MKCAP2GDP} + 0.0266401331836 * \\
 & \text{STKTRADE2GDP} - 0.00210102649814 * \text{TRNVR} + 0.849851010304 * \text{LCOYSL} - \\
 & 0.0462515492118 * \text{BRDM2GDP} + 0.0425631292706 * \text{INFLWS2GDP} + 1.10206839484 * \\
 & \text{LPERCPTGDP} - 0.0115258968034 * \text{GDS2GDP} + 0.000999272827313 * \text{INFL} - \\
 & 0.013226513288 * \text{LEXCR}
 \end{aligned}$$

Table 1. Long Run Coefficients (OLS) - Dependent Variable is LGDPM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.798822	0.515438	1.549793	0.12410
MKCAP2GDP	-0.0052	0.001837	-2.82864	0.00560
STKTRADE2GDP	0.02664	0.005327	5.000802	0.00000
TRNVR	-0.0021	0.005894	-0.35644	0.72220
LCOYSL	0.849851	0.057838	14.69371	0.00000
BRDM2GDP	-0.04625	0.00279	-16.5793	0.00000
INFLWS2GDP	0.042563	0.018924	2.24914	0.02650
LPERCPTGDP	1.102068	0.080918	13.61952	0.00000

GDS2GDP	-0.01153	0.007669	-1.50287	0.13580
INFL	0.000999	0.003707	0.269532	0.78800
LEXCR	-0.01323	0.02457	-0.53833	0.59140
R-squared	0.925747		Mean dependent var	10.39591
Adjusted R-squared	0.918935		S.D. dependent var	1.500129
Sum squared resid	19.88461			
S.E. of regression				
F-statistic	135.8959			
Prob(F-statistic)	0.000000			

Panel Dynamic OLS Equation

$$\begin{aligned}
 \text{LGDPM}(-1) = & (0.000347)\text{MKCAP2GDP} - (0.00689)\text{STKTRADE2GDP} + (0.000491)\text{TRNVR} - \\
 & (0.011666)\text{LCOYSL} - (0.0001197)\text{BRDM2GDP} + (0.0001717)\text{INFLWS2GDP} + \\
 & (1.07226)\text{LPERCPTGDP} + (7.6327)\text{GDS2GDP} - (0.0006232)\text{INFL} + (0.09573)\text{LEXCR}
 \end{aligned}$$

Table 2. Dependent Variable: LGDPM(-1) Method: Panel Dynamic Least Squares (DOLS)

Panel method: Grouped estimation

Cointegrating equation deterministics: C @TREND

Automatic leads and lags specification (based on SIC criterion, max=*)

Long-run variances (Bartlett kernel, Newey-West fixed bandwidth) used for individual coefficient covariances

Variable	Coefficient	Standard Error	t-statistic	Prob.
MKCAP2GDP	0.00035	0.00008	4.47760	0.00000
STKTRADE2GDP	-0.00690	0.00115	-5.98748	0.00000
TRNVR	0.00049	0.00048	1.02974	0.30550
LCOYSL	-0.01167	0.00466	-2.50218	0.01390
BRDM2GDP	-0.00012	0.00009	-1.32821	0.18700
INFLWS2GDP	0.00017	0.00036	0.48105	0.63150
LPERCPTGDP	1.07227	0.00804	133.42060	0.00000
GDS2GDP	0.00008	0.00036	0.21391	0.83100
INFL	-0.00062	0.00020	-3.05949	0.00280
LEXCR	0.09573	0.00978	9.78474	0.00000
R-Squared	0.575341		Mean dependent var	10.36035

Adjusted R-Sq	0.538942		S.D. dependent var	1.496863
S.E. of regression	1.016389		Durbin-Watson stat	0.002960
Sum squared resid	108.4700			
Long-run variance	1.24E-06			

Analysis of Test Results

The results indicate that, in the short run, the market capitalization to GDP ratio (MKCAP2GDP) is statistically significant and its coefficient is positive. This is consistent with the results from previous studies such as Ikikii and Nzomoi (2013), Rahman and Salahuddin (2010), Enisan and Olufisayo (2009), Agrawalla and Tuteja (2007), Buelens et al. (2006), Adjasi and Biekpe (2006), Arestis et al. (2001), and Levine and Zervos (1998), which find that stock markets development had positive impact on economic growth.

However, the value of stocks traded ratio, (STKTRADE2GDP), and number of companies listed on the exchange, (LCOYSL), are statistically significant but they both have an inverse relationship with GDP in the short run.

The turnover ratio of stocks traded (TRNVR) is not statistically significant but has a positive relationship with GDP. These is partially in line with the results in Ujunwa and Salami (2010), and Bernand and Austin (2011), which found evidence of positive relationship for some countries, and an inverse relationship for others. The two indicators of banking sector development - broad money to GDP (BRDM2GDP) and Gross domestic savings to GDP (GDS2GDP) have contrasting relationship with GDP in the short run. BRDM2GDP is not statistically significant whereas GDS2GDP has a positive relationship with GDP and not statistically significant. Indeed, Gambacorta et al. (2014) and Akinboade and Kinfaek (2015) also find a direct relationship between bank-based financial development and economic growth; whereas Bolbola et al. (2005) conclude that there is an inverse relationship between bank-based financial development and economic growth.

Inflation rate (INFL) and exchange rate (LEXCR) are two macroeconomic stability indicators in the test. Our result confirms the basic economic theory that inflation has a negative relationship with GDP. And it is statistically significant. LEXCR, on the other hand, has a direct relationship with GDP and is also statistically significant. This is in line with Levy-Yeyati and Sturzenegger's (2002) findings that there is a correlation between exchange rate and economic growth, even though the influence might not be clear.

Results of the regression reveal that the influence of exchange rate (LEXCR) on economic growth in the five selected countries is positive in the short run. In the case of LPERCPTGDP, it is statistically significant, also has a highly positive relationship with GDP in the short run. Foreign direct investment which is inflows to GDP (INFLWS2GDP) is not statistically significant but has a positive relationship with GDP. Prasad, et al (2007), Carkovic and Levine (2002) and Adams (2009) in their different studies fail to agree on the relationship between FDI and economic growth. However, the results of the regression show that the FDI ratio (INFLWS2GDP), which is used as a measure of private capital flow in this paper, does not have an impact on economic growth in the short-run.

In addition, results from the long run regression indicate that market capitalization to GDP (MKCAP2GDP) is statistically significant but it has a negative coefficient. However, STKTRADE2GDP and LCOYSL are both statistically significant and have a direct relationship with GDP. TRNVR is not statistically significant and has an inverse relationship with economic growth. BRDM2GDP is statistically significant and has an inverse relationship with economic growth also. INFLWS2GDP is statistically significant and has positive coefficient. GDS2GDP has a negative coefficient and it is statistically significant. LEXCR is not statistically significant and has an inverse relationship with GDP. INFL, on the other hand, has a positive coefficient but not statistically significant. LPERCPTGDP is both statistically significant and has a positive relationship with GDP in the long run.

LIMITATIONS OF THE STUDY

This study suffers from a few limitations just like any other study, notwithstanding the efforts to make this study analytically defensible. First, the study may suffer from the problem of insufficient data. The choice of annual data was not ideal for this study. In studies of this nature, quarterly data are more desirable. The use of annual data could have reduced the precision of the parameter estimates. The Dynamic OLS Model is considered a better estimation model. However, there are a few limitations -- it does not give lag length and secondly, it does not give the coefficient of the constant term.

CONCLUSION

The purpose of this paper is to study the effect of stock market on economic growth in Ghana, Cote d'Ivoire, Nigeria, Mauritius and South Africa using a panel data set for the period 1993 to 2016. The stock market development indicators used were segmented into market development variables, liquidity variables and size variables. Market capitalization ratio was employed as a measure of the economic significance of stock markets. We used Panel Dynamic Least Squares (DOLS) and Panel OLS regression methods to test for short term and long term impacts respectively. Results, however, were conflicting. Market capitalization to GDP ratio was found to be a good predictor of economic growth in the short run. In the long run, however, it was found to have an inverse relationship with GDP, hence not a good predictor of GDP.

All in all, using stock market capitalization ratio as the main indicator of stock market development, the study partially confirmed the first hypothesis of the paper. That is, stock market development probably drives economic growth. Policy-wise, an increase in market capitalization, higher income level, and a favorable exchange rate can be used to drive economic growth in the five selected countries in the short run. In the long run, economic growth can be achieved by improving income level, increasing value of stocks traded, and encouraging more companies to list on the exchanges.

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Appendix 1. Correlation of Variables

	MKCAP2GDP	STKTRAD E2GDP	TRNVR	LCOYSL	LPERCPTGDP	BRDM2GDP	BC2PSGDP	GDS2GDP	INFLWS2GDP	INFL	LEXCR
MKCAP2GDP	1.00	0.91	0.61	0.68	0.60	0.49	0.66	0.14	-0.27	-0.20	-0.20
STKTRAD E2GDP	0.91	1.00	0.74	0.60	0.46	0.37	0.52	0.14	-0.21	-0.15	-0.17
TRNVR	0.61	0.74	1.00	0.54	0.31	0.22	0.36	0.20	-0.19	-0.04	-0.02
LCOYSL	0.68	0.60	0.54	1.00	0.32	0.12	0.37	0.25	-0.15	-0.07	0.08
LPERCPTGDP	0.60	0.46	0.31	0.32	1.00	0.83	0.86	0.23	-0.27	-0.50	0.06
BRDM2GDP	0.49	0.37	0.22	0.12	0.83	1.00	0.94	0.08	-0.22	-0.36	-0.10
BC2PSGDP	0.66	0.52	0.36	0.37	0.86	0.94	1.00	0.07	-0.23	-0.37	-0.08
GDS2GDP	0.14	0.14	0.20	0.25	0.23	0.08	0.07	1.00	-0.27	-0.10	0.53
INFLWS2GDP	-0.27	-0.21	-0.19	-0.15	-0.27	-0.22	-0.23	-0.27	1.00	0.21	-0.23
INFL	-0.20	-0.15	-0.04	-0.07	-0.50	-0.36	-0.37	-0.10	0.21	1.00	-0.34
LEXCR	-0.20	-0.17	-0.02	0.08	0.06	-0.10	-0.08	0.53	-0.23	-0.34	1.00

Appendix 2. Results of Stationarity Test

Variable	Stationarity of all variables in Levels		Stationarity of all variables in First Difference	
	Individual intercept	Individual intercept and trend	Individual intercept	Individual intercept and trend
LGDP	0.1977*	0.2207*	0.0000**	0.0000**
MKCAP2GDP	0.0519**	0.1031*	0.0000**	0.0000**
STKTRADE2GDP	0.0013**/**	0.0041**	0.0000**	0.0000**
LCOYSL	0.1225*	0.4644*	0.0000**	0.0001**
TRNVR	0.0000**	0.0000**	0.0000**	0.0000**
LPERCPTGDP	0.2456*	0.6053*	0.0000**	0.0000**
GDS2GDP	0.0002**/**	0.0064**/**	0.0000**	0.0000**
BRDMGDP	0.3601*	0.3242*	0.0000**	0.0000**
INFLWS2GDP	0.0009**	0.0002**	0.0000**	0.0000**
LEXCR	0.0121**/**	0.1813*	0.0000**	0.0000**
INFL	0.0000**	0.0000**	0.0000**	0.0000**

Note: *=unit root; **=majority of all methods or all = no unit root; **/**= 50% of methods=no unit root and 50% of methods=unit root.

Appendix 3. Cointegration Test & Kao Residual Cointegration Test

Names of Series

MKCAP2GDP STKTRADE2GDP TRNVR LCOYSL BRDM2GDP INFLWS2GDP

LPERCPTGDP GDS2GDP INFL LEXCR

Newey-West automatic bandwidth selection and Bartlett kernel

ADF	t-statistic	Prob.
	3.635643	0.0001
Residual variance	295.1820	
HAC variance	99.48130	

Augmented Dickey-Fuller Test Equation: Dependent Variable: D(RESID)

Variable	Coefficient	Standard Error	t-statistic	Prob.
Resid (-1)	-0.744558	0.109571	-6.795211	0.0000
D (Resid (-1))	0.020200	0.086707	0.232973	0.8162
S.E.of regression	13.34304		Mean dependent var	-0.951774
Log likelihood	-440.0835		S.D. dependent var	17.03698
Durbin-Watson stat	2.047141		Schwarz criterion	8.086981
R-Squared	0.392255			
Adjusted R-Sq	0.386627			
Mean dependent var	-0.951774			
S.D. dependent var	17.03698			
Schwarz criterion	8.086981			

IS PROTECTIVE MARKETING OF CASINO CUSTOMERS AN ETHICAL IMPERATIVE?

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ABSTRACT

Legalized gambling is present in 48 of our 50 states and 43 of these states have actually authorized multiple casinos. Casino gambling is becoming a part of American's social fabric. Casino gambling's banning, demarketing or counter-marketing is a very daunting task at this stage. Instead, the authors develop and explore a new strategy of "protective marketing" to apply to all stakeholders including casino gambling customers who are negatively impacted by it. We first define protective marketing, and then we discuss the negative impact of casino gambling. We conclude by presenting the teleological and deontological ethical cornerstones of protective marketing. We reinforce the ethical bases by applying "Hohfeldian" rights and duties to protective marketing. Finally, we offer several proactive protective marketing strategies.

Keywords: Public Policy, Business Ethics, Protective Marketing, Casino Gambling, Demarketing

INTRODUCTION

During the last decade, business scholars have been very interested in studying Corporate Social Responsibility (CSR) among firms in the gambling industry. In particular, we shall focus on casinos. (Kim & Lee, 2018; Lua, 2019; McCain, Lolli, Liu & Jen, 2018; Mizerski, 2013; Namara, 2017; Vaughn, 2017; Wong & Prentice, 2015; Yani, Javed, & Yousafzai, 2012). In 1980, only ten US states had authorized gambling. By 2018, of the 50 states, only Utah and Hawaii did not have some form of legalized gambling and 43 of these states had legalized *casino gambling* (CG). Two-thirds of the total gambling dollars that are wagered in the US occurs in casinos (Forbes 6/23/03). It is growing at a much faster rate than the overall economy. This remarkable growth is primarily because many have easy access to casinos and casinos are promoted through newspapers, TV, internet, billboards, and social media among others. Free bets, bonuses and variety of incentives are utilized by the CG industry to build lifetime loyalty among its patrons (Camp, Hartley, & Kelly, 2018; McCain et al, 2018). Moreover, online casinos provide easy access to all.

There are some obvious social and economic benefits to casino gambling. For instance, casinos generate employment, provide entertainment, and pay taxes. Additionally, casinos generate fringe benefits for complementary industries such as airlines, hotels, rental cars, sports, orchestra and operas, shopping, and tourism (Au & Hobson, 1997; Eadington, 1998; Epstein, 1998; Gazel, 1998; Matton, 2018; Nichols, Tosun, & Yang, 2015; Quigno & Zhong, 2016; Saunders &

Turner, 1987; Vong & Wong, 2013). With that said, we must similarly admit that gambling has significant social costs. They fall into nine groups: such as crime costs, business and employment costs, bankruptcy, suicide, illness related to pathological gambling, social service costs, direct regulatory costs, family costs, and abused dollars (Statista, 2018; Grinols, 2011). In summary, we contend that CG's benefits are often overstated while its costs are seriously underestimated. Some of these costs may far exceed the economic, psychological, social and moral benefits of CG both in number and in magnitude. Though our focus is CG, the ethical analysis applies to all gambling activities including lotteries, sports betting, and horse racing (Casswell, 2012; Grall-Bronnec, 2017; Grougiou, 2016; Hing, Lamont, Vitartas & Fink 2015; McBride & Derevensky, 2017; Oh, 2014).

What is Protective Marketing?

Protective marketing protects customers and related stakeholders from the harms of certain products and services that are legal and have become part of the social fabric of our lives. Protective marketing markets protection to vulnerable consumers from addictive products like alcohol, tobacco, fatty foods and casino gambling. We fully support *protective marketing* by using the protection motivation theory of Rogers (1975, 1983) as extended by Ho (1998) and recently applied by Pechmann, Zhao, Goldberg & Reibling (2003) and Weinstein (2000). Applied to CG, *protective marketing* seeks to cognitively and emotionally forewarn and forearm actual and potential CG customers against the serious moral, social and economic risks that CG presents.

Protective marketing is a subset of “social marketing” coined and popularized by Kotler and Zaltman (1971). It is “the design, implementation, and control of programs calculated to influence the acceptability of social ideas. It involves product planning, pricing, communication, distribution, and marketing research.” Social marketing was a response to broaden the concept of marketing (Kotler & Levy, 1967). It included non-for-profit organizations and other societal issues such as fund raising, population problems and recycling of solid waste. Social marketing became popular and included the marketing to society and the marketing of social issues. As previously mentioned, we define *protective marketing*, as a subset of social marketing. It is the design, implementation and control of programs for influencing the acceptability of social and ethical ideas. It protects consumers from the harm of casino gambling.

We propose to “protect” prospective consumers and related stakeholders from the harm of CG by: a) objectively discussing its social externalities or negative effects on individuals, families and society and b) by offering some ethical imperatives to prevent the possible addictions to CG. Under (b) we shall invoke the normative ethical theories of *teleology* and *deontology*. As such, we reinforce the ethical arguments by invoking Hohfeld's analysis of rights and duties to CG owners, customers and other non-customers.

Why Protective Marketing?

Since CG is very well integrated into the cultural, recreational and economic structure, a stratagem for a total ban on CG would likely be useless and ineffective (Oei, Raylu & Loo, 2019). This strategy would require a nationwide referendum against casinos that would eventually translate into law. The likelihood of both happening, now, is nil to none. *Demarketing*

would strongly cope with CG (Seeletse, 2017). Kotler and Levy (1971) and Kotler (1973) discuss the appropriateness of various states such as negative demand, overfull demand, and unwholesome demand. CG is primarily a case of *unwholesome demand*. This demand is unhealthy. Examples of this demand include the demand for fatty foods, cigarettes, alcohol, hard drugs, handguns, gambling, and X-rated movies. The marketing task that changes the behavior of consumers who purchase and use these products is direct no-nonsense counter-marketing. This counter marketing involves “warning label” ad messages, price or tax hikes, and reduced product promotion and availability. Collectively this is *demarketing*. Demarketing is reasonable because CG reflects both *overfull demand* and *unwholesome demand*. More than 30 years ago, Lavidge (1970) admonished marketers to stop evaluating new products exclusively based on whether they *could be sold*. He instead, suggested that these products be evaluated from a societal perspective to whether they *should be sold or not*. CG is a product/service of such questionable social desirability (Auer, Reiestad & Griffiths, 2018; Bhatti, Thiruchelvam & Redelmeier, 2019; Boatright & Smith 2017; Bonello & Griffiths 2017; Coulter, Hermans & Parker, 2013; Hing, Cherney, Blaszczyński, Gainsbury, & Lubman, 2014; Gainsbury 2017; Hing, Russell & Hronis, 2018; Marionneau & Tassopoulos 2017; Parke, Harris, Parke, Rigby & Blaszczyński, 2015).

While demarketing CG is possible, it is not preferable because it is a daunting and very expensive task to be able to effectively compete vs. the massive and well-funded lobbying efforts that pro-gambling entertainment groups, pro-tax-revenue groups and pro-business and ad groups generate. Currently, promotion and advertising of CG is a multibillion-dollar business. CG promotions use all the media including radio, television, newspapers, trade journals and consumer magazines, and billboards. It also includes celebrity spokespeople, internet or web advertising, apparel advertising (CG logos on T-shirts, caps, sports jackets), transportation advertising (i.e., CG advertising on buses, trucks, railroad cars, taxi cabs). These massive promotion efforts generate consumer demand for casinos and advertising dollars for the media (see Figures 1 & 2).

The next best alternative would be *counter-marketing* CG. That is, various anti-casino advocacy groups must bond together to actively combat any abusive behavior by the CG industry. They must: a) boycott all their products and services, b) counter-advertising their products and services, c) force legislation against casinos in one’s state or city, or d) press for higher taxes on the casinos and their customers. Strategies [c] and [d] above would be tantamount to forcing a public ban on casino products and services. With that said, we reject these strategies as not being practical under the present circumstances. Strategies [a] and [b] imply some form of active negative marketing on the part of advocacy groups.

Why Protective Marketing against Casino Gambling?

CG will continue its remarkable growth as politicians aggressively pursue its tax dollars. Because of this, we estimate that:

1. Its problems will similarly grow (Epstein 1998; Unwin, Davis & Leeuw, 2000). As a result, the pathology of gambling addiction has reached over 15 million Americans (*National Gambling Impact Study Commission (NGISC) Final Report 1999*) and will

soon exceed 20 million victims (Reno, 2000) which is more than one in every fifteen Americans!

2. Legalized gambling in the US is being “exported” to other regions of the world (Feigelman, Wallisch, & Lesieur, 1998) as the US economy’s “pop” culture is a worldwide leader and trendsetter.
3. States with a strong need for “sin tax revenues” will too expand their consumer and revenue base by easing CG’s age restrictions. The result will target younger generations possessing few coping gambling defenses (Shaffer & Hall, 1996; Volberg, 1994).
4. Gambling casinos will continue to add “new and improved” devices to extract more and more dollars from vulnerable customers with a greater percent of lower income-population being enticed (Reno 1996, 2000).
5. Casinos will increasingly disguise their games as “normal” entertainment. Increasing promotions such as well-placed billboards will proliferate (Politzer, Yesalis, & Hudak, 1992).
6. The gaming industry will continue to cross-market locally with its professional associations, sports teams, charities and celebrities. As a result, CG will gain greater credibility, social acceptance and legitimacy (Heubusch, 1997; Taillon, 2000).
7. As gambling promotions intensify, so will the crime and unemployment rates in the neighboring communities. Moreover, savings and investment rates will decrease as gambling casinos suck dollars from the economy (Browne & Sek, 1997). In addition, since gambling becomes the end and not the means, the promise of extensive job creation and related industry expansion beyond the casinos will never materialize (Oddo, 1997). The unfortunate result will be "net" job losses and consequential economic stagnation (Eadington, 1998; Gazel, 1998).
8. Finally, gambling cites will lose small businesses, while those that remain will face the extra cost of their employees going through yet another additional test for gambling sobriety (Peppard, 1995). Gambling cities will face an increase in domestic crises as societal ills such as divorce and single parenting grow (Nichols, Stitt, & Giacopassi, 2000).

The sum of all these statistics and inferences makes the need for *protective marketing* against CG urgent and imperative. In general, the casino phenomenon is following the same path as the tobacco industry. With the advocates of CG ignoring or denying the negative impact of bankruptcies, suicides, emotional illness, lower productivity, family discord and increased crime. We must reinforce the public perception of CG being an actual social problem while the media unilaterally presents CG as enjoyable entertainment. The real disaster of CG is its remarkable ability to endanger the social fabric of our families.

Casinos aggressively market their products both *overtly* (television, radio, billboards, direct mail, and now, the Internet) and *covertly* through sponsorship programs that indirectly promote gambling (e.g., Internet gaming sites, hand-held miniaturized casino games, publishing of gambling related books). The similarities of tobacco marketing must awaken casino marketers. The tobacco industry spent billions of dollars through decades to promote itself both *overtly* and *covertly*. The result was that its anti-health evidence became hidden and distorted. Today, it faces multibillion-dollar settlements ordered by the courts. Correspondingly, the casino industry must strongly take immediate steps to insulate itself against becoming another litigation victim. It must help find and support a casino industry's *protective marketing* movement (Rose, 2014).

PROTECTING CONSUMERS FROM THE NEGATIVE IMPACT OF CG

According to the *protection motivation theory* of Rogers (1975, 1983), the consumer's intention/motivation to protect from harmful products is enhanced by four critical areas of cognition/perception: 1) the severity of the risk of harmful products; 2) one's vulnerability to these risks, 3) self-efficacy at performing the advocated risk-reducing behavior; and 4) the response efficacy of the advocated behavior. People's perceived costs of the advocated risk-reducing behavior and the perceived benefits of the opposing risk-enhancing behavior tend to weaken their intentions to protect themselves from harm. Rogers (1983) assumed that people who were protecting themselves from harm evaluate two factors: a) *threat appraisal* as a function of severity, vulnerability, and benefits; and b) *coping appraisal* as a function of self-efficacy, response-efficacy and costs. Protection motivation theory determines that in most cases, consumer cognitions affect intentions directly and additively (Rogers, 1983); as well as interactively and synergistically (Floyd, Prentice-Dunn & Rogers, 2000; Pechmann et al., 2003). Thus, for instance, cognitions of risk-severity, self-vulnerability, self-efficacy and response-efficacy of CG directly motivate anti-CG behavior via 2-way or 3-way interactive effects of risk, vulnerability and efficacy. An empirical verification of this theory relative to CG is beyond the scope of this paper. Nevertheless, we shall present information on how CG's customers and stakeholders of CG are severely stressed by the risk-severity and self-vulnerability aspects of CG (Prentice & Wong, 2016). There is strong current evidence that casino gambling is harmful in its *addictive, economic* and its *social* impact. We shall explore each of these three impacts and make an informed teleological and deontological argument for *protective marketing* to CG customers and stakeholders.

CG may lead to Pathologically Addictive Behaviors

How can customers be protected against CG and how does it lead to addiction? *Pathological gambling* is the term that the *American Psychiatric Association* uses to describe the clinical disorder characterized by a persistent and recurring failure to resist harmful gambling behavior. Ten percent of the general US gambling population suffers from pathological gambling with the rate among the youth being much higher (Braunlich, 1996; Frank, 1993; Volberg, 1994).

Pathological gambling addiction could happen through various stages: *planned CG shopping, unplanned CG purchasing, impulsive CG buying* and *compulsive CG buying*. We examine them so that consumers will prevent the harmful effects of CG shopping and purchasing.

- When consumers buy goods and services that were not planned, unplanned purchasing occurs. The cases for this purchasing such as low price, marginal need, mass distribution, self-service, mass advertising, prominent store display, short product life, small size, and easy to store. By extension, *planned purchasing* is associated with the opposite factors that involve a greater expenditure of time, money and shopping efforts (Cobb & Hoyer, 1986).
- *Impulsive buying* or purchasing is a buying behavior that is formed before entering a store (Engel, Kollat & Blackwell, 1982). This in-store shopping behavior increasingly transfers planning from home to the store. Consumers enter the store with a general intention to buy and they reach the specific buying decision often at the point of purchase (Rook, 1987; Rook & Fisher, 1995).
- A subset of compulsive consumption behavior is *compulsive buying*. It is a response to a need to experience a feeling that leads one to repeat a behavior that ultimately causes harm. Compulsions are excessive and ritualistic. They are designed to alleviate tensions, anxieties and other discomfitures (O'Guinn & Faber, 1989).

Casino gambling starts as *planned purchasing*, then quickly and inadvertently changes into *unplanned purchasing*, *impulsive buying*, and finally into *compulsive buying*. Casino gambling stimulants include those that are: a) *remote*: such as all media promotions; b) those that are *proximate* such as those of unplanned purchasing like cheap or easy transportation service (e.g., chartered airlines, buses, cruises), low casino entry barriers, in-store displays the prominent casino hotel décor display and the encouragement to enjoy this type of professional entertainment. Even when the need for CG is basically entertainment, excitement, and fun, as in the case of planned shopping, it easily becomes unplanned shopping, and can easily turns compulsive (Cobb & Hoyer 1986; Rook, 1987). Impulse buying reflects of materialism, hedonism, ritualism (Belk 1985; Rook 1985) or cultism (O'Guinn & Belk, 1989). Impulse buying is a temporal behavior characterized by spontaneity, lack of planning, a struggle between will power and desire, a subjective experience of onset and coping (Rook, 1987). Impulsive CG behavior manifests all these symptoms. In the context of CG, *compulsive consumption* refers to gambling that is excessive, addictive, abusive, impulsive, habitual and/or adjunctive. It is often chronic. It is repetitive-purchasing in response to negative elements or feelings. The primary motivation of compulsive buying and compulsive consumption is to alleviate one's negative feelings. It is different from unplanned purchasing and it is an extreme case of impulsive buying (Faber & O'Guinn, 1988; Faber, Christensen, Zwaan & Mitchell, 1995; O'Guinn & Faber, 1989).

Table 1 distinguishes between compulsive, impulsive and unplanned consumption in gambling behaviors. In the casino industry, promotions are used to induce unplanned purchasing, impulsive purchasing and compulsive gambling among existing customers. Marketing programs that stimulate addictive chronic compulsive buying are morally irresponsible (Mascarenhas, 1995) and, hence, unacceptable.

Problematic gambling is often uncontrollable with potentially damaging effects to one's family, social and work lives. Critics state that the expansion of legalized gambling has increased the rates of pathological gambling (Grinols, 1996; Prentice & Wong, 2015; Politzer et al 1992; Reno, 1996). The *National Research Council Studies* (1999) indicates that about one-third of

compulsive gamblers abuse their spouses. Several studies have even traced domestic violence ending in murders to gambling problems (Dvorak, 1998; Williams, 1999). Additionally, several casino patrons quickly become problem gamblers. In turn, they are the most likely going to have financial problems related to gambling (Gazel, 1998). The lower socioeconomic segments spend disproportionately more of their income on gambling than do the higher income classes (Abbott & Cramer, 1993, Ladouceur, Boisvert, Pepin, Lorange & Sylvain, 1994). CG therefore negatively affects more households of lower incomes. Tragically, CG may lead to work related problems (Pasternak, 1997) as well.

Casino Gambling Spells Economic Harm

The gambling industry is growing at 9 percent while the average GDP growth is at a much lower rate (Christiansen, 1998). Growth of the gambling sector however, may not translate into net gains for the public at large (Grinols, 1996; Grinols, 2011; Kindt, 1995). Gambling casinos are now spreading throughout the world and the speed of their growth means, it will be within reach of the majority of population (Au & Hobson, 1997; Browne & Sek, 1997; Christiansen, 1998; Feigelman, Wallisch, & Lesieur, 1998; Levey, 2000). Public officials are busy deregulating the casino industry only to further enhance the indirect “sin” tax base and with gamblers becoming more addicted pushing the personal bankruptcy rate to an all-time high (Atkinson & Oleson, 2000).

Evidence from experiments in cities like Atlantic City, Detroit and St. Louis indicate that casinos impair other businesses by draining money from area economies. Crime rates continue to increase (Nichols & Tosun, 2017; Peppard, 1995; Yardley, 1994) and personal bankruptcies are steadily climbing (Nichols, Stitt & Giacomassi, 2000). New communities of addicts continue to grow among those who can least afford it such as the young and the poor (Kim, Wohl, Gupta & Derevensky, 2017; MacIsaac, 1995). In addition, significant white-collar crimes are directly attributable to soaring gambling debts (Grinols, 1996; Grinols, 2011). Economically speaking, it is at best a dangerous zero-sum game. Gamblers must be well aware of these data and understand their damning consequences.

Casino Gambling can become a major Family and Social Problem

In a survey of nearly 400 *Gamblers Anonymous* members, 28 percent reported “separated” or “divorced” marriages as a direct result of their gambling problems (*National Gambling Impact Study Commission*, 1999). The National Gambling Impact Study Commission (NGISC) reported that it has substantial evidence that compulsive gambling greatly heightens the level of stress and tension in marriages and families. Moreover, children of compulsive gamblers frequently suffer abuse and neglect. In Indiana, a review of the state’s gaming commission records indicated that 72 children were found abandoned on casino premises during a year (Schneider, 2000). Furthermore, children died after being locked inside hot cars for hours while their caretakers gambled (Darby, 1997). A mother in Illinois was sentenced to 21 years in prison for suffocating her infant daughter in the attempt to collect insurance money to continue gambling (Bierschenk, 1999). Cases of child abandonment have become so commonplace in the nation’s largest casinos that authorities have posted signs in the casino parking lots for parents not to leave their children in unattended cars (Peppard, 1995). Generation-X-ers grew-up helping their parents scratch

lottery tickets. Now they frequent neighborhood casinos exploring adult games (Braunlich, 1996; Frank, 1993; Reno, 1996; Shaffer & Hall, 1996). Gambling is addictive and gamblers continue to bet whether they are winning or losing. Gamblers chase after their losses and are submerged in accumulated gambling debts, often drowning their families as well (Tomer, 2001; Volberg, 1994; Waddock 1999).

Psychologists recognize gambling as a disordered behavior of increasing magnitude. This is particularly true among the youth. Gambling addictions result in material deprivations, child neglect or abuse, domestic violence or the trauma from divorce (Reno 2000). The societal costs of gambling are the loss of productivity, crime-related incarceration, and the extraordinary damage to the family including judicial/treatment costs (Kind, 1995). As a society, we have failed to take any steps to curtail gambling and continued to permit the aggressive promotion through television, radio, newspaper, magazines, and billboards and now, the internet (Au and Hobson, 1997; Kim & Kang 2018; Orazi, Lei, & Bove, 2015).

PROTECTIVE MARKETING FOR CG CUSTOMERS: ETHICAL EXPLORATIONS

The first question moralists must answer is “what behaviors are morally correct?” Other moral questions include “what things in life are worthwhile or desirable?” In responding to these questions, philosophers must distinguish between instrumental and intrinsic good. *Intrinsic good* however is good by itself (e.g., happiness, honesty, integrity). Moral value, obligation, instrumental and intrinsic good are essential to understanding the nature of CG. Ethical scholars distinguish at least two primary positions in this regard (Beauchamp, 2004; Frankena, 1973):

- **TELEOLOGY:** (Telos in Greek is goal or purpose). The moral goodness of all decisions and behaviors is determined *exclusively* by their *consequences*. To determine what a consumer should or should not do, teleologists state that the behavior should bring about the greatest number of benefits over costs. In other words, the greatest net good for the greatest number of stakeholders impacted by this decision-action/behavior. This theory justifies an ethical action/behavior by the outcomes or consequences of the action/behavior in any given situation. It is called *utilitarianism* or *consequentialism*.
- **DEONTOLOGY:** (Deontos in Greek means duty). The moral appropriateness of all decisions and behavior is *not always due to* their consequences but also determined by principles, rules, rights and duties of the subjects involved. To the questions of what a consumer should or should not do, a deontologist states that one should not violate but rather uphold the moral rights and duties of all stakeholders concerned. It is called *existentialism* or *situationalism*.

Recent marketing ethics literature advocates the use of *teleology* (as utilitarianism or consequentialism) and *deontology* (right/duty or norms-based reasoning) as the key frameworks for ethical business decision-making (Laczniak & Murphy, 1993; Mascarenhas, 1990; Mascarenhas, 1991).

Teleological Argument for Protective Marketing of CG Customers

Teleology is determined by what that conduct achieves - by the *intrinsic good* it brings to the world. Teleology, finds that a corporation is considered morally right by its foreseeable consequences that produce greater benefits than costs (Anscombe, 1958). Consequences occur from deliberate (human) behavior. A teleological theory of moral value therefore, depends on intrinsic good (Grassian, 1992). Some teleologists define intrinsic good as pleasure (they are called hedonists); others define it as *happiness* (these are called *eudemonists*); others assert that intrinsic good is one's own greatest good (This position is called *ethical egoism*); and yet, others affirm that intrinsic good is the greatest good for everyone (This theory is called *utilitarianism*). The vigorous marketing of casino gambling and the corporate money-greed that triggers it represent egoistic values. In short, the corporate good takes absolute primacy over any social or public good. Teleologically speaking, CG is not justified and is wrong for the economic development of the cities that advocate them. The social and economic costs of CG are too significant to be ignored. This concept was discussed elsewhere in this paper.

Deontological Argument for *Protective Marketing* of CG Customers

Deontology means the *science of duty*. It states that the concept of duty is independent of teleological good and that results alone do not morally determine what correct behaviors are (Broad, 1967). The fulfillment of rights and duties, principles and imperatives, and contracts and norms determine the moral value of behavior (Boatright, 2003; Donaldson & Dunfee, 2009; Frankena, 1973; Kant, 1964; Rawls, 1971). Deontology starts with Kant. Kant's theory is a reaction to hedonistic utilitarianism and its fundamental inadequacies. Hedonism relies upon the notion of happiness as the ultimate ground of morality and ignores its potential for injustice (Grassian, 1992). Kant rejects reason as the slave of human passions. Instead, he postulated morality is grounded in a value that gives human beings their distinctive moral worth. What defines and establishes morality is human freedom and rationality. The morality or moral worth of any institution depends upon the basic structure of its society that ensures its fundamental system of human freedom, rights and duties. Kant presents five formulations of the categorical imperative with meaning equivalency. We invoke just two that are most relevant for *protective marketing* of CG. 1) *Universalizability*: "Act as if the maxim of your action was to become through your will a universal law of nature (i.e., that everyone follows that maxim)." In short, behave so that your behaviors will become the norms for others. This formulation affirms impartiality "do unto others, as you would have them do unto you." 2) *Reversibility*: the behavior must be based on reasons that the actor is willing to have all others to judge the actor's action. Both rules offer no actual ethical content but have the pure disinterestedness or universalizability that any moral rule must have to be truly moral (Frankena, 1980). Under each principle, the substantive *form* (e.g., intentions or reasons) of the act determines the morality of the behavior. This position is called *Formalism* (Feinberg, 1980; Frankena, 1980).

Human freedom is expanded by contractual rights and duties (Rawls, 1971). People have a duty to honor their contracts. However, a failure to honor a contract cannot be universalized (Kant, 1964). Owing to significant information asymmetries between casino gamblers and the management, the question arises as to what extent contracts signed under duress (markers

customers sign in a casino when they are highly vulnerable) are legally defensible, and ethically valid and justifiable.

DISCUSSION AND STRATEGIC IMPLICATIONS

Rights are essential to our lives. We shall defend them, demand their recognition and demand justice when they are not preserved. When our rights are trespassed, we shall demand redress and insist that trespassers are given their due. Correspondingly, rights and duties are always interrelated. What are the related rights and duties for casino owners and gamblers? Philosophers distinguish between several types of rights (Hazlitt, 1972): a) *natural rights* human rights we have because of our human nature; b) *moral rights* are justified by a moral system (e.g., utilitarianism); c) *positive rights* are legal rights that the law or society provides for its members (e.g., the bill of rights); d) *prima facie rights* are presumptive and may not be actual rights in a given situation but they seem obvious (e.g., my right to listen to loud music in my car may be overridden by ones right for silence); and e) *absolute rights* cannot be overridden (e.g., right to life) by other utilitarian considerations.

A Hohfeldian Analysis of Rights and Duties

Despite great variation in rights, few rights are absolute, total and without infringement on their rights. All rights have a correspondence of duty. That is, if one person has a right, another person (or a group of persons) has a duty directly related to that right. In this connection, Hohfeld (1913, 1919), the premier 20th century philosopher and jurisprudential scholar, reasoned that each legal right relied on a structure of correlatives and opposites. Hohfeld distinguished four notions of rights (Hurd & Moore, 2018). A right is an entitlement. A privilege is available from sufferance and is at the discretion of the person granting it. What we commonly call rights to employment, welfare, healthcare, etc., are not rights, but rather *privileges* given to those who had the discretion to grant it, such as employers or the government. An employment rights or welfare is an abstraction (Cooray, 1998).

Table 2 applies Hohfeldian “symbolic logic” (Balkin, 1990) to derive rights and duties of the major CG stakeholder groups. They are casino owners & society (that includes gamblers). The rights and duties of each stakeholder group are predicated along the four Hohfeldian concepts of right: claims-right, privilege, power, and immunity. Corresponding each has jural correlates and jural opposites.

Some Proactive Strategies for *Protective Marketing* against CG

Following Hohfeldian analysis, we must better interpret what now is called the consumers’ “bill of rights” (Bucholz, 1992). Table 2 reinterprets these “rights” in the Hohfeldian framework of “rights and privileges” with their correlative “duties and no-rights” of both casino owners and casino gamblers in relation to casino gambling. In 1961, President Kennedy listed the four basic consumer rights (in Table 3) that he believed needed legislative protection. Since 1964, the Congress has been discussing the remaining four rights (Bucholz, 1992). From a Hohfeldian viewpoint, most of the so-called “rights” in Table 3 are not ‘claim-rights’ but ‘privileges’ that imply ‘no-right’ as jural correlates.

CG violates several teleological and deontological principles. We therefore, propose six sets of proactive strategies for protective marketing against CG. The first five sets follow from our Hohfeldian analysis (see Tables 2 and 3) and the final strategy is based on the pathology of casino gambling (see Table 1). Additionally, our proactive strategies reflect the protection motivation theory of Rogers (1975, 1983). Extended it to include social risks (Ho, 1998).

Minimize Consumer Exposure to Casino Promotions. CG promotions *increase* the social risk and vulnerability of engaging in risky CG behavior. It also weakens the self-response defenses that prevent/modify CG. Minimizing the social exposure to CG promotions is imperative. It is appropriate for casinos to voluntarily stop or reduce their TV ads. This type of self-regulation is necessary because it is impossible for anyone (including gamblers) to stop watching all TV to avoid gambling ads. Public billboard ads of casinos must be curtailed, especially along major city expressways.

Offer Full Value and Information to Customers. Protective promotional theory also has interactive impact between perceived social risk, self-vulnerability and self-efficacy in refusing harmful products (Pechmann et al, 2003; Rogers 1975, Weinstein, 2000). People with low social risk and low self-vulnerability will likely lose self-efficacy and succumb to addictive habits. Those at the upper end of high-perceived social risk and vulnerability may however develop strong self-efficacy to desist from CG, unless they perceive themselves as invincible (Weinstein, 2000). *Information asymmetries* between casino service providers and receivers are pronounced and hence rendering the casino marketplace a very uneven playing field.

Counsel Prospective Losers. Casinos must also publicize the “self-exclusion option” available to compulsive gamblers where the consumer agrees in writing not to enter the casino premises and voluntarily gives up all casino gambling privileges.

Monitor Casino Gambling Behavior. Basically, these proactive strategies are to protect those gamblers who see themselves as invincible regarding the social risk and vulnerability of addiction and its negative consequences. In this regard, casino employees must be trained to monitor and quickly and respectfully remove these patrons from these casinos.

Reduce Casino-related Crime. Concerted efforts must be made to take responsibility for, and prevent organized crime (e.g., prostitution, car-theft, the mugging of casino winners, street vandalism) in and around casinos. Casino authorities must fully cooperate with lawmakers and law-enforcers. Much of this organized crime is directly casino related, if not caused by them. Casinos must compensate victims that have been seductively engaged in gambling that inevitably led to substantial losses. Mutually accepted responsibilities will reduce personal and social crimes of casino victims.

CONCLUDING REMARKS

The public must be educated about the addictive nature of gambling and its probable, damaging impact on the moral and social fabric of individuals and the families. Governments at all levels must pressure casino owners undertake the proactive protective marketing measures we have outlined in this paper. The proactive marketing strategies outlined here are aimed at protecting

compulsive gamblers from ruin. Of course, gamblers must also take all measures to protect themselves. Consumer education is a continuing necessity with *caveat emptor* always being preferred. Educators must help students develop coping skills to teach them to stay away from addictive harmful behaviors such as casino gambling. Phillip Morris has attempted “protective marketing” in recent TV ads. One specific ad encourages kids that if they have not started to smoke, they “should not”. It notes smoking health hazards. These warnings about alcohol and cigarette ads are subtle forms of protective marketing. There is a lot that casinos can learn from this. Protective marketing of CG involves many stakeholders. They include all pathological gamblers, their immediate families, friends, workmates and neighbors. It is in the best interest of casino owners and governments to accept their stakeholder role in CG and take actions to shield the public from the negative effects of CG.

Managerial Guidelines for Casino Operators

Casinos are here to stay as they continue to grow throughout the world. Many religious folks argue that casinos are the work of the devil along with other “sin” industries such as prostitution, hard liquor, cigarettes, illicit drugs, fatty foods and many others. While we cannot reverse the growth of casinos, we can use moral persuasion to develop and extensive ethical guidelines and polices for casinos to implement. Based on our Hohfeldian “ethical” analysis and the rest of our discussion on this topic of CG, we offer the following guidelines for casino marketers: 1. Casinos must protect gamblers from themselves; 2. Provide gamblers access to qualified counselors to guide them towards the legal option of “self-exclusion” from entering casinos and limit their gambling activities; 3. Casinos must restrict total time a consumer can spend in the casino in a specific period of time; 4. Casinos must limit the amount of money that a player can lose in that specific period of time; 5. Casinos must stop targeting the low-income populations; 6. Casinos must not promote gambling to senior citizens on fixed incomes; 7. Casino must remove all “vulnerable” populations from its mailing lists; 8. Casinos must avoid advertising in sports programs thereby forging the targeting the teens; 9. Casinos must fund extensive counseling services for self-identified problem gamblers; 10. Casinos must categorically restrict the number of alcoholic drinks served to their patrons.

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Table 1. Compulsive, Impulsive, and Unplanned Buying in CG: A Comparative Analysis

Theory-based Expected Behavioral Features	CG & Unplanned Purchasing	Casino Gambling as Impulsive Consumption	Casino Gambling as Compulsive Consumption
Nature of CG: Frequency Addiction Inner urge Pre-disposition: Dependency	Occasional CG Casino Store-specific CG Conditioned response Time-pressure Ergonomic	Stimulus-conditioned CG-Product-specific Instinctual drive CG Fantasy Bio-psycho-social effects	Repetitive CG Chronic/Problematic CG Irresistible impulse CG Compulsivity Bio-chemical effects
Etiology of CG: Remote factors Motivation Arousal	Bio-habitual causes Socio-psychological Socio-ergonomic Planning surrogate for CG Time management	Bio-social causes Psychological causes Socio-cultural causes Onset/coping Thrill of winning	Physiological- causes Bio-genetic causes Socio-exclusive-causes Anxiety-relief Boredom relief
Effects of CG: Short Term Long Term	Need recognition Time saving/loss Workaholic relief Social harm Self found in work Loss of time control	Shopping thrill Gratification Obsessive buying Economic harm Self in possessions via Loss of will power	Positive feelings Anxiety-relief Negative-conditioning Physical harm Loss of self control
Justification of CG Processes:	Objectivization Disability to plan Forgotten needs	Symbolization Spontaneity Created needs	Over-rationalization Self-immunity Stress reducing
Extreme CG Cases:	Planning disuse Shopping disorders CG Store-display addiction	Collection abuse Disposal disorders Fad/bargain addiction	Consumption abuse Usage disorders Self-escape addiction
Treatment for cure	More needs planning Planned shopping	Modifying behavior Limited exposure to CG	Avoidance behavior Total abstinence

+ Often, cure could lead to abnormalities such as anxiety, stress, amnesia, and other withdrawal syndromes.

Table 2. A Hohfeldian Analysis of Casino Gambling Rights and Duties

Hohfeldian Concept of Right as:	Jural Correlates/ Opposites	Casino-owners' Responsibilities	Casino-Customers Responsibilities
Claim-Right	Duty	Duty to respect the rights of CG customers and non-customers by not over-marketing casinos, if the latter so demand it.	Duty for seeking clear and adequate CG information, fair gambling-outcome odds, and safety-security-privacy amenities.
	No-right	No right to seduce customers by exaggerated advertising and promotions, deceptively easy money loans, and other baits.	No right to claim ignorance on unintended consequences that are reasonably foreseeable such as CG compulsions and other externalities.
Privilege	No-right	No right for legal approval or social legitimacy if casino owners excessively profiteer and impair local competition.	No right but privilege to gamble for leisure and entertainment, but not for self-destruction.
	Duty	Privileged duty not to abuse the privilege of establishing, operating and marketing casinos in approved cities.	Privileged duty to protect oneself and fellow customers from excessive gambling that leads to addictions and bankruptcy.
Power	Liability	Power to operate or withdraw casinos any time, or sell them to others under stipulated conditions; but they are liable for leaving “ghost towns” behind.	Licensed customers are empowered for casino privileges, but are also liable for irresponsible gambling consequences.
	Disability	Despite power to operate casinos, owners are disabled from continuing operations if under severe public and social scrutiny.	Customers are disabled when deluged by seductive promotions and deceptive money-loans.
Immunity	Disability	Once legally approved, casino owners are immune from external interference, unless stakeholder rights are seriously violated.	Heavy losers must be disabled from further losses by proper counseling or being escorted from CG premises.
	Liability	Because of legal approval, casino owners are also liable for generating gambling addicts, and the negative social consequences that follow.	Despite legal age, casino customers are liable for abuses of gambling privileges. They could be disabled from gambling when certain loss-thresholds are reached.

Table 3. Consumer Bill of Rights and Duties regarding Casino Gambling (CG)

	CG Consumers' Privileges	Casino Owners' Duties and No-rights
To Safety	Privilege to casino products and services that are personally and socially safe and non-addictive.	“No-right” not to protect CG customers and non-customers from all personal and social harm of unsafe and addictive products.
To Know (i. e., to be informed)	Privilege to truth in CG advertising and promotions without information overload or under-disclosure.	“No-right” not to truthfully inform and instruct CG customers through objectively clear and meaningful promotions and products. Hence, no over-marketing and deceptive CG offerings!
Have Choice	Privilege to choose from a variety of socially safe CG products and service packages.	‘No right’ to offer a wide variety of CG product bundles unless socially and competitively safe. Hence, build safety before variety.
To be Heard	Privilege to complain to proper authorities about CG abuses and be heard.	‘No-right’ to immunity when legitimately opposed by CG customers and non-customer publics. Hence, avoid CG abuses and seductions.
To Redress	Privilege to recourse and adequate compensation when unjustly tricked into attractively deceptive CG packages.	‘No-right’ to demand compensation when unjustly maligned or vandalized by CG customers and non-customer public.

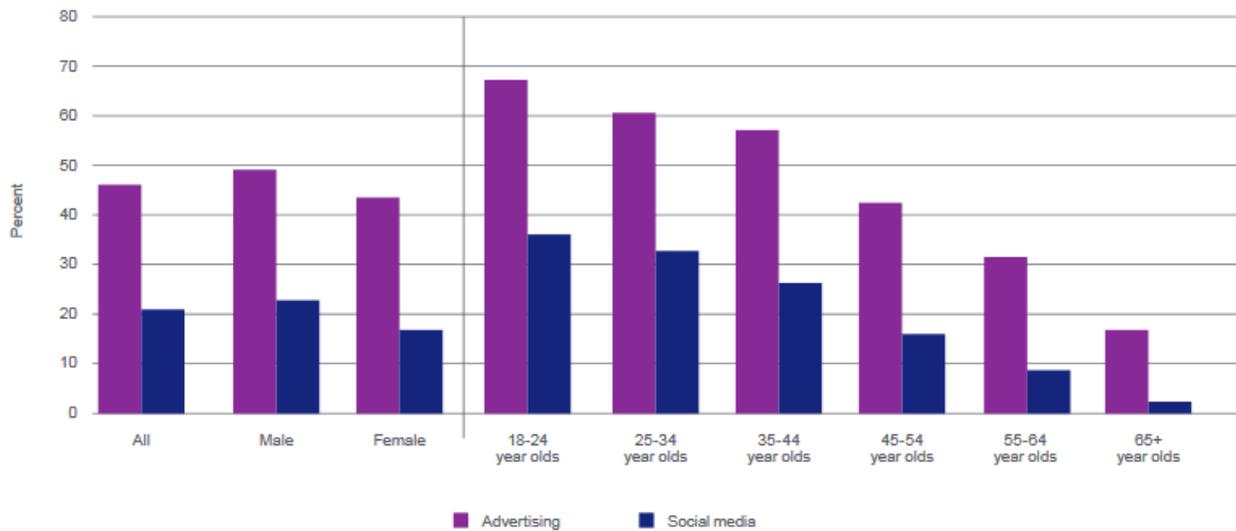
Figure 1 – Gambling on Sports is Skyrocketing



Source: The biggest unspoken crisis in the country (2017).
Retrieved from <https://thenewdaily.com.au/sport/sport-focus/2017/12/15/australians-gambling/>

Figure 2— Influence of Advertising on Online Gambling by Gender and Age Groups

Proportion of online gamblers prompted to spend money on gambling by advertising and social media by gender and age (n=2,067)



Source: <http://www.gamblingcommission.gov.uk/PDF/survey-data/Gambling-participation-in-2016-behaviour-awareness-and-attitudes.pdf>

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