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# Academic integrity in upper year nursing students' work-integrated settings

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## Abstract

Work-integrated learning (WIL) is an educational approach that aims to support students' integration of theory to practice. These rich learning opportunities provide students with real-world experiences and introduce practice and ethical situations that help consolidate and bridge their knowledge and skill. Academic integrity has been defined as the ongoing commitment to values that are consistent with ethical practice: honesty, trust, fairness, respect, responsibility, and courage (International Centre for Academic Integrity, 2021). It is important to understand what specifically influences students' intentions to behave with integrity in WIL settings. This paper reports on one study that explored predictors to students' intentions to behave with integrity across three different WIL settings in their upper years of studies. The findings and recommendations from the research may help to inform other professional programs that include WIL through their educational offerings.

**Keywords:** Work-integrated learning, Higher education, Nursing, Academic integrity

## Main text

Many higher education professional programs include work-integrated learning (WIL) opportunities as part of curricula. WIL is often realized through practice or service settings through internships or field and work study placements. These learning experiences aim to expose and prepare students to expectations of real-world communities of professional practice or service in real work situations and, help to prepare them to be effective, competent, and ethically sound entry level professionals. Engineering, medicine, paramedic, and law are just a few examples of professional programs that have historically offered WIL placements as part of their educational offerings. This paper discusses the results of a study that examined academic integrity across three groups of Canadian upper-level nursing students. The purpose of the study was to explore what predicted nursing students' intentions to practice with integrity in WIL settings. Although the focus is Canadian and nursing, the findings may help inform other professional programs that currently include WIL as part of the learning experience. Findings from the study have relevance to informing our understanding specific to academic integrity in WIL settings for those programs that include these opportunities as part of their pedagogy. The research reported here will contribute to the slowly growing



evidence-based literature about academic integrity in programs with WIL based components. Since academic integrity remains an issue with global interest, the results may also have applicability on a larger scale, serving to inform educators and those creating curricula, on an international level.

### **Current Canadian Work Integrated Learning (WIL)**

Canadian nursing programs have included WIL, *vis a vis* student clinical practice, as a means of providing opportunities for nurses to bridge theoretical knowledge to professional practice. The experiential and developmental aspects of WIL expose nursing students to real-world health work environments and offer rich learning experiences to help them develop skills important to critical thinking and analysis, communication, inter-professional teamwork, and psychomotor tasks (Jonsén et al., 2013; Swinny & Brady, 2010). These types of learning experiences also support students' development of their ethical, moral compasses, and the associated desired behaviours required to be ethical practitioners (Benner et al., 2009; Koharchik et al., 2017). Ethical practice is a core component of nursing, an expectation of clients and interprofessional health care teams, contributes to the safe administration of care to clients, and supports the development of healthy workplaces (Birks et al., 2018; Hart & Morgan, 2010; Kalyani et al., 2014). Given the complexity of current health care systems, the acuity of clients, and the increased responsibilities nurses realize on health care teams, nurturing moral ethical development of nursing students takes on paramount importance (Coram, 2016). WIL opportunities serve to support the integration of theoretical knowledge with professional ethical practice (Berndtsson et al., 2020). Berndtsson et al., (2020) notes that WIL is but one strategy to help nursing students navigate both "knowledge exchange and knowledge development" (p. 2). The contextual nature of WIL allows nursing students to critically reflect on practice and explore the realities and challenges to ethical nursing practice. This in turn supports their educational and social development to the profession and preparation to the demands of the current health care workforce. Therefore, WIL serves as an important location to examine nursing students' intentions to act with academic integrity as they are immersed in nursing practice and poised to experience potential real-time ethical challenges.

### **The connection between academic integrity and ethical nursing practice**

The International Centre for Academic Integrity (ICAI) defines academic integrity as a commitment and adherence to the values of honesty, trust, fairness, respect, responsibility, and courage in academic studies (2021). The steadfast commitment to these core values is important to professions, like nursing, that require a similar commitment to ethical professional practice, as mandated by the profession's Code of Ethics, and expectations for self-regulation to the profession (Canadian Nurses' Association [CNA], 2017; College of Nurses of Ontario [CNO], 2012). Nationally, Canadian standards for undergraduate nursing education include expectations for learning outcomes related to professional capacity that is consistent with integrity (Canadian Association of Schools of Nursing [CASN], 2015). The acculturation of students to the values of academic integrity supports their understanding of the requisites for ethical behaviour required for safe professional practice. Ethically sound nurses are important now more than ever as they

work and navigate healthcare systems that are ever changing and ethically challenging (Milton, 2015).

Educating students to ethical practice is not unique to nursing and in fact is expected of many other professions like engineering (Engineers Canada, 2013), pharmacy (National Association of Pharmacy Regulatory Authorities, 2009), and physiotherapy (Physiotherapy Education Accreditation Canada, 2012), to name a few. Understanding how the values of academic integrity translate and are realized in WIL settings, offers invaluable opportunities to shape the professionalization of future students to safe and ethical practice. Understanding what shapes students' intention to behave with integrity will provide educators insight on how they can intentionally influence and positively support the development of entry to practice nurses that are competent and confident in delivering ethical care and who participate as ethical team members. The importance of understanding how to influence integrity gains traction when considering the negative consequences to the quality of the learning experience when students depart from integrity. One major concern focuses on the notion that behaviours associated with departures from academic integrity may become habit and extend throughout studies and into professional conduct. This concern is not limited to nursing but is a shared concern across other professional programs (Miron J: Academic integrity and senior nursing undergraduate clinical practice, unpublished; Fida et al., 2018; Furutan, 2017; Johnstone, 2016; LaDuke, 2013; McClung et al., 2018; Vandegrift et al., 2017).

## Literature

We know that departures from academic integrity continue to be a problem across the post-secondary landscape, but less is known about what is happening in WIL settings.

### Departures from academic integrity

To understand the phenomena academics like Bowers (1964) began to research and write about departures from academic integrity. However, McCabe was arguably one of the most prolific researchers and writers on the topic. McCabe, and various academic colleagues informed our understanding of the causes, effects, rates, and contextual factors associated with departures from academic integrity in the postsecondary setting (McCabe et al., 2001, 2002, 2012). In fact, McCabe's research has contributed to the mounting evidence that departures from academic integrity are not only endemic to North America but in fact are a growing international concern (McCabe et al. 2008; Yuchao et al. 2013). The pioneering work by McCabe has resulted in a growing international body of literature and research on academic integrity. As well, we learned the Canadian educational narrative proved to be a similar one as reported through the large pan-Canadian study conducted by Christensen Hughes and McCabe (2006). The researchers noted stark differences between the beliefs and values of post-secondary students and faculty with reported rates of academic dishonesty that were comparable to other countries.

### **Departures from academic integrity in classroom and work-integrated learning environments**

Departures from academic integrity, manifested through acts of academic dishonesty, carry personal consequences to student learning, in that deeper learning is threatened. There are also additional worries to consider. For example, inaccurate assessments by faculty about student knowledge may result in the undeserved awarding of diplomas and degrees to students and result in graduates who have gaps in their knowledge and competency to care for patients and impaired ability to contribute to health care teams, organizations, and systems. The quality of graduates entering workforces, in turn, threaten the reputation of educational institutions and breaches trust between those institutions and the public. Perhaps even more importantly, students become desensitized to dishonest behaviours that may extend into workplace settings with serious consequences for the graduate, the employer, and members of the public receiving their care and service. Although the literature is sparse, there is a valid argument that supports the notion that behaviours learned and practiced in the learning environment influence the behaviours of professionals after graduation and into their workplace settings (Guerero-Dib et al., 2020; Harding et al., 2004; Rujoiu & Rujoiu, 2014).

### **Departures from academic integrity and future behaviours**

Several studies completed with engineering students (Harding et al., 2004), business students (Harding et al., 2007), psychology students (Lovett-Hooper et al., 2007), and post-graduate registered nursing students (Smith, 2010) uncovered findings that dishonest behaviours in the educational experience correlated with professional misconduct and dishonesty. Such findings support an argument that acculturating students to the values of academic integrity should be fundamental to the academic environment, essential to the teaching/learning process, and germane to the establishment of ethical professional practice (Miron J: Academic integrity and senior nursing undergraduate clinical practice, unpublished).

Considering the available research findings, scrutiny of the educational process for nursing students, with a closer examination of the key component of WIL student practice, is warranted. It is important to understand what influences nursing students' intentions to behave with academic integrity within these learning settings. It is also important to note that learning more about nursing students' experiences with integrity in WIL settings may offer important evidence for other professional programs with similar types of WIL learning experiences.

### **Nursing and departures from academic integrity literature**

Early nursing studies demonstrated that departures from academic integrity were happening with nursing students in both clinical and classroom settings and began important discussion and research on the topic. Hilbert (1985; 1987; 1988) and Arhin and Jones (2009) reported significant relationships between classroom dishonesty and unethical clinical behaviours with nursing students in the United States (U.S.). Additionally, Arhin and Jones (2009) reported nursing students rationalized their dishonesty as acts of helping fellow classmates in need. Other U.S. nursing research studies heralded

similar results in that there were high incidences of cheating reported amongst nursing students, and these incidences were occurring both in the classroom and WIL settings (Krueger 2014; McClung & Gaberson 2020; McClung & Kraenzle Schneider, 2018; McCrink, 2010). Similar findings have been reported through the international nursing literature and amplify the need to understand how such behaviour and conduct impacts the effectiveness of nursing education locally and globally (Ali et al., 2018; Keçeci et al., 2011; Lovric et al., 2020; Macale, 2017; Rafati et al., 2020).

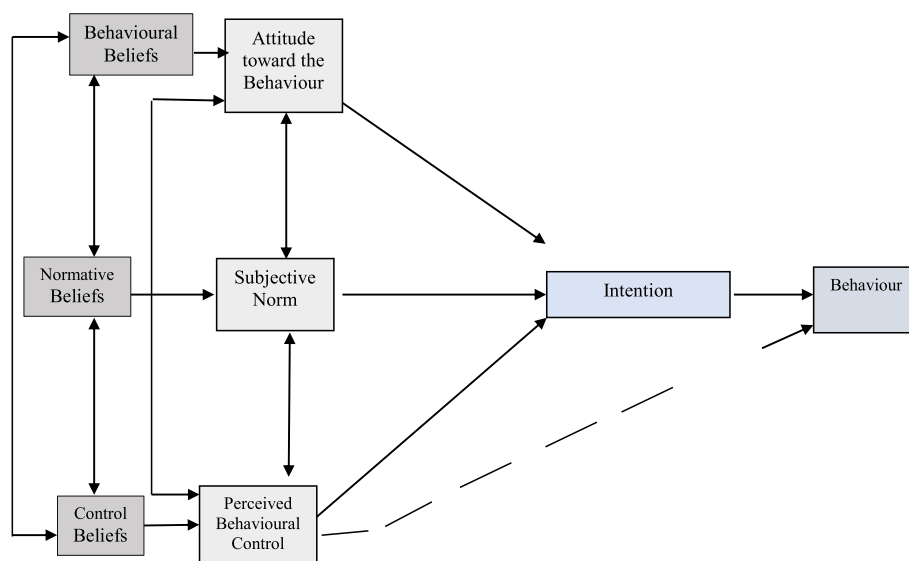
The depth and breadth of existing WIL research is limited. The dearth of existing research that speaks to our understanding of what influences academic integrity in WIL settings, coupled with the purpose of these educational experiences, compels us to explore the subject area. Additionally, the significance of integrity to the work nurses do, and how that work interrelates and impacts the work of interprofessional teams, ultimately affecting client outcomes, makes it clear that educational efforts that ground student nurses within values aligned with ethical practice is paramount. To that end, a quantitative study ( $N=339$ ) was conducted across three universities, in two Canadian provinces, and examined the influences on intention to behave with integrity in the WIL setting for upper year nursing students (Years 3 and 4). The study, findings, and recommendations for practice are discussed.

## Method

### Research questions

The primary research questions underpinning this study were:

1. To what extent do students differ on Theory of Planned Behaviour (TPB) variables?
2. What predicts intention to behave with academic integrity among senior nursing students in clinical practice across three different Canadian Schools of Nursing?



**Fig. 1** Ajzen's Theory of Planned Behaviour. Copyright © 2006 Icek Ajzen

The overall purpose of the research was to identify predictors of intent to behave with academic integrity in student clinical practice with senior nursing students.

#### **The Miron integrity nursing survey (MAINS)**

Ajzen's Theory of Planned Behaviour (TPB) served as the framework for the study (Fig. 1). This theory was especially appropriate since it serves to understand behaviour through three predictor variables (attitude, subjective norm, perceived behavioural control). In fact, the TPB has been widely adopted in a variety of research focused on understanding and explaining behaviour across a variety of populations (Cooke et al., 2016; Thompson-Leduc et al., 2015). Additionally, the TPB has reported reliability and validity in predicting a wide range of different behaviours (Barati et al., 2015; Hammer et al., 2018; Ickes & Sharma, 2011).

Ajzen proposes that attitude, subjective norm, and perceived behavioural control directly influence a person's intention to behave in a certain manner (Ajzen, 2006). In turn, intention directly influences a person's actual behaviour. Human behaviour is guided by the positive or negative attitude toward a behaviour. For example, students' positive or negative attitudes toward the values of academic integrity will affect whether they acquiesce to these values. The social pressure students feel to behave within academic integrity in turn affects their experience of what a subjective norm is for their learning experience. Finally, how easy, or how hard it is to behave with academic integrity will directly affect the students' perceived behavioural control around their behaviours related to academic integrity (Miron J: Academic integrity and senior nursing undergraduate clinical practice, unpublished).

The inability to locate an existing tool through the literature necessitated the development of the Miron-Academic Integrity Nursing Survey (MAINS: Additional file 1). The MAINS consists of a 38 question (41-item) self-report survey with six background variables (sex, age, program stream, year of study, and understanding of academic integrity policies) and four TPB scales (Attitude-12 items, Subjective Norm-10 items, Perceived Behavioural Control-10 items, Intention to Behave-3 items).

The direct items on the TPB scales assessed a person's direct beliefs about the predictor variables and were developed based on findings from a literature review (Ajzen, 2006; Francis et al., 2004). Indirect TPB items tap into the underlying behavioural beliefs that a person holds as well as the person's evaluation of potential outcomes to the specific behaviour in question and were developed after the analysis of findings from an Elicitation Study ( $N = 30$ ) for predominant themes (Miron, 2019).

Responses for all survey items reported on a unipolar 7-point Likert scales ranging from strongly disagree (1) strongly agree (7). On analysis, negatively worded questions were reversed so that the Likert scales were consistent in capturing scores on the set ranges (lower scores-1 to higher scores-7).

The MAINS face and content validity were completed with the help of five experts and an overall Content Validity Index (CVI) was calculated. The final MAINS survey items scored 0.90 above the 0.80 recommended score for newly developed tools (Davis, 1992; Newman et al., 2013). The MAINS was tested through a pilot study ( $n = 59$ ) and reliability testing completed through the Cronbach's alpha. Changes were made to the survey based on the Cronbach findings and a re-pilot of the tool

**Table 1** Cronbach alpha coefficients for theory of planned behaviour scales MAINS

Scale	Range	Number of Items on Scale	Cronbach Alpha Scores
Attitude	(12–84)	12	0.82
Subjective Norm	(10–70)	10	0.70
Perceived Behavioural Control	(10–70)	10	0.71
Intent	(3–21)	3	0.75

was completed ( $n = 29$ ). Cronbach scores for all TPB scales on the MAINS reached  $\alpha \leq 0.70$  (Table 1) (Bonett & Wright, 2015).

Efforts to reduce social desirability bias, the tendency for respondents to answer questions based on their perceptions of favourable responses, were made through the anonymity of the survey, and adhering to a process that protected respondents' personal information from the researcher (Podsakoff et al., 2003).

### Procedure

This study was approved by the university's research ethics board (REB GMED-003–14). Study information letters were posted through course learning management sites prior to a research assistant (RA) visiting selected classes to describe the study in more detail, recruit interested respondents, obtain respondent consents, and have respondents participate. The Year 4 nursing students from Site # 1 received the information letter through their e-mails as they were not readily accessible on campus. The online respondents completed their consent through the online survey. Online surveys for Year 4 Site #1 were compiled through the Q-FluidSurvey©2015.

### Sample

Inclusion criteria for the study included participants being nursing students enrolled in Years 3 or 4 of their studies, interested in voluntary participation, and with an ability to read and write English. The final MAINS collected self-reports from a convenience sample of upper-year nursing students ( $N = 339$ ) studying across three different post-secondary institutions (Site #1, Site #2—Central Canada  $n = 263$ , Site #3—Eastern Canada  $n = 76$ ). Students were enrolled in a variety of clinical settings including community and acute care.

### Statistical analyses

The main statistical analysis that was completed was hierarchical multiple regression (Tabachnick & Fidell, 2007). Multiple regression allowed for the analysis of multiple variables, as was the case for this study. Statistical analysis was performed using SPSS© version 23. Descriptive statistics included means and standard deviations (SD) for normally distributed data and frequencies for categorical data. T-tests and ANOVA tests assessed the relationships among variables and across sites. All background variables were condensed to dichotomous categorical variables since the responses for each variable fell clearly into two clear groupings.

**Table 2** Frequencies sex, age of respondents, program stream, year of study of respondents, and understanding of AI policies by site and for the total sample

	Variable	<i>n</i>	Percent (%)
<b>Sex</b>			
Site #1	Female	102	93.5
	Male	7	6.5
Site #2	Female	130	84.4
	Male	24	15.6
Site #3	Female	68	89.5
	Male	8	10.5
<b>TOTAL SAMPLE</b>	<b>Female</b>	<b>300</b>	<b>88.5</b>
	<b>Male</b>	<b>39</b>	<b>11.5</b>
<b>Age</b>			
Site #1	20–25 years	97	88.9
	26 years +	12	11.1
Site #2	20–25 years	68	44.0
	26 years +	86	55.0
Site #3	20–25 years	58	76.0
	26 years +	18	24.0
<b>TOTAL SAMPLE</b>	20–26 years	<b>223</b>	<b>65.8</b>
	26 years +	<b>116</b>	<b>34.2</b>
<b>Program Stream</b>			
Site #1	Undergraduate 4-year	74	68.0
	Accelerated Program	35	32.0
Site #2	Undergraduate 4-year	91	59.0
	Accelerated Program	63	41.0
Site #3	Undergraduate 4-year	63	83.0
	Accelerated Program	13	17.0
<b>TOTAL SAMPLE</b>	<b>Undergraduate 4-year</b>	<b>228</b>	<b>67.3</b>
	<b>Accelerated Program</b>	<b>111</b>	<b>32.7</b>
<b>Year of Study</b>			
Site #1	Year 3	63	58.0
	Year 4	46	42.0
Site #2	Year 3	129	84.0
	Year 4	25	16.0
Site #3	Year 3	36	47.0
	Year 4	40	53.0
<b>TOTAL SAMPLE</b>	<b>Year 3</b>	<b>228</b>	<b>67.3</b>
	<b>Year 4</b>	<b>111</b>	<b>32.7</b>
<b>Understanding of AI Policies</b>			
Site #1	Yes	93	85.0
	No/Don't Know	16	15.0
Site #2	Yes	135	88.0
	No/Don't Know	19	12.0
Site #3	Yes	68	89.0
	No/Don't Know	8	11.0
<b>TOTAL SAMPLE</b>	<b>Yes</b>	<b>296</b>	<b>87.3</b>
	<b>No/Don't Know</b>	<b>43</b>	<b>12.7</b>



### Findings

Frequencies, by sites, were completed for demographic data including sex, age, program stream, year of study, and understanding of academic integrity policies (see Table 2). Most of the combined sample was female with a high rate of the combined sample between the ages of 20–25 years. Most students were enrolled in the undergraduate nursing program and in Year 3 of their nursing studies. Most students reported they understood the academic integrity policies for their respective educational organizations. The top three locations for student information on academic integrity were through course syllabi, professors, and school websites.

Students reported receiving information in a variety of different ways and from a variety of different sources (see Table 3).

**Table 3** Total sample by site: how students receive information about academic integrity

Site	How Students Receive AI Information	Frequency	Percent (%)
	Academic Integrity Program		
#1		12	11.0
#2		18	12.0
#3		9	12.0
<b>TOTAL</b>		<b>39</b>	<b>11.5</b>
#1	Student Handbook	37	34.0
#2		91	59.0
#3		19	25.0
<b>TOTAL</b>		<b>147</b>	<b>43.0</b>
	School Website		
#1		70	64.0
#2		71	46.0
#3		41	54.0
<b>TOTAL</b>		<b>182</b>	<b>54.0</b>
	Course Syllabi		
#1		94	86.0
#2		92	60.0
#3		72	95.0
<b>TOTAL</b>		<b>258</b>	<b>76.0</b>
	Professors		
#1		95	87.0
#2		101	66.0
#3		59	78.0
<b>TOTAL</b>		<b>255</b>	<b>77.0</b>
	Teaching Assistants		
#1		32	30.0
#2		6	4.0
#3		5	6.5
<b>TOTAL</b>		<b>43</b>	<b>13.0</b>
	Classmates		
#1		16	15.0
#2		20	13.0
#3		5	6.5
<b>TOTAL</b>		<b>41</b>	<b>12.0</b>

**Individual site findings**

Independent samples t-tests were conducted with the data for individual sites, to compare the variables for sex, age, year of study, program of study, and understanding of AI policies for all three TPB predictor variables. T-test results were significant at Site #1 for the background variable of year of study and the TPB predictor variables of Attitude and Subjective Norm. Year 3 students rated higher on both scales: Attitude Year 3 M = 61.62, SD = 5.84; Year 4 M = 56.48, SD = 6.49;  $t(107) = 4.33, p < 0.001$ , two-tailed; and Subjective Norm Year 3 M = 48.14, SD = 5.02; Year 4 M = 45.04, SD = 5.51  $t(107) = 3.05, p < 0.003$ , two-tailed. All other t-test findings at Site #1 were not significant (Table 4). These findings suggest that students in year 3 scored more positively on their attitudes and subjective norms than the Year 4. This finding is troubling when you consider that Year 4 are closer to graduating and may have some already set intentions on acceptable behaviours for professional practice.

Site #3 reported statistically significant findings for understanding of academic integrity and Perceived Behavioural Control with a higher mean score for yes (M = 50.67, SD = 5.47) than the no/don't know mean score (M = 48.27, SD = 5.08) ( $p < 0.01$ ). This finding suggests that those students who reported understanding academic integrity also perceived greater control over their behaviour related to academic integrity. All other findings were not significant, although the year of study variable and Subjective Norm reported a  $p$  value close to significance ( $p < 0.06$ ). The Year 3 mean score was lower (M = 47.94, SD = 6.18) when compared to the Year 4 mean score (M = 50.60, SD = 5.84) for Subjective Norm.

**Table 4** Hierarchical multiple regression model summaries for model 1, model 2, model 3 academic integrity in senior nursing clinical

Variable	Model #1			Model #2			Model #3		
	B	SEB	Beta	B	SEB	Beta	B	SEB	Beta
Sex	-0.49	0.22	-0.13	-0.52	0.22	-0.13	-0.22	0.19	-0.06
Year of Study	-0.33	0.14	-0.13	-0.38	0.15	-0.14	-0.15	0.13	-0.06
Understanding AI	-0.20	0.20	-0.05	-0.17	0.20	-0.05	0.13	0.17	0.03
Program of Study	0.02	0.15	0.01	0.08	0.15	0.03	0.18	0.13	0.07
Age	0.001	0.15	0.001	-0.04	0.16	-0.02	-0.07	0.14	-0.03
Dummy Variable #1 (Site)				-0.56	0.19	0.21	-0.09	0.16	-0.03
Dummy Variable #2 (Site)				-0.37	0.19	0.15	-0.31	0.16	-0.13
Attitude							0.08	0.01	0.35
Subjective Norm							0.05	0.01	0.21
Perceived Behavioural Control							0.03	0.01	0.12
R <sup>2</sup>	0.031			0.058			0.326		
F for Change in R <sup>2</sup>	2.16			4.60			43.53		

Program of Study = 4-Year Undergraduate Degree or Accelerated Program

Model 1—Background Characteristics (sex, age, year of study, understanding of academic integrity, program of study)

Model 2—Site + Background Characteristics

Model 3—Theory of Planned Behaviour Predictor Variables—Attitude, Subjective Norm, Perceived Behavioural Control + Site + Background Characteristics

### Across the site findings

A one-way between groups analysis of variance (ANOVA) was conducted to explore the impact of the TPB variables across the three research sites. The ANOVA allows for comparison of the means between more than two groups. There was a statistical difference at  $p < 0.05$  level for the three sites with: Attitude,  $F(2, 336) = 13.45$ ,  $p = 0.001$ ; Subjective Norm,  $F(2, 336) = 20.01$ ,  $p = 0.001$ ; and Perceived Behavioural Control,  $F(2, 336) = 4.01$ ,  $p = 0.020$ . Differences existed between Site #1 and both Site #2 and Site #3 with the variables of Attitude and Subjective Norm. Differences were reported for the variable of Perceived Behavioural control between Site #1 and Site #3. To address these noted differences, an additional variable of site was created to address differences across the three locations.

### Multiple regression findings

Hierarchical multiple regression analysis was the final level of analysis. The background variables of sex, age, year of study, program of study, and understanding of academic integrity were entered at Step 1 and explained 3.1% of the variance in intention but did not reach statistical significance and Year of Study were the only two background variables that contributed to the first model (Table 4). These findings suggest that a small percentage of the variance or difference could be attributed to students' intention to behave with integrity but not significantly.

A second model was entered that included the background variables and the variable of site. Model 2 accounted for a total variance of 5.8%. Site accounted for an additional 2.7% of the variance with intent to behave with academic integrity, after controlling for the background variables (Table 4). The two site variables accounted for the greater beta values (the degree of change in the model) and Year of Study and Sex continued to contribute.

The three predictor variables for the TPB (Attitude, Subjective Norm, Perceived Behavioural Control) were added into the final model (Table 4, Model # 3). The background, site, and TPB variables explained 32.6% of the variance in intention to behave with academic integrity. The TPB variables explained an additional 26.8% of the variance in intention after controlling for the background and site variables. In the final model, only the TPB predictor variables were statistically significant with Attitude having the highest beta value, followed by Subjective Norm and PBC (see Table 4). In other words, attitude (toward the importance of academic integrity), subjective norm (acceptance of academic integrity), and perceived behavioural control (the ease with which a student could behave with integrity) had the greatest influence on students' intention to behave with academic integrity within the student clinical practice setting.

### Discussion

There is little existing literature that speaks to practical approaches that address WIL learning settings and integrity. Findings from this study inform suggestions to understand and support ethical WIL opportunities for nursing students. Model #1 did not reach statistical significance indicating the background variables did not play a major role for intention to behave with academic integrity in the WIL setting. Model #2

reached significance with the addition of site playing the biggest role with intention to behave with academic integrity. In Model #3, only the three TPB variables were statistically significant in contributing to the large increase in variance of intention to behave with academic integrity. Attitude had the highest beta (largest influence on influencing intention), followed by Subjective Norm, and Perceived Behavioural Control respectively. One general suggestion includes the need for nursing curricula to include an ethics course that incorporates a focus on nursing practice and discusses how to “effectively deal with ethical dilemmas and misconduct” (Christensen Hughes & Bertram Galant, 2016, p. 1057).

### **Attitude and academic integrity**

The MAINS measured how students would feel behaving with academic integrity in the WIL setting related to several attributes associated with academic integrity behaviour (promoting teamwork, feeling confident, promoting patient safety, doing something positive). The strength of an attitude is influenced by the evaluation of the attribute(s) associated with the attitude object (Ajzen, 2005). In this study, the attitude scale measured students' attitudes toward behaving with academic integrity in the WIL setting. Lower scores on the Attitude Scale suggest that students value behaviours that are consistent with academic integrity less than students who have higher scale scores. Lower scores diminish their intentions to behave with academic integrity. Some extant literature explored attitude as a variable focused on departures from academic integrity. Higher scores on academic dishonesty attitude scales were positively and significantly related to different groups of students' intentions to behave dishonestly (Alleyne & Phillips, 2011; Jurdi et al., 2011) and actual dishonest behaviour (Harding et al., 2007; Smith, 2010).

Educational interventions to promote integrity should focus, shape, and cultivate students' beliefs (cognition) around the merits and importance of behaving with academic integrity in WIL settings and the effects (attributes) such behaviour will have for their learning and practice. Students recognized that behaving with integrity in the WIL setting affected patients, professionals, and other students and reported that supportive WIL environments, WIL instructors, and health care teams were essential to their ability to practice with academic integrity and in turn, learn.

Case-based scenarios, simulated learning environments, and real-time focused WIL conferences will allow students to explore, discuss, make connections, and identify ethical practice challenges and learn strategies to negotiate these challenges (Thiel et al., 2013). Safe, controlled, facilitated efforts that help students unpack behaviours that run counter to ethics may support the development of their own ethical deportment (Benner et al., 2009). Simulation and real-time focused WIL conferences allow students opportunities for reflective thinking that facilitates their conscious consideration of meaning for ethical conduct (Decker et al., 2013).

Attitudes develop because of formed beliefs, which arise spontaneously from internalized accessible information that in turn affects individuals' behaviours and actions (Ajzen & Fishbein, 2000). When individuals face a new situation that requires them to evaluate an attitude object, they draw upon current, relevant information to shape their attitude (Ajzen, 2005). Students will face new situations in clinical settings on a regular basis and throughout their educational journey. Scaffolding educational endeavours

throughout the undergraduate educational experience is imperative since Year 4 students reported lower attitude scores than Year 3, demonstrating their need for continued support in shaping accessible beliefs and their attitudes about academic integrity (Miron J: Academic integrity and senior nursing undergraduate clinical practice, unpublished). Communication through learning management systems, course syllabi, and all student contact that is consistent with academic integrity will support a foundation for students. Actively engaging students with their learning will promote their intrinsic motivation to learn with integrity.

### **Subjective norm and academic integrity**

Subjective Norm emerged as the second greatest contributor to Model #3. The referent groups the students identified were classmates, patients, and people deemed important (family, loved ones, and friends). Subjective norms help define the individual's social norm and expectations for behaviour. Concerns exist that neutralizing behaviours are how students normalize their departures from academic integrity in WIL settings. In this study, students' referent groups played a major role in influencing how they perceived their subjective norm within WIL settings. Like Smith (2010), subjective norm was the second largest statistically significant predictor to departures from academic integrity with continuing educational students. While educational organizations may not have influence over at least two of the identified referent groups, the third group, namely other students, should be recognized and developed as they play an influential role.

Administrators play pivotal roles in setting the norms for educational cultures of integrity (Bertram Gallant & Drinan, 2006). Priorities for establishing and strengthening the academic integrity agenda across WIL settings should include consistent, clear academic integrity communication strategies; planned curriculums that include strategies focused on influencing students' attitudes, subjective norms, and perceived behavioural control about academic integrity; and ongoing WIL instructor education and development (Ismail et al., 2016; Wiens et al., 2014). Additionally, nurse administrators should realize that not all WIL settings share values consistent with academic integrity. Consideration on how to bridge potential gaps and forge relationships with WIL setting administrators and staff to establish WIL opportunities that are consistent with the values of integrity is important. The location and quality of WIL placements need to be continually examined and considered for their alignment and effectiveness with meeting student-learning goals embedded in the values of academic integrity. A vision for WIL settings that are grounded in ethical practice can only be realized through the co-operation of educators and industry members. Creating industry advisor groups that work closely with educational institutions to advise around WIL curriculum is invaluable and necessary.

Clear policies and procedures around academic integrity that are easily accessible to members of the learning community will also help establish normative behaviours (Bretag et al., 2011). The consequences for a breach to academic integrity vis-à-vis policies and academic regulations, must be transparent and employed fairly and consistently to support students' evaluations of the outcomes for behaviours inconsistent with academic integrity in WIL settings (Yang et al., 2013). Nursing literature has highlighted concerns with differences demonstrated in students' perceptions about classroom

and clinical integrity (Arhin & Jones, 2009; Hilbert, 1985, 1987, 1988; McCrink, 2010; Smith, 2010)—so, it is important to ensure that all endeavours related to academic integrity are seamless across classroom and WIL settings. Processes for reporting departures from academic integrity should be manageable for WIL instructors to ensure follow-through and completion (Bretag et al., 2011).

Clear, accessible communication with students about expectations for conduct will strengthen expected culture norms. Findings, in this study identified that students relied on course syllabi, professors, school websites, and student handbooks for information on academic integrity. Language must be clear and consistent across all platforms. WIL instructors should articulate and model their expectations at the start and throughout each WIL course. Written communication and interactions between WIL instructors and students should be consistent with the values of academic integrity. Other strategies to establish expected norms include signed student pledges with all assignments (Lang, 2013; Prins & Lathrop, 2014); student academic integrity modules with WIL examples that are threaded throughout the program; transparent communication that includes regular reports to students about departures from academic integrity and resulting penalties (Yang et al., 2013). In this study, subjective norm scores were not significantly different, but were lower in two of the three sites with Year 4 students when compared to Year 3 students. Scaffolding the educational modules may support students to understand and demonstrate behaviours consistent with academic integrity in concert with their continued and varied experiences in WIL settings (Miron J: Academic integrity and senior nursing undergraduate clinical practice, unpublished).

#### **Perceived behavioural control and academic integrity**

Perceived behavioural control (PBC) is the individual's perceptions around the level of difficulty or ease associated with completing a specific behaviour (Ajzen, 2002). Control beliefs contribute to PBC and serve as a proxy for actual control when an individual is realistic about the level of difficulty associated with completing the target behaviour (Ajzen, 2002). Ajzen suggests that PBC strengthens individual's intention to behave in a certain way and increases their perseverance and effort with their intention. PBC is rooted in the concept of self-efficacy in that both are concerned with a person's perceived ability to perform specific behaviours (Ajzen, 2002). In this study, PBC focused on how easy or hard it was for students to behave with integrity in the clinical setting. Findings from several studies also reported that PBC had the lowest predictive power for intention to behave with integration in the academic setting (Alleyne & Phillips, 2011; Smith, 2010).

Students in this study identified supportive WIL instructors and WIL environments as key to building their confidence and ease to behave with academic integrity. WIL instructors and WIL environments should allow students opportunities to reflect on their practice, recognize and correct mistakes and identify gaps in their knowledge—without fear of reprisal. Literature supports the argument that such environments are essential in enhancing meaningful learning and building student confidence in the WIL with student groups other than nursing (Al Haqwi & Taha, 2015; Evenson, 2013; Liljedahl et al., 2015; Recker-Hughes et al., 2014). WIL instructors have a pivotal role to play in creating supportive environments by approaching teaching/learning situations in

non-judgmental and encouraging ways that focus on increasing student self-efficacy and confidence. As well, instructors should identify WIL environments that may not support students in their efforts to behave with academic integrity so that issues are addressed with students and potentially, the WIL setting.

Students' academic workload was a pressure point to behave with academic integrity. This finding is like reports with other student groups (Eriksson & McGee, 2015; Henning et al., 2014). Increased numbers of academic assignments contribute to time pressures for students and are potentially a contributing factor to stress, which reduces students' perceptions of control, and influences choices they make around adopting the values of academic integrity. Creating authentic and meaningful assignments that help students to understand WIL content are important considerations. When situations arise in the WIL setting that demonstrate commitment to the values of academic integrity or challenge commitment to the values of academic integrity, having students reflect about the incidents with respect to the outcomes and potential costs for patients, learning, and teamwork are worthwhile endeavours. Structuring WIL in blocks of time so that they can focus solely on their practice component may also alleviate students' trying to balance expectations for their theory and WIL requirements. Creating guided debates on practical examples of academic integrity in WIL settings could help students consolidate their understanding of the values associated with academic integrity and the extent to which those values are enacted and realized in WIL settings (Miron J: Academic integrity and senior nursing undergraduate clinical practice, unpublished). Additionally, providing ongoing formative feedback throughout the WIL experience should help support student understanding about the merit and importance of certain assignments throughout WIL.

### **Limitations**

This study provided important information that contributes to content knowledge of academic integrity in the nursing students' WIL settings; however, there are five limitations that must be considered. First, the MAINS was administered at a single point in senior nursing students' studies and as such provides data that are temporally located. Second, the sample was drawn from three different sites, but it is not clear if the findings are generalizable. Third, due to the self-report survey approach and the content focus of the research, the issue of social desirability bias must be considered (Krumpal, 2013). Fourth, in addition, due to the limitation of the researcher to English, all respondents included in the study had to be able to read, write, and understand English. Finally, the survey was administered to nursing students in their senior years of studies and may not speak to transferability of the study findings to other groups of students in professional studies, and to students in the early years of their professional programs.

### **Conclusion**

The importance of realizing the values associated with academic integrity in academic studies is pivotal when considering the goals of post-secondary education include expanding students' knowledge to support their intellectual capacity; challenging and strengthening students' moral and ethical development and interest in the truth; and supporting students' development for successful vocational experiences (Arthur &

Bolin, 2005). The quality of the teaching/learning exchange is largely contingent upon relationships within the academy that are authentic and anchored in the values of academic integrity. Nursing is one of many professional programs of study that include a component of praxis in which students synthesize their theoretical knowledge in concert to real-world settings. WIL opportunities offer nurse educators the opportunity to leverage practical experiences that highlight ethical practice. The values of academic integrity should be intrinsic to curricula that addresses the required knowledge for professions and must translate across all learning settings, including the clinical stage. These values are consistent to the values expected for professional ethical practice so that it becomes important to situate students within academic integrity values to ensure their transition to safe, ethical practice. Members of the academy including leaders, faculty (WIL instructors), and students all have responsibilities to realize their roles in creating, supporting, and promoting academic integrity values across all learning environments and with all learning activities. Findings from this research demonstrated students' attitudes, subjective norms, and perceived behavioural control play a major role in influencing their intention to behave with the values of academic integrity in the WIL setting. It behooves professional programs and all those involved in the education of students within WIL practice curricula to promote the development of positive attitudes toward academic integrity that will in turn positively affect their intention to behave with academic integrity in the clinical setting and integrity in their post-graduate practice.

#### Abbreviations

AI	Academic integrity
ANOVA	Analysis of Variance
CASN	Canadian Association of Schools of Nursing
CNA	Canadian Nurses Association
CNO	College of Nurses of Ontario
ICAI	International Centre for Academic Integrity
M	Means
MAINS	Miron Academic Integrity Nursing Survey
PBC	Perceived Behavioural Control
SD	Standard Deviation
TPB	Theory of Planned Behaviour
WIL	Work-integrated learning

#### Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1007/s40979-022-00107-y>.

**Additional file 1.**

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#### Authors' contributions

The principal author is Dr. Jennie Miron who conducted all phases of the research and completed the analysis of all gathered data. The article was written by Dr. Jennie Miron. Dr. Rosemary Wilson who fulfilled the role of doctoral committee member and contributed to my dissertation. Dr. Kim Sears fulfilled the role of doctoral supervisor and contributed to my dissertation. Dr. Sears reviewed and gave suggestions for the article before submission. The author(s) read and approved the final manuscript.

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#### Availability of data and materials

The full doctoral thesis is in the Queen's University repository. I have included the main data in the manuscript. The raw data will not be shared nor made public as this was not included as part of my submission to gain REB approval and the participants were not advised of this potential for sharing of the information in this manner.



## Declarations

### Competing interests

There are no competing interests for this manuscript.

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