Globality: A fourth dimension of attribution theory

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Purpose of the Investigation

The purpose of this study is to investigate whether globality is a fourth dimension of attribution theory when the focus is on the motivation of undergraduate business computing students based on their achievement outcome in an introductory computer programming course. In addition, it explores the presence of causal properties associated with the globality dimension since all other dimensions have causal properties associated with them. It is very important to determine if a causal attribution is specific to one topic in a course or global to all topics in a course; specific to one course in a semester or global to all courses in a semester; specific to a sequence of courses in a programme or global to all courses in a programme; specific to one programme of study or global to all programmes offered by a faculty; or specific to a faculty or global to all university faculties. A learner who ascribes ‘difficulty’ to one topic in a course and perceives ‘difficulty’ as specific to only this topic is more likely to continue to be motivated to study for the remaining topics. To find out who are the students that are most likely to transfer to another programme of study or drop out from university, attribution theory has the globality dimension that can be used as a compass. This compass sense is very important for educators to intervene, if possible, at the right time before learners take irreversible action.

Globality is investigated as a fourth dimension to find out whether students believe that their causal attribution has influenced all courses taken simultaneously in a particular semester or
just the course under focus. Where the causal attribution is believed to have influenced all the courses in a particular semester, the causal attribution is assigned the causal property global. Where the causal attribution is believed to have influenced the only one course under focus in a particular semester, the causal attribution is assigned the causal property specific. Thus, the causal properties associated with the globality dimension are global and specific.

**Theoretical Framework**

According to attribution theory, motivation is influenced by students’ perceptions of the causes of their success or failure (Heider 1958). The importance of understanding causal attributions that influence student motivation manifests itself in the likelihood of predicting and controlling their achievement in subsequent similar tasks (Försterling 2001). For Heider, the originator of attribution theory, naïve persons tend to search for the underlying causes not out of mere curiosity, but to give meaning to behaviour (Petri and Govern 2004). This fundamental view has been embraced by many theorists and researchers (Jones 2001). Research showed the dominance of ability and effort as causal ascriptions to success and failure (Alderman 2004; Dörnyei 2001). However, identifying causal attributions is just the first step towards understanding motivation.

The second and crucial step in attribution theory entails interpreting and describing causal attributions. Meaning given to behaviour is vital for predicting future actions and controlling them (Försterling 2001; Trope & Gaunt 2003). To give an attributional cause a meaning, its underlying properties should be identified in the causal space (Williams et al. 2004). Some theorists and researchers assert that there are only three causal dimensions (Beck 2004; Elliot and Dweck 2005). Weiner (2006) stated that it is unknown why the number of causal dimensions is limited. As a result, attribution theory of motivation in its present state calls for analysing a cause
based on just three dimensions (Griffin 2006; Weiner 2000). The three dimensions of causality are locus, stability, and controllability (Griffin 2006):

(1) Locus: refers to whether the perceived cause is an internal or external factor to the person. The causal properties associated with the locus of causality dimension are internal and external.

(2) Stability: refers to whether the perceived cause remains the same or changes over time. The causal properties associated with the stability are stable and unstable.

(3) Controllability: refers to whether the perceived cause is subject to volitional alteration. The causal properties associated with the controllability are controllable and uncontrollable.

The underlying properties of causal attributions have psychological consequences on students (Elliott et al. 2005). Many researchers have supported this link (Dresel et al. 2005). In turn, the psychological consequences energize or inhibit motivation (Dörnyei 2001; Graham and Weiner 1996). Thus, they determine subsequent behaviour. Many researchers believe that the usefulness of causal attributions is located in their properties (Elliott et al. 2005).

The search for more causal dimensions never stopped. In 1979, Weiner proposed globality as an additional cause. Later, Weiner (2000) rejected his proposition and affirmed that there were only three dimensions. Despite the conviction of some researchers that attribution theory has only three dimensions, others kept proposing the investigation of globality as a causal dimension (Dresel et al. 2005). One of the studies about attribution theory excluded controllability and included globality (Mitchell and Hirom 2002). The proposed globality dimension refers to whether the perceived cause influenced just the task under focus or exceeded it to other tasks performed at the same time. An example of a global attribution is ‘All teachers
are either unfair or very demanding. That is why I am failing my courses.’ Here, failure is attributed to a global cause that will determine the outcomes of all future courses (Petri and Govern 2004). An example of a specific attribution is such as ‘I failed the math course because the teacher was unfair.’ Here, failure is attributed to a specific cause related only to one course. The global cause above can be perceived as external, stable, and uncontrollable. Also, the specific cause above can be perceived as external, unstable, and uncontrollable. Thus, it was possible to locate the global and specific causes in the causal space using locus of causality, stability, and controllability. However, without the globality dimension, the interpretation of the resulting psychological consequences for the global cause and the specific cause could have been the same.

**Context of the Study**

Lebanon is situated on the eastern most part of the Mediterranean Sea, with a population of 4 million. Geographically, Lebanon links three continents: Europe, Asia, and Africa. Lebanon is a country where three languages are commonly spoken. That is why there are universities and schools that teach in Arabic, English, and French. Out of 19 universities, there are 9 English-medium universities, 3 Arabic-medium universities, 3 French-medium universities, and 4 bilingual or trilingual universities. Students have a wide variety of universities where they can choose to study when one of the factors is their preferred language of instruction. The study took place at Notre Dame University, Louaize. Notre Dame University, Louaize, is a non-profit Lebanese Catholic institution of higher education which follows the American system of education (Notre Dame University 2003). It was founded in 1987 in northeast Beirut, the capital city of Lebanon. The site of this study is the University’s main campus which is located in a town whose 60,000 residents are mainly Christians. The area of the land where the main campus is located consists of about one million square meters (Notre Dame University 2003). Notre
Dame University, LouaiZe, encompasses two additional branches, one in the North of Lebanon inaugurated in 1990, and another in the Shouf area inaugurated in 2001.

**The Programme and Course Under Focus**

The business computing programme is distinguished by encompassing two thrusts where one is related to computer science, the other is related to business. The two thrusts are represented by two distinct clusters of courses other than the general education requirement (30 credits) and the free elective courses (6 credits). The major cluster includes 11 courses related to the computer science discipline such as computer programming. The minor cluster includes 4 courses related to the business discipline such as accounting and economics.

The name of the course under focus is ‘Computer Programming 1’. It is designed to introduce students to computer programming using a leading-edge development tool. At the time of the study, the development tool was Visual Basic.NET 2005. In ‘Computer Programming 1’, exams are conducted in a computer lab using the development tool itself. At the end of each exam, students submit a software solution based on the instructions on the exam paper. Students submit their exam via the BlackBoard e-learning system after compressing the folder that contains the software solution.

**Methodology**

While numerous studies have used attribution theory as a framework to study student motivation based on hypothetical scenarios or laboratory tasks (Dresel et al. 2005; Försterling 2001), this study investigated students who completed a computer programming course that extended for a fifteen-week semester. The sample consisted of 45 students in the business computing programme who took the ‘Computer Programming 1’ course any time between the fall 2001 and the spring 2007 semesters. Out of the 45 students, 42 were Lebanese. The sample
size formed 13.2% of the business computing programme’s population which was 340 students. The sample for this study consisted of students who graduated (4 students) from, or were enrolled in the business computing programme (39 students). Without the four volunteering graduates, the remaining 41 participants constituted 34.4% of the 119 enrolled students in the spring 2007 semester. By academic level, participants were sophomores, juniors, seniors, and graduates. Six of the participants were females and 39 were males. The predominance of males mirrors the population of the business computing cohort. Female students formed 15.6% of the business computing cohort. Cox and Fisher (2008) report that in North America, female participation rates in Information Technology programmes such as computer science is 13.9%.

Perceptions were collected post-course through open-ended semi-structured interviews. They were conducted in the spring 2007 semester. All interviews were recorded on the computer. The interviews took place at the researcher’s office. Each participant was told about the purpose of the research, the interview time, the language of communication, and that anonymity and confidentiality are guaranteed. After ascribing their achievement outcome in ‘Computer Programming 1’ to a cause, participants were asked the following question: Did the cause of your achievement influence your achievement just in the computer programming course or all courses? The question was intended to obtain participants’ perceptions of the given causal attribution on the globality dimension.

Data Analysis

Interviews were transcribed, using English, into plain text files. The interviewees were given hard copies of the transcripts to check them for their accuracy in the presence of the researcher. All participants had good English-language writing and reading skills. Transcripts were corrected based on the students’ remarks. Then, the text files were set to read-only status to
protect them from unintentional change. The software package HyperResearch, a qualitative analysis tool, was used to codify the data. In HyperResearch, 45 Case Cards were added to the current study’s file, one Case Card per participant. At the end of the coding process, the Code List Editor of HyperResearch included all causal attributions made by participants in response to the research question. In addition, the Code List Editor included two codes related to the globality dimension which emerged from participants’ responses to the research question. These codes represented themes derived from recurring patterns in the entire set of source files (Hays 2004).

**Findings**

Answers given by participants to the research question are presented according to two identified themes: global and specific. The two themes are related to how participants perceived their causal attribution on the proposed fourth dimension, globality. The interview extracts in the next two sections are representative statements from the participants that exemplify the two emerging themes: global and specific. They show how some participants perceived their causal attribution as global and others as specific. The course outcome and the causal attribution made by the participant are added below the extract which depicts a statement said in the interview, [R = participant’s response]. Some students refer to ‘Computer Programming 1’ course by using its number ‘CSC 216’.

**Global - Causal Property of Globality**

The extracts that appear in this section are grouped here to show how some participants perceived their causal attribution as global. These extracts came in response to the research question.

*Extract 1 [Participant 3]*
R: Yes, it was the same / I was enrolled in the database course / again I had to find time to work for both courses / there were many courses where I was not at ease with, …, for instance in microeconomics, also I was taking a mathematics course

Course outcome: C

Causal attribution: lack of practice

The answer of this participant to the research question was coded as global because he said that his achievement was the same for his entire courses the semester he enrolled in ‘Computer Programming 1’. He mentioned several courses as examples. Actually his grade in the database course was close to ‘Computer Programming 1’. In the other courses, he obtained a grade that is either slightly better or slightly lower.

Extract 2 [Participant 5]

R: I was not working but overall I did not study for all my courses

He added when the interviewer waited for more clarification:

R: it is something internal within me before for two semesters / the first semester I took three Fs one of them was VB / it was the first semester and I did not associate closely with studying / I was not studying, it was like I enrolled in a university, I enrolled in a university

Course outcome: F

Causal attribution: lack of study

The answer of participant 5 was also coded as global because he said in response to the research question that he did not study for all his courses the semester he enrolled in ‘Computer Programming 1’.

This participant failed three out of 5 courses and received his first academic probation.

In a similar way, the extracts below illustrate how other participants perceived their causal attribution affecting their achievement in all the courses the semester they enrolled in ‘Computer Programming 1’, although in some cases different causal attributions were made.

Extract 3 [Participant 11]
R: I went through a period where I was careless in many subjects, work, the country's political situation, I am the kind of person who cannot live under such pressure

Course outcome: F

Causal attribution: lack of study

This participant failed all of his 4 courses and as a result received his first academic probation.

Extract 4 [Participant 13]

R: I used to balance out the time amongst courses / studying at home helped me pass all the other courses

Course outcome: A

Causal attribution: learning strategy

The semester during which this participant completed the course under focus she was placed on the Dean's List.

Extract 5 [Participant 14]

R: All the subjects, all the subjects / I am the type of person who cannot give VB more time than other courses

He added when the interviewer waited for more clarification:

R: however VB requires more time than other courses / other courses do not require that much, you understand them in class and you take the exam / you read a little bit before the exam and you pass / in VB if you do not practice you do not pass the course, you will have to repeat it

Course outcome: F

Causal attribution: lack of practice

This participant withdrew from three courses, failed one course, and barely passed the fourth.
Extract 6 [Participant 22]

R: All my grades were the same / any new student will act the same during the first semester / all the
students I know of had low grades at the beginning, in general

Course outcome: D

Causal attribution: lack of study

This participant received average grades on the remaining courses.

Extract 7 [Participant 24]

R: Yes, it was present in all courses. There was negligence.

Course outcome: C

Causal attribution: lack of study

This participant received slightly better grades on her remaining courses.

Extract 8 [Participant 26]

R: I did poorly in all my courses, not only in this course.

Course outcome: D

Causal attribution: learning strategy

This participant ascribed his achievement outcome in ‘Computer Programming 1’ to employing an inappropriate ‘learning strategy’. He failed one course, and did slightly better in the other two courses than the course under focus.

Extract 9 [Participant 33]

R: all my courses were close to each other and I had the same grades in general because of my insufficient work

Course outcome: D

Causal attribution: lack of study
This participant received grades close to the one that he obtained in the course under focus.

*Extract 10 [Participant 37]*

R: could not study / even all the computer courses at the university went like this, most of them
Course outcome: D
Causal attribution: lack of study

This participant withdrew from one course and received grades slightly higher that of the course under focus.

*Extract 11 [Participant 43]*

R: Sure, it influenced several other subjects during the semester. But, I did not fail them. I had good grades before. The finals were not very good.
Course outcome: B
Causal attribution: lack of study

This participant received grades close to the one that he obtained in the course under focus.

*Extract 12 [Participant 44]*

R: Of course / if I work just for VB, my level will go down in all other courses because studying more for VB means reducing the study time for the other courses / I balanced out the time amongst all courses / some courses are more difficult than VB such as the accounting courses / studying for the programming course is easier

Later in the interview, participant 44 said:

R: I studied in a way to maintain a certain level where I am present in all of them with the same grade
Course outcome: B
Causal attribution: lack of practice
Despite perceiving his causal attribution as global, this student withdrew from one course, failed another two, and barely passed the fifth course.

**Specific – Causal Property of Globality**

The extracts that appear in this section are grouped here to show how some participants perceived their causal attribution as specific. These extracts came in response to the research question.

*Extract 15 [Participant 9]*

R: No, because in other courses such as Micro and the others required learning by heart, it is clear that they need memorization

Course outcome: D

Causal attribution: learning strategy

This participant did much better in his remaining courses than what he did in ‘Computer Programming 1’. For this reason, the answer of this participant to the research question was coded as specific because he said that his achievement was different in the other courses the semester he enrolled in ‘Computer Programming 1’. He ascribed his achievement outcome in ‘Computer Programming 1’ to employing an inappropriate ‘learning strategy’.

*Extract 16 [Participant 12]*

R: No. Not as much as it affected CSC 216.

Course outcome: C

Causal attribution: lack of study

This participant had a sharp no to the research question. Then, he catches on with a statement that most probably means that the causal attribution ‘lack of study’ affected ‘Computer Programming 1’ more than it did affect the remaining courses the semester he enrolled in it. This
participant did much better than ‘Computer Programming 1’ in two of his courses and slightly less in his fourth course.

In a similar way, the extracts below illustrate how other participants perceived their causal attribution as affecting only the ‘Computer Programming 1’ course the semester they enrolled in it, although in some cases different causal attributions were made.

Extract 17 [Participant 18]

R: No, this programming course has a to be studied by practice / I believe that there is a specific way for each course I am taking / I placed that much effort just on this course / it was the only one that required that much effort

Course outcome: D

Causal attribution: lack of study

For this participant he had his worst grade in the course under focus. He did better in the other courses.

Extract 18 [Participant 20]

R: I passed the other courses because they did not need a lot memorizing, so I could obtain C and B, but this course requires practice using the computer / I cannot hold the notes and study them / this course needs practice / I did not have time to stay at home and practice

Course outcome: F

Causal attribution: lack of practice

This participant passed two courses with an average grade and a very good grade. However, he withdrew from the fourth course.

Extract 19 [Participant 21]

R: The outcomes of courses unrelated to programming were good. I had problems, but overall the results were good.
Course outcome: C

Causal attribution: learning strategy

This participant ascribed his achievement outcome in ‘Computer Programming 1’ to employing an inappropriate ‘learning strategy’. He obtained better grades on all his remaining courses.

*Extract 20 [Participant 29]*

R: No, every course had its own concept / one course fell in a domain that I dislike, one course fell in a domain that I like, it depends, it is motivation that brings about a grade

Course outcome: A

Causal attribution: learning strategy

This participant ascribed his achievement outcome in ‘Computer Programming 1’ to employing an appropriate ‘learning strategy’. He received his best grade in this course. The lowest was an average grade.

*Extract 21 [Participant 34]*

R: Frankly, I do not know / some courses depend just on exams other courses include projects / in CSC 216, we had projects and assignments other than test 1, test 2, and the final, interactivity in class, attendance, all corners were covered / some courses they do not give you appreciation, or consider your case if you were not ok / in CSC 216 goal was to help us understand the code, it was not the grades, everything was targeted toward understanding the material

Course outcome: A

Causal attribution: learning strategy

This participant ascribed his achievement outcome in ‘Computer Programming 1’ to employing an appropriate ‘learning strategy’. He received his best grade in this course. The lowest was an average grade.
*Extract 22 [Participant 35]*

R: I cannot be precise, but my major in general is programming / CSC 216 was programming, it was my first programming course / regarding the others, their grades would not concern me / I was not interested in the other courses in as much as becoming sharp in programming

Course outcome: C

Causal attribution: lack of study

This participant obtained a better grade in one course, a lower grade in another, and withdrew from the fourth.

*Extract 23 [Participant 39]*

R: It encouraged me to study more / I was enrolled at that time in a database course and its outcome was good too / what encouraged me is that I felt there will be a link between them later / this encouraged me to study / it gave me the idea of taking course related to each other more

Course outcome: A

Causal attribution: learning strategy

This participant ascribed his achievement outcome in ‘Computer Programming 1’ to employing an appropriate ‘learning strategy’. He received his best grade in this course. In the remaining courses, he got two good grades, one passing grade, and one failing grade.

*Extract 24 [Participant 41]*

R: The circumstances that I was going through influenced the course outcome. However, regarding the other courses, I had some background in mathematics and the like which helped me to overcome them with better grades, with good grades. However, VB requires practice and I had no background about it. I used to study VB from papers. I did not practice. Practice is the most important in VB.

Course outcome: D

Causal attribution: lack of practice
Contrary to the previous participant, this participant obtained his worst grade in the course under focus. He obtained an average, good, very good, and excellent grade in the other courses. It is evident from what Participant 41 said that for him the causal attribution ‘lack of practice’ was specific to ‘Computer Programming 1’.

The analysis of the interview data show that the two themes global and specific have emerged as causal properties that can be associated with a dimension different from locus of causality, stability, and controllability. This suggests the addition to attribution theory a fourth dimension called globality.

**Distribution of the Causal Properties of Globality by Causal Attribution**

Table 1 depicts several facts about the participants in this study when grouped by similar causal attribution.

**Table 1**

*Underlying causal properties of globality as perceived by participants grouped by causal attribution*

<table>
<thead>
<tr>
<th>Participants</th>
<th>Causal attribution</th>
<th>Globality</th>
<th>n</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>6, 13, 15, 21, 26, 30, 36, 38, 42, 45</td>
<td>Learning Strategy</td>
<td>global</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>9, 17, 19, 29, 31, 32, 34, 39</td>
<td>specific</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1, 2, 5, 10, 11, 22, 24, 25, 27, 33, 37, 43, 12, 35</td>
<td>Lack of Studying</td>
<td>global</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>12</td>
<td>specific</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3, 14, 40, 44</td>
<td>Lack of Practice</td>
<td>global</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>4, 7, 18, 20, 28, 41</td>
<td>specific</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29, 30, 31, 32, 34, 36</td>
<td>Appropriate Teaching Method</td>
<td>specific</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>8, 23</td>
<td>Subject Difficulty</td>
<td>global</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>Lack of Effort</td>
<td>global</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>42</td>
<td>Exam Anxiety</td>
<td>global</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>Cheating</td>
<td>specific</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Lack of Time</td>
<td>global</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>27</td>
<td>Unfair Treatment</td>
<td>specific</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

First, the two groups who ascribed their achievement outcome to ‘learning strategy’ and ‘lack of practice’ had their causal properties almost equally spread between global and specific.
For instance, while 10 participants perceived ‘learning strategy’ as global, 8 others perceived it as specific. That is, 10 participants said that their ‘learning strategy’ influenced all the courses they were taking the semester they enrolled in ‘Computer Programming 1’ and 8 others said that it influenced ‘Computer Programming 1’ only. As for ‘lack of practice’, while 4 participants perceived it as global, 6 others perceived it as specific. There is no clear inclination for ‘lack of practice’ to being global or specific. That is, there is almost fifty percent chance that a student who is not practicing in a computer programming course is also not practicing for other courses, if any. Second, ‘lack of study’ tends to be more global than specific. The globality dimension revealed that ‘lack of study’ affected much more participants in all subject areas taken simultaneously with ‘Computer Programming 1’ than just ‘Computer Programming 1’. That is, participants who ascribe their achievement outcome to ‘lack of study’ are most likely not studying for all other courses. Only 2 out of 14 students perceived ‘lack of study’ as specific to ‘Computer Programming 1’. Those two students, i.e. participants 12 and 35, perceived the cause as controllable which enables them to make improvements in learning subsequent computer programming courses. However, participant 12 who perceived the cause as stable received a lower grade in the next computer programming course in the sequence, while participant 35 who perceived it as unstable received a higher grade. Third, all participants who ascribed their achievement outcome to ‘appropriate teaching method’ perceived it as specific to the course under focus. Had more than one teacher taught the course, the result would have been different. Finally, patterns could not be identified for the remaining causal attributions because of the low number of participants (2 or 1) who mentioned them.
Distribution of the Causal Properties of Globality by Achievement Outcome

Table 2 to Table 6 contain data about the 45 participants grouped by achievement outcome in the following way: high achievers (A+, A, A-), good achievers (B+, B, B-), satisfactory achievers (C+, C), passing achievers (C-, D+, D), and low achievers (F, UW).

Table 3, Table 4, and Table 6 depict that good achievers, satisfactory achievers, and low achievers, respectively, tend to perceive their causal attributions as global. That is, whether a student is a good achiever, a satisfactory achiever, or a low achiever, if the causal attribution she ascribes to her achievement outcome is ‘lack of study’, then most probably it is influencing all the courses she is enrolled in the same semester. However, for high achievers (Table 2), a causal attribution tend to be specific to the course under focus. That is, a high achiever in computer programming is most probably not excelling in her remaining courses the same semester. It seems that this finding is related in way to specialisation in a particular topic which definitely needs further investigation on a larger sample. Passing achievers did not have clear tendency to whether they perceive their causal attributions global or specific (Table 5).

Globality contributes to locating a causal dimension in the causal space along with locus of causality, stability, and controllability. Locating a causal attribution in the causal space can help predicting the academic future of students, for instance whether they will remain in their chosen academic programme or whether they will drop out from university. The next four examples will illustrate such critical cases drawn from the sample.
Table 2

*Causal properties of globality given by high achievers*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Globality</th>
<th>Causal Attribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>global</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>17</td>
<td>specific</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>29</td>
<td>specific</td>
<td>Appropriate Teaching Method</td>
</tr>
<tr>
<td>30</td>
<td>specific</td>
<td>Appropriate Teaching Method</td>
</tr>
<tr>
<td>31</td>
<td>specific</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>32</td>
<td>specific</td>
<td>Appropriate Teaching Method</td>
</tr>
<tr>
<td>34</td>
<td>specific</td>
<td>Appropriate Teaching Method</td>
</tr>
<tr>
<td>36</td>
<td>global</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>39</td>
<td>specific</td>
<td>Learning Strategy</td>
</tr>
</tbody>
</table>

Table 3

*Causal properties of globality given by good achievers*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Globality</th>
<th>Causal Attribution</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>global</td>
<td>Lack of Study</td>
</tr>
<tr>
<td>10</td>
<td>global</td>
<td>Lack of Study</td>
</tr>
<tr>
<td>43</td>
<td>global</td>
<td>Lack of Study</td>
</tr>
<tr>
<td>6</td>
<td>global</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>15</td>
<td>global</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>19</td>
<td>specific</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>4</td>
<td>specific</td>
<td>Lack of Practice</td>
</tr>
<tr>
<td>44</td>
<td>global</td>
<td>Lack of Practice</td>
</tr>
<tr>
<td>45</td>
<td>global</td>
<td>Learning Strategy</td>
</tr>
</tbody>
</table>
Table 4
*Causal properties of globality given by satisfactory achievers*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Globality</th>
<th>Causal Attribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>specific</td>
<td>Lack of Study</td>
</tr>
<tr>
<td>24</td>
<td>global</td>
<td>Lack of Study</td>
</tr>
<tr>
<td>25</td>
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<td>Lack of Study</td>
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<td>35</td>
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<td></td>
<td>global</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>42</td>
<td>global</td>
<td>Exam anxiety</td>
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<tr>
<td>21</td>
<td>global</td>
<td>Learning Strategy</td>
</tr>
<tr>
<td>3</td>
<td>global</td>
<td>Lack of Practice</td>
</tr>
<tr>
<td>7</td>
<td>specific</td>
<td>Lack of Practice</td>
</tr>
<tr>
<td>40</td>
<td>global</td>
<td>Lack of Practice</td>
</tr>
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</table>

Table 5
*Causal properties of globality given by passing achievers*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Globality</th>
<th>Causal Attribution</th>
</tr>
</thead>
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<tr>
<td>22</td>
<td>global</td>
<td>Lack of Study</td>
</tr>
<tr>
<td>27</td>
<td>specific</td>
<td>Unfair Treatment</td>
</tr>
<tr>
<td>33</td>
<td>global</td>
<td>Lack of Study</td>
</tr>
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<td>37</td>
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<td>Lack of Study</td>
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<td>18</td>
<td>specific</td>
<td>Lack of Practice</td>
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<td>Lack of Practice</td>
</tr>
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<td>specific</td>
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<td>9</td>
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</tr>
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<td>26</td>
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<td>Learning Strategy</td>
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</table>
**Table 6**

*Causal properties of globality given by low achievers*

<table>
<thead>
<tr>
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<th>Causal Attribution</th>
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<td>Lack of Study</td>
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<td>global</td>
<td>Learning Strategy</td>
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<td>14</td>
<td>global</td>
<td>Lack of Practice</td>
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<tr>
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<td>specific</td>
<td>Lack of Practice</td>
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<td>Subject Difficulty</td>
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<tr>
<td>23</td>
<td>global</td>
<td>Subject Difficulty</td>
</tr>
<tr>
<td>16</td>
<td>global</td>
<td>Lack of Effort</td>
</tr>
</tbody>
</table>

**Critical Cases**

**Case 1**

Participant 8 perceived his causal attribution ‘subject difficulty’ as internal, stable, controllable, and global. He globalised his experience with ‘Computer Programming 1’ to all computer programming courses that are included in his chosen academic programme ‘Business Computing’. The extract below shows how he globalised his experience to every course that belongs to the computer science discipline:

*Extract 25 [Participant 8]*

R: Frankly, because of this course, I changed my major / I thought that if this is the easiest course in computer programming and my outcome is as such, why then should I enter this route that is not meant for me / in the old days, I thought that I have some knowledge about computers, I found out that I do not know / it is not that I do not know, I did not like to know more

As a result, participant 8 changed his academic programme one semester after the semester in which he took ‘Computer Programming 1’. Possibly, what he meant by perceiving his causal attribution ‘subject difficulty’ as controllable is different from what one normally believes that is studying for the computer programming course. His solution to the problem was
to change his academic programme to another branch of learning. He gave a clue to this end when he mentioned in the interview that he better understood his management course. At the time of writing this paper, he was still pursuing his education in public administration at the university and his achievement improved drastically.

**Case 2**

In addition to perceiving his causal attribution ‘lack of study’ as internal, stable, and uncontrollable, Participant 11 perceived it as global and dropped out from Notre Dame University, Louaize, one semester after the semester in which he took ‘Computer Programming 1’ (Extract 3). Possibly, perceiving his causal attribution ‘lack of study’ as internal, stable, and uncontrollable was a declaration of hopelessness which is different from the situation of participant 8 in Case 1 above. In addition, globalising the experience to all courses that were taken and that were yet to come had a dramatic effect on the participant’s expectation of future success. Some authors believe that perceiving a causal attribution as internal, stable, and uncontrollable is a causal style that leads to depression (Maag 2004). The extract below shows the severity of the case:

*Extract 26 [Participant 11]*

R: I cannot live irrespective of what is going on around me / I cannot live in a country with such persistent pressure / you might tell me to forget what is happening and to concentrate on my work, to study, to sit in your room / one day there is war, another day there is no war / one day the university will close, another day the university will not close / sometimes there are strikes / even if I work and establish myself and succeed I might have to leave the country at one point / then I might not work with my business computing degree.
Case 3

Participant 16 perceived his causal attribution ‘lack of effort’ as internal, stable, controllable, and global. He globalised his ‘Computer Programming 1’ learning experience to every course that requires practice including courses from disciplines other than computer science such as accounting. The extract below shows this point:

*Extract 27 [Participant 16]*

R: The other courses were easier except for one course which I failed too and it was accounting II if I am not mistaken because it requires practice and could not practice for the course

He told the interviewer that he did not have time to practice because he used to work an evening shift from 3 pm to 10 pm. Work affected his achievement striving negatively:

*Extract 28 [Participant 16]*

R: I took the course the next semester, but I didn’t complete it because I knew that I didn’t have time to practice enough and pass the course.

Participant 16 gave himself another chance, but the outcome of that chance was not up to his expectations. He expressed the effect of this experience on him by saying:

*Extract 29 [Participant 16]*

R: Yes, if I will continue with the same pattern of work and study with this kind of courses that is programming, I will not be able to start out

As a consequence, participant 16 changed his academic programme to public administration immediately after the semester in which he took ‘Computer Programming 1’ and in which he received an academic suspension.
Case 4

Participant 21 ascribed his achievement outcome to an inappropriate ‘learning strategy’. He perceived this causal attribution as internal, stable, uncontrollable, and specific to ‘Computer Programming 1’. Below is part of what he said to the interviewer:

*Extract 30 [Participant 21]*

R: The outcomes of courses unrelated to programming were good. I had problems, but overall the results were good.

Extract 30 shows that participant 21 believes that his causal attribution influenced all his computer programming courses. Actually, this does not contradict with how he perceived his causal attribution in the causal space with regard to ‘Computer Programming 1’. The business computing programme includes a sequence of three programming courses and a senior project course related to them. Participant 21 changed his academic programme one semester after the semester in which he took ‘Computer Programming 1’.

While the researcher’s focus was on whether a causal attribution influenced all courses taken in a particular semester with ‘Computer Programming 1’ or just the ‘Computer Programming 1’ course, some participants focused on the influence of their causal attribution on all computer programming courses that were yet to come. This should have resulted from the wording of the research question which was posed in line with what was already known about the other well established dimensions such as locus of causality. Although that participant 8 and participant 21 perceived their causal attribution as global and specific respectively, they globalised their experience with ‘Computer Programming 1’ to all computer programming courses and consequently changed their academic programme to another that does not require learning computer programming. Participant 16 globalised his experience with ‘Computer Programming 1’ to all courses that require practice and changed his academic programme to
another where the courses do not require practice. It was mentioned earlier that the business computing programme includes computer science and business courses. These findings do not only show that globality is a fourth dimension of attribution theory, but that globality has more than two properties. This finding is not in line with the other dimensions that seemed to have two properties each.

In fact, there is no reason why all dimensions should have the same number of properties. Based on the interview data, I suggest that the globality dimension of attribution theory has three properties: public, global, and specific. A causal attribution that is perceived as public influences all courses in an academic programme. The perceiver of a causal attribution as public, most likely, drops out. A causal attribution that is perceived as global influences all courses that belong to a specific discipline such as computer science or that require a specific skill such as practice. The perceiver of a causal attribution as global, most likely, changes academic programme. A causal attribution that is perceived as specific influences just the one course under focus, such as the classroom environment and the teaching method. The perceiver of a causal attribution as specific, most likely, stays in the programme.

This research paper supports the presence of the globality dimension. In addition, it shows its importance to educators. If an educator wishes to find out who are the students that are most likely to transfer to another programme of study or drop out from university, then the globality dimension can be used as an indicator. Academic advisors can employ attribution theory and its globality dimension to examine critical cases of advisees who are about to receive a probation or a suspension. In fact, the inclusion of the globality dimension in attribution theory can help in improving existing attribution retraining programmes or in creating better ones
because it offers additional information about the type of problem at hand which helps in providing treatments accordingly.

**Limitations**

While the findings are revealing with respect to the potential benefits of determining learners’ perceptions of the causes they ascribe to achievement outcomes on the globality dimension, they are bounded by the limitations framework of the study. One limitation of the study was the need to translate the interview data. The need for translation arose from the fact that some participants were not able to express all their lived experiences in English. Those students come from French medium schools. Their English-speaking skills are limited, but they have good reading and writing skills. Most of the participants completed at least one of their two mandatory English courses that are part of their general education requirements. The researcher translated and transcribed the interviews into English, and had them verified by the participants themselves. Transcriptions and translations could have been different had another person undertaken these jobs. Although these are limitations to the study, but it couldn’t have been completed otherwise.

**Delimitations**

The findings of this study cannot be generalized to the population of business computing programme because of the small sample size and because participants were not selected randomly (Adler and Clark 2008). The participants are not representative of the business computing programme population.

**Suggestions for Future Research**

a. The present research supported the presence of globality as some research did, but Weiner (2000) had refuted this possibility. More research is needed in this regard.
b. Future research may include participants from varied academic programmes. The reason for this is to determine the range of disciplines where the globality dimension is applicable.

c. Future research may include students from different and disperse educational institutions in and outside Lebanon. The findings of this study might be influenced by contextual factors related to the academic programme under focus or the country’s socio-political/socio-economic conditions,

d. The previous recommendation can be implemented by encompassing students learning computer programming from intermediate and advanced programming levels which might make findings more pronounced or take research into new venues.

e. More research is needed to confirm the finding that the globality dimension has three causal properties named in this paper public, global, and specific.

f. It seems that globality can help in identifying the learners who have tendency to be become proficient in a discipline. This needs further investigation on a larger sample.

Conclusion

Results showed strong evidence that globality is indeed a fourth dimension of attribution theory in the studied achievement context. This finding supports previous research that suggested the presence of globality as a fourth dimension of attribution theory. In addition, there is evidence here that students perceive a causal attribution global by generalising their experience to all courses taken a particular semester, to a branch of learning, or to an aspect of learning. This suggests that globality has more than two properties associated with it. Having more than two causal properties distinguishes globality from the other dimensions locus of control, stability, and controllability, because each one of them had just two properties associated with it. Further, globality can help educators in identifying learners who have tendency to be become proficient in their subject area and not other disciplines. It would be worthwhile to replicate this study to investigate all findings in the same and in different settings.
References


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