

**An Integrative Cognitive-Motivational Model of Student Motivation to
Engage in Activities for Development of Professional Competencies**

by

Grant Alexander Stebner

A thesis

presented to the University of Waterloo

in fulfillment of the

thesis requirement for the degree of

Master of Arts

in

Psychology

Waterloo, Ontario, Canada, 2019

© Grant Alexander Stebner 2019

Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

This paper introduces an integrative, cognitive model of motivation, expanding on work by Bandura (1977) and Vroom (1964), to gain insight into students' participation in activities to promote their development of professional competencies. The paper seeks primarily to elucidate motivational theory that can guide educators' efforts to encourage students' fuller engagement in activities for competency development, including "soft skills" development. In this cognitive theory, students' beliefs about personal capacity to perform developmental behaviours, behavioural effectiveness toward competency development, and ultimate personal benefits of competency development determine motivation toward actions for competency development. Secondly the paper reports findings from an initial study concerning this theory. Interviews were conducted with 14 students in a professionally oriented undergraduate program. Questions concerned the students' motivationally relevant beliefs, including awareness of developmental opportunities, beliefs about self-efficacy and program efficacy, and beliefs about the personal benefits of developing professional competencies. Thematic analysis of the transcribed interview data was performed in order to evaluate the applicability of our proposed model, in terms of whether students' patterns of beliefs and behaviour were consistent with the model. Findings provided support for this applicability in several regards, while also allowing a deeper look at how students in professional programs conceptualize the process of competency development. Implications for educators seeking to motivate participation in developmental opportunities are discussed, along with possible directions for future research.

Acknowledgements

I would like to thank my supervisor, Dr. John Michela, and my readers, Drs. Wendi Adair and Paul Wehr for their support and guidance. I am also grateful to my family and friends. In particular, I would like to thank Grace Zhou and my father, Eric Stebner, for their insight and understanding.

Table of Contents

Author's Declaration.....	ii
Abstract.....	iii
Acknowledgements.....	iv
Table of Contents.....	v
List of Tables & Figures.....	vi
Introduction.....	1
Method.....	15
Results.....	19
Discussion.....	33
References.....	43
Tables & Figures.....	49
Appendices.....	54

List of Tables & Figures

Table 1	49
Figure 1	50
Figure 2	51
Figure 3	52
Figure 4	53

Introduction

The importance of finding fully qualified, multi-skilled employees cannot be overstated in today's competitive business climate. Competent and capable employees can be a key differentiator between businesses that are profitable and those that fail. However, upon entering the workforce, many students lack the professional competencies that differentiate the best from the rest (Nair, Patil & Mertova, 2009). A greater understanding of how to develop professional competencies in students prior to their employment would therefore be of great value not only to business leaders but also to educators who recognize their responsibility to promote professional development along with disciplinary education.

For example, in Ontario, Canada, the associated cost in forgone business growth has been estimated at \$23.4 billion in GDP from what has been termed the "skills gap" (Stuckey & Munro, 2013). A recent review by the Ontario Chamber of Commerce (2016) identified a particularly pronounced deficit in interpersonal competencies or soft skills among recent post-secondary graduates. While these new market entrants tended to be highly skilled in terms of hard or technical competencies, employers noted that they were often lacking in basic relational and communication skills. The automation of technical processes using artificial intelligence suggests that this human element will continue to take on an increasingly important role in the years to come, with machines projected to handle more than half of workplace tasks by 2025 (Singh, 2018). Yet, much remains to be learned about how soft skills and other generic professional competencies can best be cultivated in students in order to prepare them for this modern workforce.

Motivation is an important predictor of individuals' participation in training and development activities (Tharenou, 2001) and plays a significant role in the acquisition and improvement of soft skills (Graham & Tarbell, 2006). It is worthwhile, therefore, to consider how educators can foster improved motivation in students. As we detail later, in cognitive-motivational theory, one key to this motivation involves various beliefs that students hold about actively pursuing competency development. For example, some students may not see their field

as one in which soft skills are vital to success. Also, some students may not see themselves as being able to acquire soft skills or other generic competencies, or they may not believe that prescribed developmental activities will effectively develop the desired competencies. The extent to which students hold and are influenced by these and other motivationally relevant beliefs is an empirical question that this study begins to address.

Scholars such as Colquitt, LePine & Noe (2000), and Carlson, Bozeman, Kacmar, Wright & McMahan (2000) have been working toward answering the question of how to understand and improve employee motivation for professional development. This previous work provides a broad, overarching perspective that identifies situational and personality variables applicable to various job- and career-related development. In contrast, the current study employs a motivational framework that “drills down” into the cognitive processes at play within the individual, with a more specific focus on student motivation to engage in activities designed to promote the development of professional competencies.

Competencies in Professions, HRM, and Higher Education

There is no universally agreed-upon definition for competencies in the professional or human resource management (HRM) domain (Rainsbury, Hodges, Burchell & Lay 2002). Boyatzis (1982) defines competencies as underlying personal characteristics of various kinds (motives, traits, skills, knowledge, or aspects of perceptions of self or social role) that result in superior performance by an individual in a given context. This contrasts with Boam & Sparrow (1992), who see competencies as collections of task-relevant behaviours. Birkett (1993) describes them as the integration of knowledge, skills and abilities (KSAs) to perform a task effectively. Additionally, Sandberg (2000) distinguishes between traditional, “rationalist” views of competencies, which he criticizes as being overly atomistic, compared to more interpretive approaches that view competencies as being more than merely the sum of their constituent parts. According to Sandberg, employees use their interpretation of their work in a specific context to organize and integrate a constellation of task relevant KSAs. Sandberg’s approach is perhaps the most useful for the present study as it provides justification for considering competencies

holistically, rather than simply as groupings of individual KSAs. This view also highlights the importance of an individual's interpretation of events, which, as will be argued below, is key to understanding motivation.

Many competencies can be characterized as falling predominantly under the domain of either "hard" (technical) skills, or "soft" (interpersonal) skills (Rainsbury et al., 2002). Professional competencies that involve hard skills are knowledge-based and primarily cognitive in nature. These competencies are substantially tied to the traditional forms of education typically provided in a college or university setting, and their acquisition correlates sizably with an individual's cognitive intelligence. To provide an illustration using the accounting profession, relevant hard skills might include an individual's knowledge of audit and assurance, or his or her capacity to produce financial reports. In fact, Canada's national organization representing the accounting profession, CPA Canada (2018), lists both above examples as falling under their list of required "technical competencies" that new graduates must demonstrate before receiving their professional designation.

By comparison, the soft skills that have been relatively neglected for development within educational programs are now receiving increased attention (Rainsbury et al. 2002). Such skills or interpersonal competencies are becoming more recognized as essential for successful workplace performance and are now seen by many as a truly necessary complement to hard skills. Examples of soft skills generally discussed in literatures from higher education and from human resource management include communication, listening, team problem solving, cross-cultural relations, emotional intelligence and customer service (Dubrin, 2004; Nelis et al., 2009). CPA Canada (2018), lists five "enabling competencies" that candidates are expected to demonstrate before receiving their professional designation. Most of these have clear "soft" (interpersonal or personal) elements: professional and ethical behaviour, problem solving and decision-making, communication (written and oral), self-management, and lastly, teamwork and leadership.

Importantly, it has been argued that competencies are not inborn traits, but rather are personal characteristics or attributes that can be developed over time (Boyatzis, 2008). Indeed, acquiring interpersonal competencies to their fullest extent is a long-term process that can take years (Rhee, 2008). There is thus an obvious need for the integration of competency development into student and employee activities as early on as possible. Some educators attempt to do so through the implementation of cooperative education programs (Rainsbury et al., 2002), in which students alternate academic terms between on-campus coursework and off-campus employment related to their studies. These programs align with an assumption that workplace experience is particularly valuable for competency development. While these attempts may bear some fruit, they typically are not structured to provide development of personal or interpersonal competencies in a systematic way, at least not to the same degree as to develop technical competencies. For example, students working toward the accounting profession may progress over time from less-to-more technically demanding work roles in their off-campus enrolment terms in a reasonably systematic fashion, but the demands for application of interpersonal or other enabling competencies may arise in any order across time—if at all.

Students' Motivation within Learning Processes that Develop Interpersonal Competencies

Although there is agreement that interpersonal and generic competencies can be developed over time, the developmental process is not as automatic as some proponents of “experiential learning” imply. Admittedly, seemingly spontaneously, students can learn a good deal about interpersonal communication, teamwork, self-management, and so forth in “real life” contexts such as while employed off-campus, and also on-campus in contexts that require communication, teamwork, and so forth. However, Experiential Learning Theory (Kolb, 1984) implies that optimal learning occurs when students are motivated to engage the learning process purposefully, as when students truly pay attention to how competency-relevant encounters unfold, and when students reflect on these experiences and arrange for opportunities in the future to build on what was experienced and learned.

In broad brush, Kolb (1984) outlines the process of experiential learning as a cycle consisting of four stages. In the *abstract conceptualisation* stage, individuals gain knowledge and use it to form ideas about how it might be applied. Next, in the *active experimentation* stage, they take action and apply this knowledge to address opportunities or challenges that arise (such as to address a teamwork issue, or to address a misunderstanding with improved communication). In the next stage, *concrete experience*, the resulting consequences unfold. Finally, in the *reflective observation* stage, learners reflect on the meaning of this experience before re-entering the abstract conceptualisation stage where deepened knowledge is assimilated or constructed. Overall, this description of the learning process illustrates how experiential learning requires active engagement from students (*choosing* action, *attending* to consequences, *reflecting*, and so forth) and is much different from mere passive exposure to experience. Such active engagement requires effort, and effort requires motivation (Steers & Porter, 1983).

A further implication of Kolb's (1984) theory is that students are better situated to learn when they enter experiential encounters in "real life" situations already possessing significant abstract conceptualization about the domain with which they are engaged (communication, teamwork, etc.). A learner's prior abstract knowledge provides a basis for more meaningful choice of action in the active experimentation stage, more capacity to recognize and understand impacts of one's actions in the concrete experience stage, and more basis for meaningful reflection—toward ever-deeper conceptualization—in the later stages (Stirling, 2019). Students who take advantage of on-campus opportunities to acquire conceptualizations pertinent to interpersonal and generic competencies thus can be expected to hold an advantage in subsequent experiential learning. Thus, there should be dividends for competency development from enhancing students' motivation to fully engage classroom and other on-campus opportunities to acquire *concepts* in the areas of ethics, decision-making, teamwork, and the others in the domains of interpersonal and generic competencies.

In support of this base of knowledge, many college and university programs—especially professionally oriented ones—provide various opportunities for students to gain conceptual

understanding and behavioural practice and coaching toward developing and applying competencies (e.g., University of British Columbia, n.d.). Some of these opportunities involve events that students can attend voluntarily (or not), such as professional networking events or case analysis competitions that require, for example, poise and clarity in communication. Other opportunities are embedded within course requirements, such as when students receive instruction with prescriptions for teamwork behaviour, or when they must work in teams to complete course assignments. In these instances, a major volitional element remains, namely the extent to which the student engages the opportunity to learn about the interpersonal or generic competencies, as opposed to focusing on primary course material which may be technical in nature as in most courses in professionally-oriented fields such as accounting or engineering.

During their time in undergraduate coursework, students in engineering, accounting, and many other professionally oriented programs must learn considerable amounts of course content in support of technical competencies. As we learned after speaking with several faculty members in our university's undergraduate program in accounting and finance, students commonly state that this technical learning must be prioritized over addressing the soft skills, and many recognize that professional competency development requires targeted effort. Correspondingly, instructors and program administrators often observe less-than-complete participation in voluntary events outside class time and in developmental opportunities inherent within course activities when they are seen as being on the "soft side." The challenge here arises in other professional fields too, as in medicine, where the technical matters that are "self-evidently at the core of medicine" often push aside proper attention to interpersonal or generic competencies (Aarnio, Nieminen, Pyörälä, & Lindblom-Ylänne, 2010, p. e199).

Thus, student effort toward developing personal and interpersonal competencies requires motivation. How, in turn, should we understand motivation and its determinants in this context? The following section addresses this question in a manner to lay the groundwork toward an integrated model for promoting educators' and employers' efforts in support of professional competency development.

Cognitive Theories of Motivation

Motivation is typically defined in the psychological literature as “the intensity, direction, and persistence of effort a person shows in reaching a goal” (Langton, Robbins, & Judge, 2010, p. 130). An initial distinction can be made between needs theories and process theories of motivation. Needs theories focus on ends towards which people strive, spanning physiological, emotional, interpersonal, and other domains. For example, Alderfer’s (1969) ERG theory, describes how existence (physiological), relatedness (interpersonal) and growth (existential/fulfillment) needs influence motivation. Process theories, on the other hand, explain how needs are translated into action (Thacker & Blanchard, 2006). Such theories vary in complexity, ranging from the stimulus-response pairing of classical conditioning, to the more elaborate cognitive models. Skinner’s (1953) prominent reinforcement theory expands on Thorndike’s (1905) law of effect, which states that behaviour followed by needs satisfaction or other rewards tends to be repeated, while behaviour followed by unfavourable consequences tends to be avoided in the future. While such theories have obvious utility, and were considered revolutionary in their time, they were later criticized for failing to consider individuals’ reflection on inner experiences (Thacker & Blanchard, 2006). Cognitive process theories, such as Bandura’s (1977, 1986) and Vroom’s (1964), attempt to remedy this shortcoming.

Social Learning and Social Cognitive Theories. Bandura’s (1977) social learning theory and, later (1986), social cognitive theory (SCT) extend behavioural learning and motivational processes to include the inner experience of the individual. It is not simply past consequences, as with Skinnerian theory, but future, expected consequences of a behaviour that are understood to motivate action. According to SCT, expected consequences influence motivation through how they are perceived, interpreted and stored in memory. A person with a salient, unmet need or desired outcome is able to consider behavioural alternatives for reaching the desired end. The individual’s beliefs about linkages between means and ends (behaviours and outcomes) are crucial.

Two such linkages appear in Figure 1, adapted from Bandura (1977). On the right, outcome expectations are depicted. “An outcome expectancy is defined here as a person’s estimate that a given behavior will lead to certain outcomes” (p. 79). Simply put, there is greater motivation to engage in any given behaviour to the extent that there is greater perceived likelihood that the behaviour will yield a desired outcome. Educators tend to be quite familiar with applications of this principle for motivating their students’ efforts. For example, knowing that most students seek high marks as course outcomes, instructors may provide behavioural advice such as to not fall behind in course work so as to avoid cramming for tests which yields lower marks.

A further linkage identified by Bandura involves the individual’s *self-efficacy* expectations. According to Bandura (1977),

An efficacy expectation is the conviction that one can successfully execute the behaviour required to produce the outcomes. Outcome and efficacy expectations are differentiated because individuals can come to believe that a particular course of action will produce certain outcomes, but question whether they can perform those actions. (p. 79)

This factor of self-efficacy in motivation warrants elaboration here because it is potentially less familiar and more challenging for educators to address, especially where motivation for competency development efforts is concerned. As we will detail later, some students may believe that higher levels of personal or interpersonal competencies *would* have value if they could be enacted, but reaching the level of competency to enact them is a barrier. Bandura elaborates four sources of self-efficacy.

Performance accomplishments affect self-efficacy through the acquisition of relevant experiences (Bandura, 1977, 1986, 1997). For example, a student who is writing a final exam will have self-efficacy expectations based on how well he or she did on the midterm for the course. If he or she did well, his or her self-efficacy in that context (exam writing for that course and perhaps in general) might increase. If he or she did poorly, it could diminish.

Vicarious experience operates similarly to performance accomplishments, except that self-efficacy expectations are adjusted based on the observed performance of another individual rather than one's own experiences (Bandura, 1977, 1986, 1997). This effect is strongest when the other individual is perceived as similar to oneself. For example, a student may feel either more or less confident writing an exam based on the reported experience of a friend who is believed to be of similar capability.

Another important determinant of one's efficacy expectations is *verbal persuasion* (Bandura, 1977, 1986, 1997). This occurs when an individual is persuaded by another that he or she is either more or less capable of the behaviour in question. This effect is amplified when the persuader is an authority figure or someone the individual admires. For example, if a professor tells a student that he or she has a good chance of doing well on an exam, that student's self-efficacy for that exam should increase, especially if the student admires or respects that instructor.

Finally, *emotional arousal* is the extent to which an individual is in an energized or excited state, either physically or psychologically (Bandura, 1977, 1986, 1997). The influence of this effect depends on what the individual attributes the arousal to, and whether that arousal is context appropriate. For example, a student who notices his or her heart racing while writing an exam will do better if he or she attributes it to arousal from determination and high engagement, rather than from nervousness.

Expectancy theory. Vroom's (1964) expectancy theory offers additional insights into cognitive processes in motivation. Although Vroom developed his theory for the context of work effort by an employee, Figure 3 uses students' work toward course grades for illustration.

Expectancy to Vroom (1964) is the belief that a given amount of behavioural effort will result in a given level of performance outcome. This concept clearly is similar to Bandura's outcome expectations in that it provides a link between behaviour and outcome. In various contexts of effortful work, various contingent factors could impact perceptions of the probability of successful performance, given effort. For example, a student might have doubts about whether

an exam will be “fair” (just as an employee might doubt her supervisor’s fairness in performance evaluation), and thus be less motivated to exert effort such as attending class. Self-efficacy can be considered such a contingency here as well. For example, someone could believe that effort in studying a mathematics textbook is pointless, because of a lack of ability to learn mathematics.

The primary contribution of Vroom’s theory for our cognitive model of motivation for competency development stems from the *instrumentality* construct in Figure 3. This construct links the immediate performance outcome to second level outcomes that depend on performance. *First-level outcomes* are direct results of effortful behaviour, which for our theoretical purposes involve progress in acquiring professional competencies. *Second-level outcomes* are the desired rewards that follow from the immediate performance outcome. With professional competencies, these outcomes could involve job performance and career success. As with expectancy, instrumentality beliefs involve perceived probabilities of means-ends linkages.

Perceiving such linkages is, however, necessary but not sufficient. Vroom’s theory further stipulates that this perceiver must place sufficiently high value on the second-level outcomes if those outcomes are to figure into motivation. Vroom calls this *valence* of the outcomes.

An Integrated Cognitive Model of Motivation for Competency Development

We now propose the integration of these two theories into an integrated model that seeks more thorough understanding of motivation for professional competency development.

In our integrated model provided in Figure 4, *prescribed behaviour* corresponds with Bandura’s *behaviour* (Figure 1) and Vroom’s *effort* (Figure 3). In the context of competency development in colleges and universities, this is the behaviour that educators are seeking to motivate. For example, students in an academic program might be given an opportunity to attend a workshop designed to promote development of emotional intelligence. Attendance at this workshop is a prescribed behaviour in the sense that the academic program leaders have made the workshop available because they believe it to be a worthwhile developmental activity for students. The model indicates (near the far left) that motivational force toward this prescribed

behaviour first requires awareness of opportunities to perform that behaviour (*developmental opportunity awareness*). Particularly for voluntary and outside-of-class activities such as the envisioned workshop, for invited speaker events, networking events, or club involvement, it may be no small matter to ensure that students are aware of the opportunity. In addition, within courses, the competency-developmental significance of some activities such as teamwork or communication requirements may not be recognized. In these instances, even if the remaining components of the model are favourable for motivation to truly engage with the activities for competency development, this engagement may not occur.

The next factor shown in Figure 4, as a further requirement for this motivation to exist, is self-efficacy regarding one's ability to perform the prescribed behaviour up to the standard necessary for development (*self-efficacy for prescribed behaviour*). For example, workshops used by Nelis et al. (2009) for development of emotional intelligence involved engaging in behaviours such as role-play. Some students might be deterred from attendance if they doubted their capacity for adequate performance in role-play. Professional networking events provide another example of a prescribed activity for which some students may have too-low self-efficacy.

The individual's *self-efficacy for development* (Maurer, 2001) in this model refers to the learner's beliefs about the extent to which he or she can develop a given competency overall or ultimately—even if the prescribed behaviours are performed. This component is included to capture the notion that some people might consider it unrealistic to become a leader, for example (cf., Swann, 2013). *Program efficacy beliefs* refer to how effective the learner believes that a given program or event for development (prescribed behaviour) will be toward developing that competency (i.e., toward achieving a *competency outcome*). Finally, in this middle area of the model, *perceived competency deficit* refers to the individual's appraisal of the discrepancy between his or her current and desired competency levels. Thus, the model predicts that students who truly possess ample emotional intelligence, for example, and are aware of this fact, will be *less* motivated to attend the workshop, because they have less competency development to gain

compared with other people. Unfortunately, this factor in the model also suggests that many of the people who may be in greatest need of development will lack motivation on the basis of faulty perception of the competency deficit. This suggestion is based on the Dunning-Kruger effect (Dunning, 2011), which occurs when people of low competence in some domain of performance *also* lack the capacity to recognize their standing and believe themselves to have higher standing.

Instrumentality is adopted as such from Vroom (1964) and refers to how much of an asset an individual believes a given competency will be toward the pursuit of his or her broader goals or desires, here specified as *career outcome*. For example, an accounting student may dream of one day becoming chief financial officer of a large firm. The extent to which he or she sees communication as useful in eventually acquiring that role should contribute to how energetically he or she will pursue developing that competency.

It may bear repeating that this model places emphasis on an individual's *beliefs* about behaviours and their outcomes. This is shown graphically in Figure 4 with arrows travelling *back* to beliefs, *from* developmental opportunity awareness/self-efficacy for prescribed behaviour, self-efficacy for development/program efficacy beliefs/perceived competency deficit and instrumentality. Thus, we note that ours is not a conventional causal path model that seeks to describe A causing B, B causing C, and so forth, left to right. It is partly a mental map of the learner (who, as one example, may or may not hold instrumentality beliefs—concerning whether competency outcomes causally influence career outcomes). It is also partly a scheme for organizing theoretical constructs for researchers. In this theory, beliefs do, however, cause or determine motivation.

Research Objectives

This paper's primary objective—to elucidate motivational theory that can guide educators' efforts to promote students' competency development—has now been partly addressed through the preceding presentation of our theoretical integration, in the form of the model in Figure 4. In a solely theoretical paper, the next step would be to speculate on how the

constructs of this theory manifest themselves in students' thinking and actions of the kinds implied by learning theories (including Kolb, 1984). However, here we take a different tack.

Students were interviewed about their perceptions and beliefs about the constructs of our model, seeking actual manifestations among interviewees. The interview data were also examined for ways in which students' thinking is misaligned with our model, which would pose a challenge to the model's pertinence and applicability. Analysis of the interview data also looked for indications of where the model should be expanded to take account of overlooked, motivationally relevant beliefs.

This sequence, with theorizing first, followed by conducting relatively open-ended interviews, is unusual though not unprecedented in qualitative research. Lee, Mitchell, and Sablynski (1999) note that although qualitative research often is positioned as a theory-generating mode of research, it also can be used for theory elaboration and testing. We make no claim of being able to "confirm" our model's validity given the nature and scale of our empirical study, yet a type or extent of support would arise if the beliefs identified in the model were seen to be salient and to be operating in the theorized way according to student interview data. We also recognize that the model is not falsifiable from interview data of this kind, and thus we offer no hypotheses. Collection of these data was considered worthwhile nonetheless, given that the overall research goal is to move toward effective application of the cognitive-motivational concepts that have been dominant in theories of human motivation. These concepts date back at least to the expectancy-value formulation of Lewin, Dembo, Festinger, and Sears (1944), and they have been supported by numerous laboratory and field studies (Johns & Saks, 2011; Steers & Porter, 1983).

Indeed, Lewin said "there is nothing so practical as a good theory" (Marrow, 1969), and our theory development is intended centrally to inform the generation of interventions designed to motivate action toward professional competency development. A contemporary review of targeted interventions for improving student outcomes in higher education looked to find

requirements for generating effective interventions. These reviewers (Harackiewicz & Priniski, 2018) emphasized the critical role of theory and preliminary research:

The interventions evaluated in these studies were grounded in theory and developed through laboratory research and small-scale field studies. (p. 428)

Research Approach

The approach to interview data analysis in our research entailed contemporary approaches and tools such as thematic analysis (TA) and NVivo software (QSR International, 2018). Willig (2013) notes that TA is well-suited to the study of people's thinking, beliefs, or understandings in a domain. For purposes of illustration, drawing on a study of interviewees' thoughts about impending parenthood, Willig (p. 182) states: "themes can range from a simple acknowledgement of the issues a research participant has raised (e.g. 'identity' [as a parent] in our example) to an interpretation of what psychological state might underpin the participant's comments (e.g. 'identity confusion – who am I now?')."

Furthermore, recalling Lee et al. (1999), TA may be conducted either using an inductive approach (e.g., Boyatzis, 1998) or a deductive approach (e.g., Crabtree & Miller, 1999). In their research, Fereday and Muir-Cochrane (2006) used a "hybrid" approach in which existing theory was used to generate an *a priori* coding scheme to organize the data initially, which was subsequently elaborated and modified with inductive codes as additional themes emerged. Given that we had already developed a model based on existing cognitive theories, and that we also held an interest in detecting any factors overlooked in the *a priori* theorizing, this hybrid approach was selected as most appropriate.

Finally, as described under Methods, our approach included a modest foray into combining quantitative along with qualitative analysis. This approach provided an opportunity to see whether any belief elements in our model were particularly associated with prescribed developmental behaviour.

Method

Participants

A sample of 14 undergraduate students in Accounting and Financial Management (AFM) (8 female and 6 male students) from the University of Waterloo was recruited on a volunteer basis from six organizational behaviour classes. All students were in their 2A (year two, term one) semester and had already completed a single co-operative work term. Recruiting was done through the university's web-based learning management system, where students were invited to participate via a posted letter from the researcher. Participants were compensated with \$10 and entry into a draw for a \$50 gift card.

Procedure

Structured, in-person interviews were conducted with each participant individually. These interviews were audio recorded and later transcribed to text for analysis. They ranged in length from 22 to 38 minutes, with an average of 29 minutes. The interview protocol (see Appendix A) consisted of 20 questions asking participants about their motivationally relevant beliefs as outlined in our model, with additional probes and follow-ups. These questions centered on CPA Canada's (2018) enabling competencies as well as on prescribed developmental behaviours in the university context.

A primary goal of the AFM program at the University of Waterloo is to prepare students for entry into CPA Canada's Professional Education Program (University of Waterloo, n.d.), where they are expected to display both technical and enabling competencies (including interpersonal competencies) before receiving their certification (CPA Canada, 2018). It was expected, therefore, that students would be aware of the enabling competencies and would have varying beliefs about the developmental process as well as different levels of motivation for competency development. A list of the enabling competencies (Appendix B) was displayed throughout the interview for reference. Midway through the interview, at a time appropriate to the line of questioning, students were also presented with a list of prescribed developmental

behaviours (Appendix C) before being asked questions about the beliefs they held about those kinds of behaviours.

Data Analysis

As discussed earlier, a hybrid approach to coding of data was taken, which incorporated deductive codes derived from our theory and inductive codes derived from the data. We adapted four stages of the hybrid approach of Fereday and Muir-Cochrane (2006) to this study. (Other stages in Fereday and Muir-Cochrane involved the comparison of different groups.)

In stage 1, a preliminary coding manual was developed on an *a priori* basis—that is, based on the beliefs outlined in our model (developmental opportunity awareness, self-efficacy for prescribed behaviour, etc.). These codes were then entered into an initial codebook.

In stage 2, recorded interviews were transcribed to text.

In stage 3, the initial coding scheme was applied as the model-based codes were matched to segments of interview data using the NVivo software. *A priori* it had also been decided to distinguish, within each overarching category (corresponding to each construct in the model) whether an interviewee's statement had a favourable versus unfavorable implication for motivation according to the theory. For example, it is theoretically favourable for someone to express high instrumentality of competency development, such as when some interviewees said directly that the enabling competencies promote superior career outcomes. An expression of doubt or denial about this linkage would be coded as unfavorable, as in the statement, "It's not a requirement. ... You can succeed ... almost as well just by focusing on the technical skills." This coding of favourability held potential to highlight areas of belief that educators should target, or that warrant more theoretical scrutiny. It also enabled the initial quantitative analysis described in the last sub-section here under Methods.

This coding of motivational favourability was done in isolation for each type and statement of belief and did not take account of whether the person said he or she ultimately performed or favoured performing developmental behaviours as such.

While this textual analysis was guided by the preliminary coding scheme described above, it was not restricted by it (Fereday & Muir-Cochrane, 2006). For example, sub-codes were identified wherever possible with the goal of obtaining a more fine-grained characterization of statements. As illustration, within text segments that had been coded under favourable developmental opportunity awareness, three sub-codes were produced—favourable: *aware and engaged*, favourable: *aware and not engaged* and simply favourable: *aware*. These various differentiations, corresponding to the “inductive” (vs. “deductive”) aspect of our research approach, appear throughout the coding scheme in Appendix D (e.g., line 10).

Finally, in stage 4, the themes outlined on the now-elaborated coding scheme were reviewed. Crabtree & Miller (1999, p. 170) use the term *corroboration* to describe this process of confirming the findings. This was done by scrutinizing the product of the previous stages (Fereday & Muir-Cochrane, 2006). Themes were then clustered further and assigned labels summarizing the underlying theme. For example, the inductively generated code “Just Experience” (Appendix D, line 81) was created to capture the sentiment expressed by several students that competency development was simply a matter of experience. It is important to emphasize that thematic analysis is an iterative process that involves repeated consideration of the data, codes and themes in relation to one another (Braun & Clarke, 2006) and so each of these stages was returned to repeatedly.

Quantifying overall motivational impact. As an additional step, the same data coder who had performed the preceding coding also produced a ranking of participants ranging from least motivated to engage in prescribed competency development activities (scored as 1) to most motivated (14). This ranking made it possible to look for associations between participants’ various belief statements and their overall levels of motivation toward professional competency development. The researcher’s inference about this motivation took account of all the statements made by each participant that directly mentioned developmental behaviours. Participants who were ranked most highly in their motivation had made explicit statements about having participated in developmental behaviours. Those who were assigned the lowest ranks generally

expressed that they did *not* participate in such behaviours. In between those ranked highest and lowest were participants whose statements about motivationally relevant beliefs implied motivation as such, that is, either seeming to want to engage in developmental behaviours or else implying that they had done so to some extent. For example, some participants expressed mixed feelings about the value of developmental behaviours, and thus were neither at the top nor bottom of the ranking. Consequently, this rank order coding of extent of “motivation,” while not separate from the coding of motivationally relevant beliefs, was intended to capture the motivational outcome of those beliefs to the extent possible from the interview data.

Results

The interview findings are to be presented generally in left-to-right order in relation to the proposed model in Figure 4. In coding of the transcripts, six core themes were generated deductively from the model and three were generated inductively. Each of the text segments related to each theme was categorized as either motivationally favourable or unfavourable, with further differentiations noted as sub-codes for describing variations in respondents' answers to interview questions.

Developmental Opportunity Awareness

Modestly more¹ motivationally favourable statements (33) were made regarding developmental opportunity awareness than unfavourable (25). For favourable statements, three sub-codes were identified. The first sub-code captured 10 responses indicating that students were *aware and engaged*. In these text segments, participants expressed an awareness of developmental opportunities and talked about participating in them.

I do have plenty of opportunities and I just try to make those opportunities the best that I possibly can. Like when I'm taking a course ... if I'm doing a presentation, I want to make the presentation really good. (Participant 2)

In this example, the enabling competency of oral or written communication is most pertinent.

Seven favourable statements expressed being *aware and not engaged*. In these text segments, participants expressed strong awareness of developmental opportunities but stated or implied that they did not participate:

Yeah. I think they're there, they're open. If I really wanted to, I could sign up to them, definitely. (Participant 12)

¹ In this instance, a chi-square test did not yield statistical significance upon comparing the counts of 33 favourable and 25 unfavourable statements. Corresponding tests will *not* be provided for the succeeding comparisons, recognizing the relatively small N of participants in this study which limits generalizability, as noted with the stated aims of this study.

Sixteen favourable statements about this component of the model did not contain explicit claims about whether students participated or not and simply expressed being *aware* of opportunities:

I think most of [the competencies] are well represented. I mean they've got specialized workshops for a lot of them and between that and the classes we're going to be taking, it covers it off pretty well. (Participant 12)

Turning attention to the 25 motivationally unfavourable statements, two sub-categories were identified. Seven statements expressed a *lack of awareness* where students primarily said that they were unaware of developmental opportunities:

I feel like you could have more available to you if the information was out there and circulated more. (Participant 5)

But then if we really specifically talk about the developmental opportunities over here, [such as] workshops and outside speakers. To be really honest I cannot even recall any development opportunities coming on or in our way this term or the previous term. (Participant 6)

It's really not on my radar. So, I guess it's not very clear—obvious to me, where the opportunities are at. (Participant 13)

Eight statements were coded into a related category, *lack of opportunities* to participate in developmental activities, when students went beyond expressing lack of awareness, toward expressing a belief that there were few or no developmental activity opportunities. Some of these statements referred to specific competencies and others were more broad.

There are some but there's not a lot of assignments that are geared toward more written communication or oral communication. (Participant 2)

There definitely could be more [opportunities]. (Participant 5)

I've noticed that they don't really actually do a lot of outside speakers or workshops [in our program]. A lot of the ones that catch my eye [e.g., on Facebook] at least are with other faculties or other programs. (Participant 8)

I feel like we don't get enough team-based work in some courses that make sense to have team-based work. (Participant 11)

Shifting the interpretive frame from counts of numbers of statements to counts of numbers of respondents with favourable or unfavourable comments in this area (i.e., from the "Refs" column to the "Cases" column in Appendix D) it may be seen that the same high proportion of respondents (13 of 14 respondents) had either one or more favourable *or* one or more unfavourable expressions about developmental opportunity awareness (see the "Cases" column in Appendix D, lines 9 and 13). Thus, even though there were marginally more favourable than unfavourable statements about this matter, perceived availability of developmental opportunities was not ideal for promoting involvement in them.

Self-Efficacy for Prescribed Behaviour

Relatively few statements (15) were made regarding students' self-efficacy for prescribed behaviour. The twelve favourable statements came from nearly as many individual respondents (11). The three unfavourable comments came from two respondents.

For favourable statements, three sub-codes were identified. The first sub-code captured four responses indicating that students felt *capable and engaged*. In these text segments, students expressed feeling capable of participating in prescribed developmental behaviours and made statements about doing so:

I'm very extroverted, so I have no problem going up and talking to people and I feel like a lot of these cases, if you want to develop you have to sort of go outside of your shell. (Participant 5)

Two statements expressed feeling *capable and not engaged*. In these text segments, participants expressed feeling able to perform prescribed developmental behaviours but said they did not participate:

I think they are well suited to me. Pretty much all of them. It's just like, again, I haven't gone the extra mile and done—found the motivation or time.

(Participant 1)

Six favourable statements about this component of the model did not contain explicit claims about whether students participated or not and simply expressed feeling *capable* of participating:

Yeah. It's just a matter of whether we want to. (Participant 4)

Only three statements were coded as unfavourable regarding participants' self-efficacy for prescribed behaviour, so no sub-codes were generated. In none of these statements did a student say that he or she personally would not be able to do the described behaviours. Instead, they expressed doubts about some other students' capacities. For example, Participant 7 referred to students “who *can't* really bring themselves up to participate,” for reasons such as shyness.

Overall, participants had relatively little to say about this model component concerning self-efficacy for prescribed behaviour. It is possible that this finding may point to what we called, in our statement of objectives of the study, a “challenge” to the model, or perhaps point to a challenge for educators. That is, if behaviours that promote competency development have little salience, motivating their enactment may be particularly difficult. Students may have little sense that competency development unfolds gradually through action in processes such as those in Kolb's (1984) experiential learning cycle. However, a different possible reason for the low rate of comments about self-efficacy could be that the behaviours themselves are widely regarded as readily do-able. Indeed, it may be that the specific behaviours that are required in developmental activities usually have been calibrated by educators to be quite possible for most students to do, so that self-efficacy for the specific behaviour typically will not be an impediment.

Self-Efficacy for Development

Forty-three favourable statements were coded for self-efficacy for development, with three sub-codes identified. The first, *efficacious and involved* captured 27 responses indicating that students felt capable of developing competencies and that practice and/or experience were important contributors to that end:

Yeah. I believe that if you put in enough effort you can develop all of them because they are mostly just about experiences. (Participant 4)

Eleven statements expressed a belief that although individuals often have different *predispositions* for various competencies, development is still generally possible:

Some people might start off at a higher point than others in terms of each competency, but I think that, as long as you put time and effort into it, you can develop each one of these. (Participant 5)

Six of the motivationally favourable statements discussed how students use *social comparison* as evidence that they could develop:

So, I hang out with a lot of people from upper years. And like, their just, general conversations and being in a situation where you both have to face the same problem—I just feel like they are more prepared and more familiar. (Participant 4)

Ten statements were coded as unfavourable regarding participants' self-efficacy for development and so no sub-codes were generated. An example is:

I feel like problem solving and decision making are something I'm really good at. So yeah, I'm just born with it, so I can usually come up quickly with a solution to an unexpected situation. Whereas leadership is not something I was born with. And I know how the school has been trying to develop it throughout the way, but I just don't feel like it's a role for me. (Participant 4)

However, from the counts of number of respondents with unfavourable comments in this area (in the "Cases" column in Appendix D) it may be seen that half (7) of the respondents

expressed some degree of impediment to competency development overall in the sense of self-efficacy for development (e.g., the “kind of person” someone is). Thus, it may be worthwhile for educators to address this matter, taking account of the sources of self-efficacy (Bandura, 1977, 1997) previously presented in Figure 2.

Program Efficacy Beliefs

Many motivationally favourable statements (86) were made regarding students’ program efficacy beliefs, and all respondents had something favourable to say (Appendix D, line 50). For these statements, three sub-codes were identified. The first, *efficacious and engaged*, captured 51 responses indicating that students felt that the prescribed developmental behaviours were effective and that they participated in them:

I went to a couple of presentations that were held by either [my educational program] or TED talks, and I think they were really helpful in terms of developing experiences and your understanding through the competencies outside of school. (Participant 4)

The second sub-code, *efficacious and not engaged* captured five responses indicating that students felt that the prescribed developmental behaviours were effective but that they did not participate:

I think they’re all really effective and now, looking back at it. I kind of feel like I missed a lot of opportunities to develop my skills. But that’s not to say there wasn’t [sic] opportunities. There was. And some I took full advantage of and others I didn’t. And I think that reflects how well I’m developing my competencies in the end. (Participant 1)

Thirty statements about this component of the model did not contain explicit claims about whether students participated, simply expressing the view that the programmatic opportunities were *efficacious*.

I feel like if you take the time to participate, they can be really helpful. Because I have friends who transformed from their first semester up to now and they really

changed a lot and got a lot better, both academically and interpersonal skill-wise.
(Participant 4)

I think workshops is [sic] definitely a really efficient way to learn a couple of skills that will help you in the long run. (Participant 7)

In-class lectures and discussions—that's something that you'll find useful when it comes to professional ethical behaviour. (Participant 11).

And then outside speakers and presentations. I guess they could help you with your self-management. There's a lot of motivational speakers out there, and then they teach you how to routinely manage your time and organize. (Participant 13)

There were 34 text segments coded as motivationally unfavourable for program efficacy beliefs, with most (11) participants offering some criticism or suggestions for improvement. In the first of three sub-categories, fifteen statements contained the sentiment that the available opportunities were *not experiential enough*, or did not provide enough opportunity for students to practice the competencies. For example, in this comment the respondent perceives a competency-developmental purpose within a course:

In terms of in-class lectures, I find that they're not really that helpful because even though I learn about all these concepts ... there's [sic] not really that many opportunities to apply it or to—yeah, it's kind of like you're just learning about it and then, “OK, let's move on.” That kind of thing. (Participant 7)

Twelve statements can be described as complaining about a *lack of helpful information* in the developmental opportunities that were available to them:

The thing is, all of the outside speakers and presentations, they're related to CPA and then they come and tell us how to become a CPA and all that, but we know

that. They're not really helping us to build these competencies. They're not really telling us how to build these competencies. (Participant 6)

Eight of the motivationally unfavourable statements expressed the sentiment that the available developmental behaviours were simply *not engaging*:

So, in-class lectures and discussions. Hmm. I don't feel like that develops it that much. Discussions are not that great in my classes so far. No ones really active in those. (Participant 13)

It is perhaps not surprising that many students offered criticism or suggestions for improvement when they were invited to do so. In fact, such engagement in the topic (as a critic) could be a signal of motivation toward action for competency development. Thus, a “motivationally unfavourable” coding should not be taken only at the first, most simple level. Later in this Results presentation, in a correlational analysis, a preliminary look will be taken at whether unfavourable beliefs here may indeed have suppressed motivation toward competency development behaviour.

Perceived Competency Deficit

In the area of perceived competency deficit, it is of special interest whether many students expressed little deficit and thus perceived little expected gain from competency development behaviours. Clearly this was not the case. Only three students provided five comments along these lines, such as this one claiming possession of one of the specified “enabling” competencies for accountants:

I think something like professional and ethical behaviour is something I'm already—I would say—pretty proficient in. Because I think it's something that comes naturally for me, and I think it comes naturally for a lot of people too. A lot of people know how to behave professionally and well in the workplace. So, it's not really something I really focus on because it's already something that I have. (Participant 7)

This participant did, however, acknowledge deficits in relation to other competencies.

Indeed, all participants had something motivationally favourable to say in the sense of recognizing some competency deficit, with a total of 49 statements coded in this manner. Within these favourable statements, four sub-codes were identified.

Thirteen of these statements discussed deficits students felt they had regarding *specific competencies*:

I do need to develop more communication skills. I'm still not that proficient in public speaking. I feel like that's really necessary in the field of accounting and finance where you do a lot of presentations and talking to clients. (Participant 13)

Another 13 statements acknowledged competency deficit, although they also indicated that the participant expected their competencies to be fully developed by graduation, or shortly thereafter:

I guess by the time I graduate I should probably be confident in all of these competencies. Right now, I'm not too confident in some of them, but yeah, definitely by the time I graduate I think I should be pretty solid in all of them. (Participant 8)

However, some of these statements, like the preceding, allow the possibility that the student is not particularly motivated to undertake prescribed behaviours, if he or she believes that acquiring the competencies is "just a matter of experience." This issue will be addressed in a later section of Results ("Additional Themes").

In other statements, students discussed the *cues* they use to determine the extent to which further competency development is needed:

I think just observing other people who are experts in each area, I know that I'm not there. So, I can sort of find out by talking to different people "Oh, this person's a better communicator." So, as I meet more people, I can sort of see where on the scale I am for each competency. (Participant 5)

Fourteen statements expressed the belief that the development of competencies is a *lifelong process*, and/or that competencies can always be improved, regardless of one's level of proficiency:

For a lot of these I think the sky's the limit pretty much. You can always get better as you progress, and I feel like if you have the mindset that, "OK, after a certain period of time I'm going to be the best leader," and you don't improve from there, that's kind of a loss in itself because you can always find ways to improve. (Participant 1)

However, some students clearly do not seem to understand that competency development is a long-term process and as a result may not be pursuing development as actively.

As a further finding to report, students tended to discuss their level of proficiency for a specific competency or set of competencies, rather than for all five competencies in general. Thus, enabling or personal/interpersonal competency, or even "people skills," did not seem to function as a unitary concept among respondents in terms of proficiency levels. Overall, these students did perceive a difference between their current and desired levels of proficiency.

Instrumentality

Finally, more motivationally favourable statements (88) were made regarding students' beliefs about competency instrumentality than unfavourable (18). For favourable statements, four sub-codes were identified. Twenty-seven of these statements expressed a belief that competencies are an important *differentiator* that can help students stand out to employers relative to their peers:

But I think these are the differentiating factors. Like, technical competencies, the way I see them, are the baseline, no matter which employer you go to. And enabling competencies are where you differentiate yourself from the other candidates. (Participant 14)

Fifteen statements expressed the belief that different competencies would be of greater or lesser value depending on the stage of one's career (e.g., increasing in importance as one advances into management):

Some more so than others, depending on the stage of employment. As you climb the ladder things like teamwork and leadership and communication and professional and ethical behaviour become more important. And at a lower level I've found in my co-op that the first thing they're kind of looking for is ... self-management, communication and problem solving. (Participant 2)

Thirteen of the motivationally favourable statements discussed how competencies are important to one's *personal development* and that they would be valuable beyond a career in accounting:

Actually no, I think they're all very important. Not even in the workplace, like even in as you are as a person. It's really important to have these skills and it really separates the good from the great. (Participant 1)

Lastly, 35 statements simply expressed a belief that competencies are important without going into much further detail:

Technical competencies is [sic] more like the knowledge that you have. But without the enabling competencies I don't think you can even do your job. So, it manifests in every possible way you can think of. (Participant 14)

There were substantially fewer unfavourable beliefs expressed regarding instrumentality. Six statements expressed *apathy* or not caring:

Lethargy, laziness. Some students just straight up don't care. That's the only way I can really see. Or they don't see it as being something that they need for their future, which is kind of weird, but yeah. (Participant 11)

Four statements expressed a feeling that the competencies were not important by *minimizing* them as in the following example:

I feel like as long as you're sufficient in a lot of these you'll probably get a job.

You know what I mean? (Participant 13)

And eight statements expressed a belief that competencies are simply *not necessary* for one's professional success:

It's not a requirement. You can just—you can succeed, probably not quite as well, but almost as well just by focusing on the technical skills. (Participant 2)

Thus, instrumentality beliefs appear to have been quite motivationally favourable among participants, however this sentiment is not universal.

Additional Themes

A prevalent theme that emerged that was not anticipated in our model was the belief that competency development was a matter of *just experience*. Nearly all participants (13) produced one or more of the 41 corresponding statements such as those below.

I feel like there's no clear-cut way for each one of these. Everybody has their own type of variation to it but, yeah, I think more it's just experience. (Participant 1)

I'm more of an autopilot kind of person when it comes to competencies like these. (Participant 11)

Clearly the process of competency development seems to be automatic or perhaps mysterious in this way of thinking. We did not attempt to “code” these statements further nor those of the other emergent themes as motivationally favourable or unfavourable, as they lie outset our *a priori* model. However, the extent of this thinking goes along with the researchers' impressions that the prescribed behaviours themselves are not as salient as, in theory, they should be.

Secondly, 20 statements from 8 participants indicated a *misunderstanding of competencies*. For example, CPA Canada (2018) defines its competency for problem solving and decision-making as “the ability to draw on solid analytical and problem-solving skills, the capacity for innovative and integrative thought, the ability to both connect and dissect ‘parts’ and

‘wholes,’ identify and manage priorities and adopt a broad view.” However, in 12 statements, this competency was either mistaken for a technical competency or interpreted as referring to homework problems:

In my experience, that’s how I found these opportunities return the most value is that lectures and discussions are best suited to technical skills. So, when I’m doing that, I’m trying to pick stuff that will really get my technical skills and problem solving and decision-making skills down. (Participant 2)

I guess for like, self-management, it’s kind of vague so I don’t actually know what that means [laughs]. (Participant 8)

A third theme that emerged inductively was a *lack of time* and/or having to prioritize coursework over competency development, with 18 statements from 10 participants being coded as such:

Not enough time. I would say that’s the only thing. Because I can see there’s [sic] things that I can be doing, but I just don’t always have the time to do them. So, I think it would be the time, nothing else. (Participant 14)

Quantitative Analysis

If all of our model’s six factors, as detailed so far, are consequential for motivation, then the study participants with more favourable beliefs in each category could be expected to hold relatively greater motivation to engage in competency development behaviours. This expectation was tested in a correlational analysis. At the outset, it must be recognized that this analysis is highly limited, given that (a) the data had been collected primarily to probe students’ thinking about the model components and not for quantitative testing of this kind, (b) there was very little statistical power from the sample size.

Nevertheless, taking up this analytic opportunity, the rank order score concerning participants’ extent of motivation for competency development were combined with belief coding previously described in this Results section to produce a matrix of raw, quantitative data.

This matrix had 14 rows—one for each participant. The first column contained a case identifier, and the second column contained the rank order describing least- to most-motivation (with 14 indicating greatest motivation). Twelve remaining columns contained counts of the number of instances in which each participant mentioned a component of our motivational model (e.g., program efficacy beliefs) either favourably or, separately, unfavourably (i.e., 6 of each). Paralleling an approach taken by Zaller and Feldman (1992) in their survey of beliefs, six remaining columns contained a difference score, favourable-minus-unfavorable, for each of the components of the model. These difference scores thus encode participants' numbers of "net positive beliefs" for each component of the model. Greater net positive beliefs should, in theory, predict greater motivation to engage in developmental activities. Accordingly, the difference scores were then examined in relation to the participants' ranks for motivation by calculating the Pearson correlation coefficients that appear in Table 1.

Two of the six correlation coefficients thus obtained—involving self-efficacy for development and program efficacy beliefs—were statistically significant in the direction predicted by the model. It is noteworthy that these two factors are novel or little-recognized elaborations on conventional self-efficacy for behaviour. Their correlational results provide some reason to believe that these additions to the model are worthwhile, recognizing the need for additional support as from either fully quantitative survey research, or field-intervention evaluation research seeking to strengthen these beliefs. The lack of statistically significant results for the four other belief factors, does not call their importance into any serious question, given the analytic limitations noted at the outset here and further considerations addressed in the Discussion.

Discussion

This paper has outlined a theoretical model that sought to identify key factors in students' motivation for competency development, all tied to beliefs previously highlighted in the cognitive-motivational models of Bandura (1977, 1986, 1997) and Vroom (1964). This Discussion section will address the extent of support for the model, challenges and expansions to it, implications for its application, and research limitations and future directions. Instead of combining all practical implications into their own section of this discussion, most will be offered individually when various instigating issues are addressed. Some of the directions for motivational intervention will be drawn from studies seeking to promote other kinds of student outcomes besides professional competency development, including grades, retention, and career direction.

Overall Assessment of the Model

In the Introduction and Method sections, we made no claim that the design of the data collection and analysis could “test” the theory in any formal sense. We can, however, begin an overall assessment of the applicability of the model by examining what we might call face validity. In particular: Did students readily understand and respond to the interview questions in a manner indicating that they hold beliefs of the kinds that had been theorized to matter? The illustrative quotations provided throughout the Results section point to an affirmative reply. Further, our conventional presentation of results, category by category of content, does not fully reflect an overall sense of how every discussion with an interviewee was quite coherent overall, in the sense that interviewer and interviewee seemed to have a common understanding that the topics discussed concerned fundamental aspects of motivation for behaviour toward competency development. Usually (though not always) it was easy to get students to discuss the various beliefs outlined in the model. Also, students provided various elaborations that yielded sub-codes that expanded existing theoretical categories, or that yielded thematic topics that were related to the model but went beyond it.

Concerning what we may call concurrent validity, the quantitative analysis presented under Results indicated that two of six belief variables were associated with motivation in the way predicted by the model. Both of these variables involved expansions on Bandura's (1977) concept of self-efficacy. In our presentation of findings, reasons were given why the less-than-statistically-significant associations involving other belief variables should not call into question their pertinence, considering the design limitations—limitations which also reduce the confidence that should be held about the statistically significant correlations observed.

In any event, in light of many writers' amalgamations of cognitive-motivational theory (e.g., Johns and Saks, 2011) it is difficult to imagine that longstanding constructs in the theory, such as instrumentality, do *not* bear on motivation. Our research did not seek to determine whether such constructs could be falsified. The research was centred on production of the integrative model itself, with data collection designed secondarily to observe whether and how corresponding beliefs and other thoughts were manifested in students' comments, and to gain insight into novel theoretical components such as those involving self-efficacy.

Types of Efficacy

As previously suggested, the main take-away from the quantitative analysis was that the most innovative aspect of the model proposed in this paper—its elaboration on types of efficacy—warrants attention along with the model's more familiar components. The model went beyond self-efficacy for behaviour (Bandura, 1977) by incorporating self-efficacy for development (Maurer, 2001) and by proposing program efficacy as a further, pertinent belief variable. The immediate implication of the quantitative findings for these variables is that it may be worthwhile for educators to seek to instill these forms of efficacy when providing competency development opportunities.

Self-efficacy for development. One place to begin looking for ways to instill self-efficacy for development is in the body of work by Carol Dweck and colleagues on fixed versus growth mindsets pertaining to abilities (e.g., Yeager & Dweck, 2012). This and other lines of social psychological research have given rise to the various targeted interventions for improving

outcomes in higher education that were reviewed recently by Harackiewicz and Priniski (2018), as mentioned in the Introduction.

One of three types of successful interventions described in that review include “framing” interventions, which “include a broad range of interventions designed to address a variety of common concerns, such as doubts about belonging, doubts about ability, or group-specific challenges” (p. 412). As illustrations for the present context of professional competency development, it is possible that members of some social groups or individuals with particular personal histories doubt that they can communicate effectively in writing or public speaking, or that they can rise to significant leadership levels. One framing intervention for a particular student group (Walton & Cohen, 2011) “provided statistics and quotes from more senior students” to illustrate capacity to overcome common challenges for a particular student group (Harackiewicz & Priniski, 2018), p. 412). Correspondingly, at the professional school where the present research was conducted, instructors of a course in organizational behaviour produced a video of a panel discussion of former students—now established professionals—who described their gradual process of development in areas of professional competency. The discussants included comments about their earlier shortcomings in generic competencies and earlier uncertainty about overcoming them. Of course, in such a discussion, lasting nearly an hour, many other components of our theoretical model were addressed, and it should be expected that many such interventions inherently will be multi-component in nature.

Program efficacy. Testimonials about the effectiveness of available opportunities for competency development also may be helpful with regard to program efficacy. However, educators should be aware that the most influential social influence may come from peers as opposed to alumni. This possibility suggests further that the design and delivery of developmental opportunities should be of the highest possible *apparent* quality, that is, by not only operating according to specified, worthwhile learning objectives, but, ideally, by building into the experience some further opportunity to see one’s own progress toward competencies. The applicable component of Bandura’s analysis of sources of efficacy expectations (Figure 2) is

performance accomplishments by self and others in response to program exposure.

Correspondingly, as previously reported, one participant in the present research stated: “I have friends who transformed from their first semester up to now and they really changed a lot and got a lot better...” This is a belief to strive to instill.

Self-efficacy for behaviour. Although students said relatively little to indicate that self-efficacy for the behaviours required in development opportunity activities was problematic, educators can attend to the various components of Bandura’s analysis of sources of self-efficacy (Figure 2) to minimize any impediment to participation from behavioural self-efficacy.

Depending on particular student groups’ pursuit of particular competencies, various components from Bandura’s analysis may be used to inform design of developmental opportunities and preparation for them. As one example, at the professional school where the present research was conducted, the topics of emotional self-perception and self-control were provided within a required course on Organizational Behaviour. This emotional content of the course could be presented partly as preparation for potentially stressful activities such as professional networking opportunities that are made available periodically. Such content would address the emotional arousal component of Bandura’s scheme in Figure 2.

Other Model Components

Developmental opportunity awareness. Developmental opportunity awareness was another topic for which students had relatively less to say, and about which their statements were mostly favourable. Although there was no statistical correlation involving it, obviously, this cannot mean that students need no awareness of an opportunity in order to be motivated to pursue it. It was encouraging to see that students very predominantly recognized the availability of various developmental opportunities in their educational context. The main take-away message for educators may be a reminder of the logically necessary-but-not-sufficient nature of this component of the model. Awareness could likely still be improved through increased advertising of developmental opportunities, either in the classroom or by other means, such as targeted emails. It is also possible that when students indicate a lack of awareness, this is

somewhat indicative of an *actual* lack of developmental opportunities in the university context. In that event, educators could, of course, pursue the development of additional opportunities.

Perceived competency deficit. What students did *not* say about perceived competency deficit could, again, be regarded as meaningful. That is, for the most part, they did not say that they already possessed the generic and interpersonal competencies prescribed by their professional association. For example, as quoted in the Results section, one student said of his competency levels, “Right now, I’m not too confident in some of them,” thus indicating a level of perceived competency deficit that should be favourable for motivation to undertake competency development behaviour. Thus, for this student group there was little indication that messaging or other intervention should be designed to highlight perceived competency deficit.

Instrumentality. With a ratio of nearly five favourable statements to every unfavourable statement about instrumentality, it certainly appears that the interviewed students were strongly (though not universally) bought into the ultimate payoff of professional competency development. However, we wonder whether educators over-emphasize this area of belief when they encourage alumni or other current professionals to discuss generic and interpersonal competencies—at the expense of addressing the other beliefs categories of the theory, which were less widely favourable.

We also wonder whether students’ wide acknowledgement of instrumentality could discourage seizing of opportunities by educators to *deepen* instrumentality beliefs using different kinds of intervention, besides testimonials, that have had powerful effects in other areas of education such as related to pursuit of STEM careers. Deepening these beliefs should help to address the observed impediment to program involvement that we labeled as perceived “lack of time.”

For this deepening, it may be helpful to draw a parallel with the second category of motivational interventions in in the previously cited review (Harackiewicz & Priniski, 2018). These are “task-value interventions.” In one form of these interventions,

students complete a series of course writing assignments in which they ... either discuss the relevance and utility value of the topic (the intervention condition) or summarize the topic (the control condition). This intervention provides students opportunities to make concrete connections between what they are learning and things that they care about, fostering perceptions of value.... (p. 418)

The key to motivational effectiveness would be to encourage students to give greater thought to ultimate value of developmental activities for themselves. Harackiewicz, Canning, Tibbetts, and Hyde (2016) found that the positive impact of such an intervention was a function of the extent of engagement in this envisioning activity, as indicated by length of written statements.

Yet another opportunity for educators may be to tap into desired identities as a basis for deeper instrumentality beliefs. Markus and Wurf (1987; Wurf & Markus, 1991) analyzed how a person's "possible self" can provide the direction, energy, and persistence in action that are the essence of motivation. Building on that analysis, Oyserman and colleagues (e.g., Oyserman, 2008; Oyserman, Bybee, & Terry, 2006) developed a conception of "identity-based motivation." Some of this research (Oyserman & Destin, 2010) shows that under the right circumstances, identity salience can promote overcoming difficulties in learning and development. This line of research resembles that of the third of three categories of intervention research in higher education (Harackiewicz & Priniski, 2018), namely values affirmation.

Notably, the larger point for the present analysis is that the motivational pull exerted by the most distal outcomes in Figure 3 and 4 involve not just what a student can "get" as a result of competency development; there is also "who" the student can "be." Swann (2013) has shown that these sources of motivation are distinct.

However, activating and channeling identity-based motivation presents its own challenges for educators when promoting development of generic and interpersonal competencies. If some students hold present identities that are incongruent with a draw toward "becoming" a leader, for example, intervention must shift the focus to future, possible selves, while promoting the favourable beliefs about means to this end that are contained in our model.

Themes Emergent beyond the Model

Of the three themes that were generated apart from the *a priori* categories of belief, one readily suggests a particular connection to the existing model. In the preceding section it was suggested that addressing *lack of time* for competency development may partly be a matter of magnifying instrumentality so that competency development efforts are allocated more time. Of course, imposing course-related or other requirements may achieve this end to some degree, but at a cost. Kohn (1999) draws on various lines of psychological research to warn against overbearing incentivization of activity, to avoid counterproductive *devaluing* of the activity or its aim as a result.

A second theme, *lack of understanding of the competencies*, may not be problematic in itself, to the extent that someone with poor understanding nonetheless is motivated to engage in prescribed developmental behaviours. This engagement in pertinent activities presumably will help to dispel misconceptions. Still, greater understanding of the end point, earlier on, should be beneficial to the process of competency development, to the extent that students must actively regulate their competency-seeking behaviours.

Additionally, greater understanding of this developmental process should allow motivated individuals to pursue competency development more effectively and efficiently. A lack of this understanding may lie behind prevalence of the remaining emergent theme, involving various forms of the notion that *development of professional competencies is “just” a matter of gaining experience* in situations requiring the competencies. Notably, all but one student gave some expression of this notion. Yet a mere sketch of Kolb’s (1984) theory, as provided in this paper’s Introduction, reveals that there is a great deal that individuals can do to promote their experiential learning. These efforts include actively acquiring abstract conceptualizations (such as about professional ethics or teamwork), seeking situations for applying those conceptualizations in action, seeking feedback about the consequences of action so that the experience can be as meaningful as possible, and reflecting on this meaning so as to expand abstract conceptualization as input to future iterations of the experiential learning cycle.

Anecdotally, some students in the educational program for this study showed obvious interest in learning about this process in a course on Organizational Behaviour where Kolb's cycle was described. Presumably those students held definite motivation to achieve competency development and saw this course content as providing a means to this end. The instructors' aim had been partly to dispel the notions that development of professional competencies comes from "just experience" or common sense.

Another approach taken to dispelling this notion was to include, from the panel discussion among alumni mentioned earlier, comments about how it had been necessary for these alumni to apply themselves, over time, to developing the competencies through abstract learning, actively seeking out situations requiring the competencies, seeking feedback, and reflecting. For example, one alumna talked at some length about how in her organization, employees were encouraged to view feedback as a gift, not a punishment.

The time course of professional competency development did not seem well understood by interviewees, and why would it, given the students' youth? Some interviewees indicated a belief that their competency development would be finished upon completion of their degree! Educators and professionals learn from their own life experience that competency development is a life-long process. But here again there is a fine balance for educators, between encouraging as much development of professional competencies as possible during the period of post-secondary enrollment, and acknowledging the lifelong nature of the process.

Limitations (and Strengths) of the Study Design

Particularly in view of this study's small sample, we agree with Lee et al. (1999) that our qualitative study, like many others, "is well suited for the purposes of description, interpretation, and explanation, and it is not well suited for issues of prevalence, generalizability, and calibration." (p. 183). Thus, although frequency counts for beliefs or other statements appeared throughout the presentation of results, these findings can only be suggestive of relative prevalence of beliefs. Relatedly, the relatively homogeneous sample of students recruited

through their organizational behaviour class in a single professional program warrants caution about generalizing findings.

We also reiterate limitations mentioned previously regarding the quantitative, correlational findings, particularly from the small sample size and from how data originally collected to illustrate and expand the model's constructs were repurposed in an exploratory manner. As part of this repurposing, the coding of the rank order variable, conceptualized as the extent of the behavioural outcome of the combined motivation operating on a student, was not done independently of what students said about their motivationally relevant beliefs; instead this one part of the coding was holistic. On this basis, some bias in favour of obtaining some correlation may have been built into the analysis. Nevertheless, it is a fact that some, *but not other* coded beliefs were associated to a statistically significant degree with the rank order indicator of motivation, and the beliefs so associated were ones that otherwise could be considered on shakier grounds for inclusion in the model.

However, as a strength of the study, the educational program from which we drew our sample is one with clear intent and various corresponding opportunities for promoting development of the interpersonal and generic competencies. We expect that the challenge there for educators is similar to those in other programs and fields as in, for example, medicine (Aarnio et al., 2010), which demands a great deal of attention by students to technical as opposed to what we have called enabling competencies or soft skills.

Future Directions for Theory and Research

Prior research in the field of training and development points to other motivational factors that may warrant attention. First there is the developmental context in terms of elements such as environmental characteristics, peers, instructors and employers (Goldstein & Ford, 2002, pp. 43-46; Noe & Wilk, 1993). These elements include other beliefs about, or consequences of, the prescribed behavior, beyond those directly connected with acquiring competencies. For example, a student may be less motivated to pursue competency development if he or she is worried about looking like a "goodie two-shoes."

A theoretical limitation may lie in the overall conception of the model's factors each as necessary but not sufficient. This theoretical assumption would justify continuing to consider any unfavourable statements as potentially problematic and, in a larger study, continuing to examine correlations between model components one-by-one with extent of engaging in prescribed behaviour. However, there certainly could be other consequential relations among the model components. For example, there could be interactions such as those inherent in expectancy-value formulations for motivation (e.g., Steers and Porter, 1983).

Finally, a stated goal of this study was to lay groundwork for the development of a more formal test of our model. Noe & Wilk (1993) provide a series of survey measures that might be adapted and expanded for this purpose. A study of this kind could provide further evidence toward a causal relationship between the beliefs outlined in our model and students' levels of motivation for competency development. The resulting findings could then offer a potential basis for additional studies involving interventions that target specific cognitive components of motivation. Although studies have shown that competency-improving interventions are possible (Nelis, et al., 2009; Dacre Pool & Qualter, 2012) our introduction of multiple forms of efficacy-based motivation as a key component represents a novel contribution to the existing literature.

Conclusion

If it is correct that the belief factors in our model are all necessary (but not sufficient), educators accept a sizable challenge when seeking to motivate students' motivation to pursue competency development. This paper has sought to break down that challenge into more manageable parts and to illustrate some initial directions for addressing it.

References

- Alderfer, C. (1969). An empirical test of a new theory of human needs. *Organisational Behaviour and Human Performance*, 4, 142-175.
- Aarnio, M., Nieminen, J., Pyörälä, E., & Lindblom-Ylänne, S. (2010). Motivating medical students to learn teamwork skills. *Medical Teacher*, 32(4), e199-e204.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Boam, R., & Sparrow, P. (1992). *Designing and achieving competency*. London: McGraw-Hill
- Birkett, W.P. (1993). *Competency based standards for professional accountants in Australia and New Zealand discussion paper*. Australian Society of Certified Practising Accountants.
- Boyatzis, R.E. (1982). *The competent manager: A model for effective performance*. New York: Wiley.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage.
- Boyatzis, R.E. (2008). Competencies in the 21st century. *Journal of Management Development*, 27(1), 5-12.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Carlson, D. S., Bozeman, D. P., Kacmar, K. M., Wright, P. M., & McMahan, G. C. (2000). Training motivation in organizations: An analysis of individual-level antecedents. *Journal of Managerial Issues*, 12(3), 271-287.
- Casner-Lotto, Jill, & Barrington, L. (2006). *Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce*. Washington, DC: Partnership for 21st Century Skills.

- Colquitt, J. A., LePine, J. A., & Noe, R. A. (2000). Toward an integrative theory of training motivation: A meta-analytic path analysis of 20 years of research. *Journal of Applied Psychology, 85*(5), 678-707.
- CPA Canada. (2018). *The Chartered Professional Accountant competency map: Understanding the competencies a candidate must demonstrate to become a CPA*. Toronto, ON: Chartered Professional Accountants of Canada.
<https://www.cpacanada.ca/en/become-a-cpa/pathways-to-becoming-a-cpa/national-education-resources/the-cpa-competency-map>
- Crabtree, B. F., & Miller, W. L. (Eds.). (1999). *Doing qualitative research*. Sage.
- Dacre Pool, L. & Qualter, P. (2012). Improving emotional intelligence and emotional self-efficacy through a teaching intervention for university students. *Learning and Individual Differences, 22*. 306-312.
- Dubrin, A. (2004). *Human relations: Interpersonal, job-oriented skills*, Eighth Edition. Pearson Prentice Hall.
- Dunning, D. (2011). The Dunning-Kruger effect: On being ignorant of one's own ignorance. In M. Zanna & J. Olson (Eds.), *Advances in Experimental Social Psychology* (Vol. 44, pp. 247-296). Academic Press.
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods, 5*(1), 80-92.
- Glaser, B. G., & Strauss, A. L. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.
- Goldstein, I. L., & Ford, J. K. (2002). *Training in organizations: Needs assessment, development, and evaluation (4th ed.)*. Belmont, CA: Wadsworth.
- Graham, M. E., & Tarbell, L. M. (2006). The importance of the employee perspective in the competency development of human resource professionals. *Human Resource Management, 45*(3), 337-355.

- Harackiewicz, J. M., Canning, E. A., Tibbetts, Y., Priniski, S. J., & Hyde J. S. (2016). Closing achievement gaps with a utility-value intervention: disentangling race and social class. *Journal of Personality and Social Psychology, 111*, 745–65.
- Harackiewicz, J. M., & Priniski, S. J. (2018). Improving student outcomes in higher education: The science of targeted intervention. *Annual Review of Psychology, 69*, 409-435.
- Hellriegel, D., Slocum, J. W. (2011). *Organizational behaviour* (13th ed.). Mason, OH, USA: South-Western Cengage Learning.
- Holloway, I., & Todres, L. (2003). The status of method: Flexibility, consistency and coherence. *Qualitative Research, 3*(3), 345–357.
- Howitt, D. (2016). *Introduction to qualitative research methods in psychology*. London: Pearson UK.
- Joffe, H. (2012). Thematic analysis. *Qualitative Research Methods in Mental Health and Psychotherapy: A guide for students and practitioners, 1*, 210-223.
- Johns, G., & Saks, A. M. (2011). *Organizational behaviour: Understanding and managing life at work*. Toronto: Pearson Canada.
- Kavanagh, M. H., & Drennan, L. (2008). What skills and attributes does an accounting graduate need? Evidence from student perceptions and employer expectations. *Accounting & Finance, 48*(2), 279-300.
- Kohn, A. (1999). Punished by rewards: The trouble with gold stars, incentive plans, A's, praise, and other bribes. Boston, MA: Houghton Mifflin Harcourt.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall Inc.
- Lewin, K., Dembo, T., Festinger, L., & Sears, P. S. (1944). Level of aspiration. In J. McV.Hunt (Ed.), *Personality and the behavioral disorders (Vol. 1, pp. 333–378)*. New York: Ronald Press.
- Langton, N., Robbins, S. P., & Judge, T. A. (2010). *Organizational behaviour: Concepts, controversies, applications (5th Canadian ed.)*. Toronto: Pearson Canada Inc.

- Lee, T. W., Mitchell, T. R., & Sablinski, C. J. (1999). Qualitative research in organizational and vocational psychology, 1979–1999. *Journal of vocational behavior*, 55(2), 161-187.
- Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual review of psychology*, 38(1), 299-337.
- Marrow, A. J. (1969). *The practical theorist: The life and work of Kurt Lewin*. New York: Basic Books, Inc.
- Maurer, T. J. (2001). Career-relevant learning and development, worker age, and beliefs about self-efficacy for development. *Journal of Management*, 27(2), 123-140.
- McClelland, D. C. (1985). *Human motivation*. New York: Scott, Foresman and Company.
- Nair, C. S., Patil, A. & Mertova, P. (2009). Re-engineering graduate skills: A case study. *European Journal of Engineering Education* 34(2): 131-139.
- Nelis, D., Quoidbach, J., Mikolajczak, M., & Hansenne, M. (2009). Increasing emotional intelligence: (How) is it possible? *Personality and Individual Differences*, 47, 36-41.
- Noe, R. A., & Wilk, S. A. (1993). Investigation of the factors that influence employees' participation in development activities. *Journal of Applied Psychology*, 78, 291-302.
- Ontario Chamber of Commerce. (2016). *Obstacles and opportunities*. Retrieved March 10, 2019 from <https://occ.ca/wp-content/uploads/Obstacles-Opportunities.pdf>
- Oyserman, D. (2008). Possible selves, identity-based motivation, and school success. In H. W. Marsh, R. G. Craven, & D. M. McInerney (Eds.), *Self-processes, learning, and enabling human potential: Dynamic new approaches* (pp. 269-288). Greenwich, CT: Information Age Publishing.
- Oyserman, D., Bybee, D., & Terry, K. (2006). Possible selves and academic outcomes: How and when possible selves impel action. *Journal of Personality and Social Psychology*, 91, 188-204.
- Oyserman, D., & Destin, M. (2010). Identity-based motivation: Implications for intervention. *The Counseling Psychologist*, 38, 1001-1043.
- QSR International Pty Ltd. (2018). *NVivo qualitative data analysis software* (Version 12).

- Rainsbury, E., Hodges, D., Burchell, N. & Lay, M. C. (2002). Ranking workplace competencies: Student and graduate perceptions. *Asia-Pacific Journal of Cooperative Education*, 3(2), 8-18.
- Rhee, Kenneth S., (2008). The beat and rhythm of competency development over two years. *Journal of Management Development*, 27(1), 146-160.
- Sandberg, J. (2000). Understanding human competence at work: An interpretative approach. *Academy of Management Journal*, 43(1), 9-25.
- Singh, P. (2018, September 18). Machines will handle over half workplace tasks by 2025. *Entrepreneur Asia Pacific*, Retrieved March 10, 2019 from <https://www.entrepreneur.com/article/320249>
- Skinner, B. F. (1953). *Science and human behavior*. New York: Macmillan.
- Steers, R. M. & Porter, L. W. (Eds.). (1983). *Motivation and work behavior*. New York: McGraw-Hill.
- Stirling, P. (2019). *From ELT to CELT: Expanding Kolb's Experiential Learning Theory into a truly Cyclic Experiential Learning Theory for developing professional competencies* (Master's thesis). Available from Department of Psychology, University of Waterloo, Waterloo, Ontario, N2L 3G1, Canada.
- Stuckey, J. & Munro, D. (Eds.). (2013). *The need to make skills work: The cost of Ontario's skills gap*. Ottawa, ON: Conference Board of Canada. Retrieved March 2, 2019 from http://www.collegesontario.org/Need_to_Make_Skills_Work_Report_June_2013.pdf
- Swann, W. B. (2013). Self-verification theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology*. (Vol. 2, pp. 23-42). Thousand Oaks, CA: Sage Publications.
- Thacker, J. W., & Blanchard, P. N. (2006). *Effective Training*. Toronto: Pearson Prentice Hall.
- Tharenou, P. (2001). The relationship of training motivation to participation in training and development. *Journal of Occupational and Organizational Psychology*, 74(5), 599-621.
- Thorndike, E. L. (1905). *The elements of psychology*. New York: A.G. Seiler.

- University of British Columbia. (n.d.). *UBC bachelor of commerce: September 2019 entry*.
Vancouver, BC: University of British Columbia. Retrieved May 3, 2019 from
http://www.sauder.ubc.ca/Programs/Bachelor_of_Commerce/Program_Overview/~media/Files/BCom/Brochures/UBC%20Sauder%20BCom%20brochure%202019%20entry.aspx
- Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.
- Walton G.M., & Cohen G.L. (2011). A brief social-belonging intervention improves academic and health outcomes among minority students. *Science*, 331, 1447–1451.
- Willig, C. (2013). *Introducing qualitative research in psychology*. McGraw-Hill Education (UK).
- Wurf, E., & Markus, H. (1991). Possible selves and the psychology of personal growth. In D. J. Ozer, J. M. Healy Jr. & A. J. Stewart (Eds.), *Perspectives in personality, vol. 3: Part A: Self and emotion; Part B: Approaches to understanding lives*. (pp. 39-62). London, England: Jessica Kingsley Publishers.
- Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302-314.
- Zaller, J., & Feldman, S. (1992). A simple theory of the survey response: Answering questions versus revealing preferences. *American Journal of Political Science*, 36(3), 579-616.

Tables & Figures

Table 1

Pearson correlations between participants' rank orders of extent of motivation for competency development and favourable-minus-unfavourable difference scores for theorized model variables, along with means and standard deviations of these difference scores and their component statements

	<i>r</i>	<i>p</i>	Difference Score		Favourable	Unfavourable		
			<i>M</i>	<i>SD</i>	Statements	Statements		
					<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Developmental Opportunity Awareness	-0.27	0.347	0.57	1.50	2.36	1.39	1.79	1.01
Self-Efficacy for Prescribed Behaviour	-0.25	0.396	0.64	0.97	0.86	0.64	0.21	0.56
Self-Efficacy for Development	0.58	0.030	2.36	2.77	3.07	2.46	0.71	0.88
Program Efficacy Beliefs	0.53	0.049	3.71	3.45	6.14	2.61	2.43	2.19
Perceived Competency Deficit	0.25	0.382	3.14	2.10	3.50	1.88	0.36	0.81
Instrumentality	0.39	0.164	5.00	2.07	6.29	1.53	1.29	1.28

Note. N = 14. Difference scores reflect net *favourable* statements, and the highest rank order (14) was for greatest motivation. For example, the greater difference (M = 2.36) between favourable statements about self-efficacy for development (M = 3.07) relative to unfavourable statements (M = 0.71) was associated to a statistically significant extent ($r = 0.58$) with having a high standing in the rank order of indications of extent of motivation for competency development. Raw counts of statements in each category may be recovered (with rounding) through multiplication of the means in this table by the N of 14. For example, for Developmental Opportunity Awareness there were 33 instances of a favourable statement and 25 unfavourable ones, yielding a difference of 8. (See also Appendix D for actual counts of statements.)

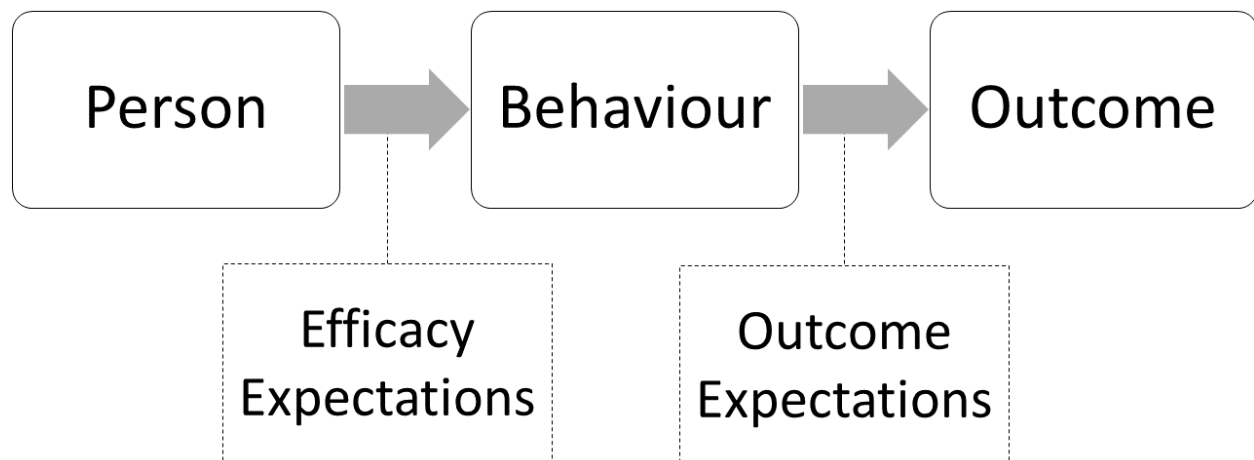


Figure 1. Two types of expectations that determine motivation. Adapted from Bandura (1977).

Publisher credit for Figures 1 and 2:

Bandura, Albert, *Social learning theory*, 1st ed. ©1977.

Reprinted by permission of Pearson Education, Inc., New York, New York.

Efficacy Expectations

Source	Mode of Induction
Performance Accomplishments	<ul style="list-style-type: none">• Participant Modeling• Performance Desensitization• Performance Exposure• Self-Instructed Performance
Vicarious Experience	<ul style="list-style-type: none">• Live Modeling• Symbolic Modeling
Verbal Persuasion	<ul style="list-style-type: none">• Suggestion• Exhortation• Self-Instruction• Interpretive Treatments
Emotional Arousal	<ul style="list-style-type: none">• Attribution• Relaxation• Symbolic Desensitization• Symbolic Exposure

Figure 2. Sources of efficacy expectations. Adapted from Bandura (1977).

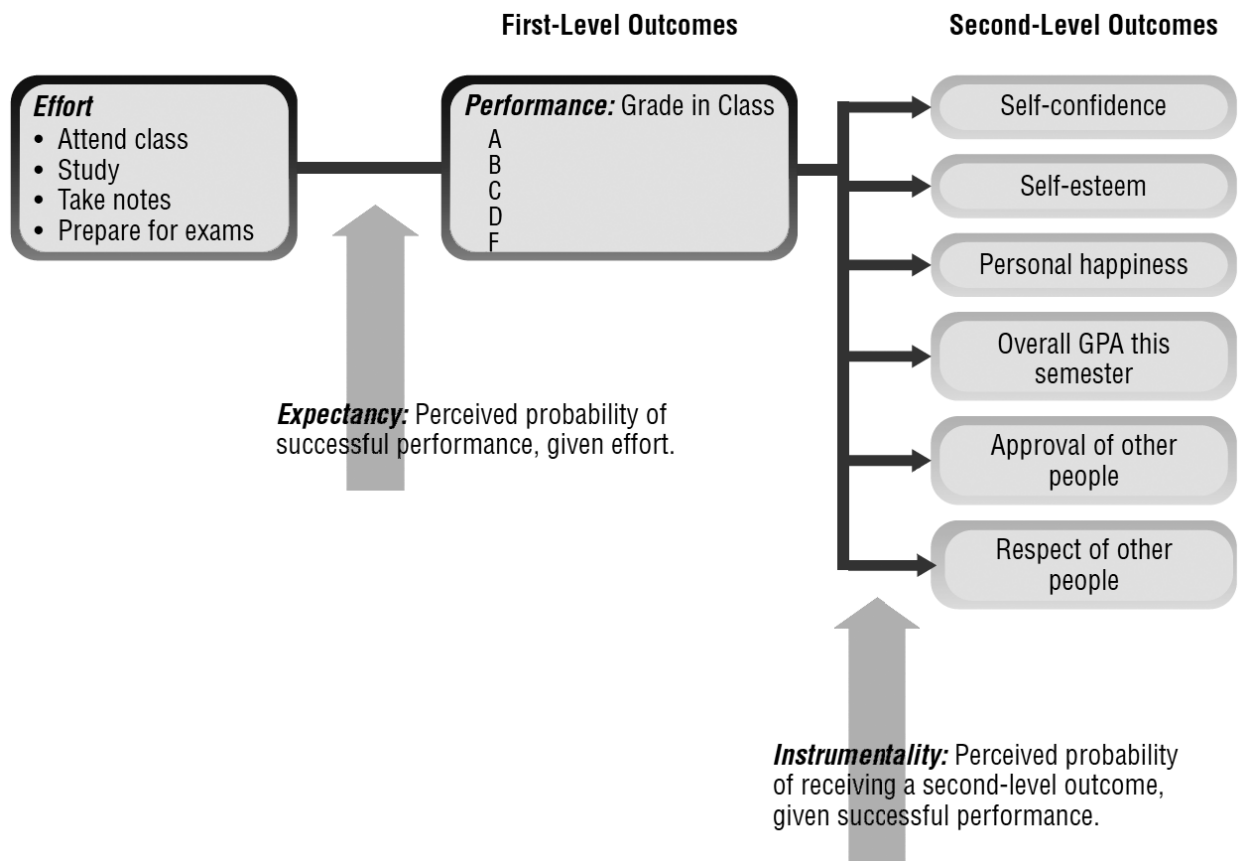


Figure 3. Application of Vroom's expectancy theory to student effort in a course.

Reproduced from Hellriegel & Slocum (2011, p. 178).

Publisher credit for Figure 3:

From Hellriegel/Slocum. Organizational Behavior, 13E. © 2011 South-Western, a part of Cengage, Inc. Reproduced by permission. www.cengage.com/permissions

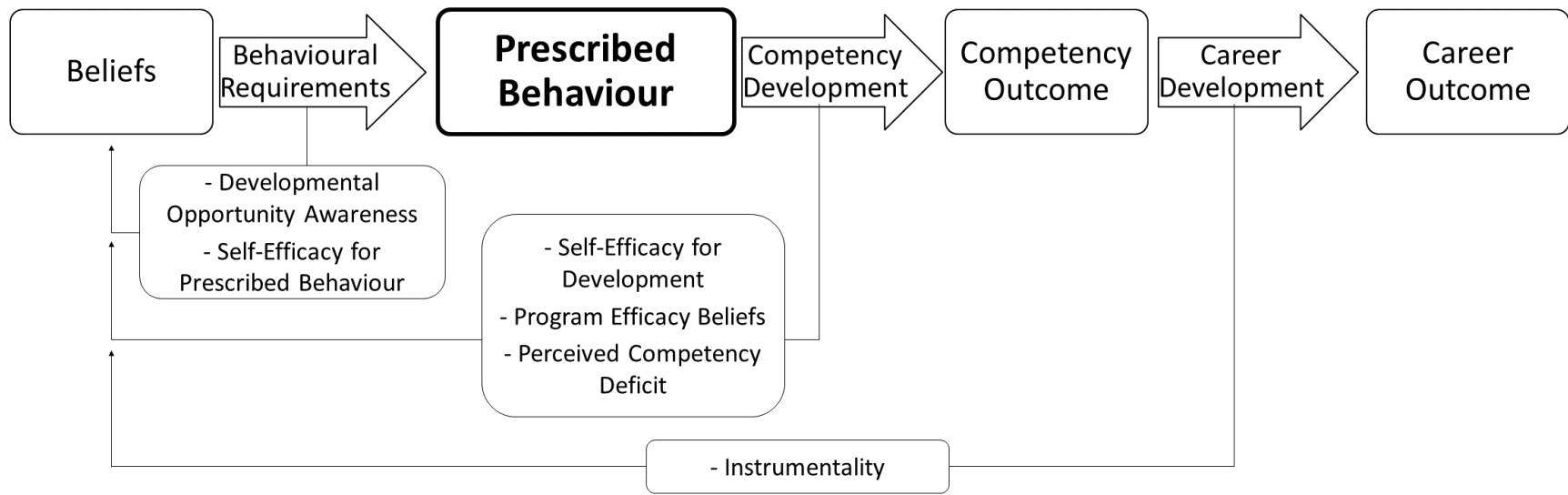


Figure 4. Our proposed cognitive model of motivation to develop professional competencies. This model depicts how beliefs about the self, about a prescribed developmental behaviour, and about the instrumentality of a given competency all influence motivation.

Appendices

Appendix A

Interview Protocol

To start out, how did you find out about this study?

Can you please state your program and term of study?

I'm interviewing you today to gain some insight into what students believe about professional competencies, particularly CPA Canada's enabling competencies.

CPA Canada talks about five competencies that they refer to as "enabling competencies" that are important in the field. They are: Professional & Ethical Behaviour, Problem Solving & Decision-making, Communication, Self-Management and Teamwork & Leadership.

[Show the sheet listing the five enabling competencies and leave it on the table for duration of interview]

Is it clear to you what each of these is all about? *[Be brief]*

- *[If they say that they know what they are]* What comes to mind for you?

Our interview today will centre around your perspective on these competencies.

Instrumentality [Link 3: Career Development]

Do you think enabling competencies are valuable to employers?

- How?

Do you think competencies like these are important for reaching your personal career goals?

- Why or why not? *[Probe for goals]*
- Are they likely to help you get your first job after graduation? *[Probe for time course]*
- Once you have a job, do you think having more of these competencies will be likely to help you advance in your career?

Are there certain contexts where you **don't** think competencies like these are important?
What are they?

Perceived Process of Competency Development [Box 1: Beliefs]

How do you think enabling competencies are developed? Take me through the process.

- *[Probe for deliberateness vs. automaticity]* What are the deliberate actions (if any)?
- *[Probe for tacit vs. explicit conceptualisation of actions within competencies – competency-associated behaviours]*

Do you think development of enabling competencies occurs on work terms?

- How?

What do you think are the key things you could do to develop your competencies?

- Do you do these things? Why or why not?

Developmental Opportunity Awareness [Link 1: Motivational Force]

[Show the sheet listing different kinds of developmental opportunities]

Can you describe any experiences, either in courses, or elsewhere in your school or department, or on campus that are available for supporting your development of enabling competencies?

- Do you take advantage of these opportunities?

Self-Efficacy for Prescribed Behaviour [Link 1: Motivational Force]

- Why or why not?
- How capable do you feel of participating?

What is your overall impression of the extent of opportunities to develop your enabling competencies during on-campus terms?

Program Efficacy Beliefs [Link 2: Competency Development]

- How effective do you think they are for most students?

Self-Efficacy for Development [Link 2: Competency Development]

- Are there ways in which these opportunities either are especially well suited to you or the opposite—not very likely to be of much help to you?

Are there any competencies you can think of where “you either have it or you don’t”?

- Why or why not?
- Do you think this is true of all competencies?

What do you see as the difficulties for you personally for acquiring the competencies we’re talking about?

Perceived Competency Deficit [Link 2: Competency Development]

How far along would you say you are in your development of these competencies?

- What comes to mind to illustrate how you demonstrate these competencies or how you would like to develop further in one or another area here? *[Probe for specific instances or behaviours]*

What do you imagine will unfold for you in the future as far as further competency development is concerned? For example, how long do you think it will take to reach your desired levels of these competencies, and in what time periods will development move forward?

What do you think is the largest barrier to competency development for students in your program?

- Do you think there is a way it can be overcome? *[Probe for additional barriers]*

Fully Open-Ended

When students do not put much focus or effort specifically on developing their enabling competencies, why do you think that is?

How about when they put a lot of focus or effort on it—why would that be?

Earlier I asked for your thoughts about how work term experiences can promote development of these enabling competencies. Is there anything else you can tell me about your understanding of how people improve in terms of communication and these other competencies over time?

We also discussed whether experiences on campus promote the development of enabling competencies. Can you offer any other thoughts about how to promote this development while students are on campus?

- *[Probe for their understanding of the development process, that is, why each suggestion is given]*

Finally, I'd like to ask about your thoughts about "experiential learning" in the context of the AFM program. How would you define and describe experiential learning here?

Appendix B

CPA Canada Enabling Competencies

Professional & Ethical Behaviour

Problem Solving & Decision-making

Communication

Self-Management

Teamwork & Leadership

Appendix C

Illustrative Developmental Opportunities

Workshops

In-Class Lectures & Discussions

Co-op Work Terms

Outside Speakers & Presentation

Appendix D

Codebook

Name	Description	Cases	Refs	Line
Deductive	Codes generated deductively based on our model			
Enabling Competencies	Talks about specific Enabling Competencies	14	370	1
Professional & Ethical Behaviour		14	55	2
Problem Solving & Decision-making		14	63	3
Communication		14	103	4
Self-Management		14	56	5
Teamwork & Leadership		14	93	6
Behavioural Requirements	[Super-ordinate category for model constructs below “Behavioural Requirements” in Figure 1]	14	73	7
Developmental Opportunity Awareness	Mentions the extent to which they or other students are aware of opportunities to develop enabling competencies.	14	58	8
Favourable	The belief underlying this statement is likely favourable to motivation	13	33	9

Name	Description	Cases	Refs	Line
Aware and Engaged	Mentions that they are aware of developmental opportunities and that they participate in them	7	10	10
Aware and Not Engaged	Mentions that they are aware of developmental opportunities and that they do not participate in them	6	7	11
Aware	Mentions that they are aware of developmental opportunities but does not share whether or not they participate in them	10	16	12
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	13	25	13
Lack of Awareness	Mentions that they are unaware of developmental opportunities	10	17	14
Lack of Opportunities	Mentions that there are not enough developmental opportunities at the university	6	8	15
SE for Prescribed Behaviour	Mentions their own or others' beliefs about their self-efficacy for prescribed developmental behaviours.	11	15	16
Favourable	The belief underlying this statement is likely favourable to motivation	10	12	17
Capable and Engaged	Mentions that they feel capable of participating in developmental opportunities and that they participate in them	4	4	18
Capable and Not Engaged	Mentions that they are aware of developmental opportunities and that they do not participate in them	2	2	19

Name	Description	Cases	Refs	Line
Capable	Mentions that they feel capable of participating in developmental opportunities but does not share whether or not they participate in them	6	6	20
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	2	3	21
Prescribed Behaviour	Mentions a prescribed behaviour	14	268	22
Workshops		13	37	23
Favourable	The belief underlying this statement is likely favourable to motivation	11	22	24
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	7	15	25
Outside Speakers & Presentations		14	40	26
Favourable	The belief underlying this statement is likely favourable to motivation	10	23	27
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	9	17	28
In-class Lectures & Discussions		14	61	29
Favourable	The belief underlying this statement is likely favourable to motivation	12	32	30
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	10	29	31
Projects & Case Competitions		11	42	32

Name	Description	Cases	Refs	Line
Favourable	The belief underlying this statement is likely favourable to motivation	11	39	33
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	3	3	34
Co-op Work Terms		14	65	35
Favourable	The belief underlying this statement is likely favourable to motivation	14	61	36
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	2	4	37
Unspecified		5	6	38
Favourable	The belief underlying this statement is likely favourable to motivation	4	4	39
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	2	2	40
Other		6	17	41
Favourable	The belief underlying this statement is likely favourable to motivation	6	15	42
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	2	2	43
Competency Development	[Super-ordinate category for model constructs below “Competency Development” in Figure 1]	14	227	44
SE for Development	Mentions how capable they believe they or others are of competency development	13	53	45
Favourable	The belief underlying this statement is likely favourable to motivation	12	43	46

Name	Description	Cases	Refs	Line
Practice and Experience	Mentions that competencies can be developed through practice and/or experience	10	27	47
Predispositions	Mentions that although individuals may have natural predispositions (or lack thereof) for the different competencies, they generally are capable of developing them further	8	11	48
Social Comparison	Mentions using observation of their others (peers, alumni, etc.) as evidence that development of the Enabling Competencies is possible	3	6	49
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	7	10	50
Can't Develop Certain Competencies	Mentions the belief that certain Enabling Competencies cannot be developed or improved	5	7	51
Program Efficacy Beliefs	Mentions how efficacious they or other students believe specific or more general prescribed behaviours are for competency development	14	120	52
Favourable	The belief underlying this statement is likely favourable to motivation	14	86	53
Efficacious and Engaged	Mentions that they believe the prescribed behaviours to be efficacious and that they participate in them	13	51	54
Efficacious and Not Engaged	Mentions that they believe the prescribed behaviours to be efficacious but that they do not participate in them	4	5	55
Efficacious	Mentions that they believe the prescribed behaviours to be efficacious but does not share whether or not they participate in them	12	30	56

Name	Description	Cases	Refs	Line
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	11	34	57
Not Experiential Enough	Mentions that the prescribed behaviours do not provide enough opportunities to apply and/or practice the skills that are learned	10	15	58
Lack of Helpful Information	Mentions that the subject matter covered by the prescribed behaviours is not helpful or that it can be difficult to see how it relates to the workplace or "real world"	6	12	59
Not Engaging	Mentions that the prescribed behaviours tend to be not engaging and/or interesting and/or that they fail to present any new information	6	8	60
Lack of Desire	Mentions that they or other students lack the desire to further develop their Enabling Competencies	3	3	61
Perceived Competency Deficit	Mentions their perceived level of proficiency in a given competency and/or how it might relate to competency development	14	54	62
Favourable	The belief underlying this statement is likely favourable to motivation	14	49	63
Lifelong Process	Mentions that competency development is a lifelong process and/or that they are early on in the process of competency development	6	14	64
Finished by Grad	Mentions that their enabling competencies should be fully (or close to fully) developed by graduation or shortly thereafter	9	13	65
Cues	Mentions the cues they use to determine their level of proficiency in the Enabling Competencies	8	13	66

Name	Description	Cases	Refs	Line
Specific Competencies	Mentions their level of proficiency in a specific Enabling Competency or set of competencies	8	13	67
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	3	5	68
Career Development	[Super-ordinate category for model constructs below “Career Development” in Figure 1, to maintain parallelism with the other such super-ordinate categories]	14	106	69
Instrumentality	Mentions how useful (or not useful) they or other students believe competencies in general are to their professional development	14	106	70
Favourable	The belief underlying this statement is likely favourable to motivation	14	88	71
Differentiator	Mentions that competencies can help set one apart from their peers or that competencies are perceived by employers as valuable	12	27	72
Different Stages	Mentions that competencies vary in how useful they are depending on the stage of one's career	10	15	73
Personal Development	Mentions that competencies are valuable beyond the accounting context, such as in other kinds of occupations or in one's personal life	8	13	74
Useful	Mentions that competencies are useful without elaborating much further	13	35	75
Unfavourable	The belief underlying this statement is likely unfavourable to motivation	10	18	76
Apathy	Says they or other students don not care about developing the competencies, are otherwise not motivated and/or that their efforts would be better spent elsewhere	5	6	77

Name	Description	Cases	Refs	Line
Minimizing	Minimizes enabling competencies as common sense or states that only a "bare minimum" or "baseline" proficiency is required	2	4	78
Not Useful	Says that enabling competencies are not necessary, either in the early stages of one's career or at all	6	8	79
Inductive	Codes generated inductively (i.e., not part of our <i>a priori</i> coding scheme)			80
Just Experience	Suggests that the development of Enabling Competencies is just a matter of experience	13	41	81
Misunderstanding of Competencies	Makes a statement that suggests they misunderstand the competencies	8	20	82
Communication		2	3	83
Problem Solving & Decision-making		6	12	84
Professional & Ethical Behaviour		1	1	85
Self-Management		3	4	86
Teamwork & Leadership		0	0	87
Lack of Time	Mentions not having enough time to pursue competency development and/or the prescribed behaviours	10	18	88