

## **Reducing Academic and Career Indecision: The Effectiveness of a First-year College Program**

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### **Abstract.**

This article is on the effectiveness of a college program—the *Session d'accueil et d'intégration* (SAI)—designed to reduce academic and career indecision among first-year college students in Québec (Canada). A repeated measures study involving 973 students (506 enrolled in an SAI, 467 in a major program) enrolled in 21 colleges was used to test the trajectory of indecision and its sources (or indecision-related problems) throughout the first semester. An assessment of indecision sources is one way to identify successful strategies for guidance. Using a quasi-experimental design, a significant improvement in academic and career indecision—as well as in variables lack of self-knowledge, lack of method in decision-making and lack of information—was observed in the SAI group. Counter-intuitively, students enrolled in a major (comparison group) deteriorated on all those indecision sources, as well as dysfunctional belief and external barriers, along the first college semester. This result clearly suggests that when no specific orientation interventions are provided during the first college semester, indecision and its sources increase.

**Keywords:** indecision, first-year seminar, career goal counseling

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Our study investigated the effectiveness of a college program—the *Session d'accueil et d'intégration* (SAI)—designed to reduce academic and career indecision among first-year college students in Québec (Canada), and to foster transition to higher education. A single-semester seminar enabling students to delay deciding on an academic major, the SAI was established in 1993 to assist first-year college students overcome certain challenges, be they academic (e.g. weak high school grade point averages, missing mathematics or science courses) or vocational (e.g. academic and career indecision). The SAI offers a range of indecision interventions (e.g. counseling, career information, etc.), credit course in orientation, as well as general education courses (e.g. French, English, Humanities, Physical Education, elective courses) typical in pre-university and technical programs (career programs). At the end of this semester, students may enroll in those regular college programs.

According to Forner (2007), indecision refers to the inability of students to make a choice or engage in action necessary in decision-making when required to do so. Yet while academic and career indecision is a widespread problem among high school and college students in many western countries (Germeijs & Verschueren, 2007; Kelly & Lee, 2002; Morgan & Ness, 2003), only a few studies have been conducted on the trajectory of change in orientation along the educational pathways of this group (Germeijs & Verschueren, 2006, 2007). Kelly and Lee (2002) noted a decline in research on indecision during the 1990s, citing the lack of a valid definition of academic and career decision domains and concluding that “a theory of career decision problems that is related to contemporary theories of career choice and development remains to be articulated” (p. 324). Current empirical studies on indecision interventions in higher education are also limited (Barak & Friedkes, 1982; Heppner & Hendricks, 1995; Peng, 2001).

Extensive research on first-year seminars has largely been conducted from the perspective of student success and retention in North America (Baron, 1997; Chapman & Reed, 1987; Daniels *et. al.*, 2011; Davis, 1992; Fidler, 1991; Noble, Flynn, Lee & Hilton, 2007; Robinson, 1989; Schnell & Doetkott, 2003). A meta-analysis conducted by Folsom and Reardon (2003) shows the orientation courses can improve indecision, vocational identity, locus of control, and lack of readiness. Whiston, Sexton and Lasoff (1998) also provided evidence of the benefit of orientation courses, as they enhance the decision-making process (Peng, 2001; Osborn, Howard & Leierer, 2007; Hardesty, 1991), and improve lack of readiness (Hardesty, 1991) and vocational beliefs (Scott & Ciani, 2008).

At the preliminary stage of our study, we defined a profile of the student population benefitting from this transition measure, by comparing the characteristics of SAI students

with their peers who integrate into college through regular programs (Picard, Boutin & Skakni, 2010). SAI students have several distinguishing characteristics: a lower parental level of education, high school education paths more often interspersed with hurdles and detours (e.g. failed courses or repeated years, interrupted studies), as well as more pronounced academic and career indecision when entering college. They are at-risk college students.

The goal of our study was to measure the short-term effectiveness of the SAI in reducing academic and career indecision among students enrolled in the program, compared to first-year college students enrolled in a major. Do orientation programs such as the SAI meet the decision-making needs of first-year college students?

### **Conceptual Framework**

The need to address indecision-related problems remains a major issue in higher education. Forner (2007) maintains that an assessment of indecision sources (indecision related-problems) is one way to evaluate student needs and identify successful strategies for guidance. Gati, Krausz and Osipow's (1996) decision theory—part of a new generation of conceptual frameworks on indecision—proposes a hierarchical taxonomy of career decision difficulties students may experience prior to or during the decision-making process, comparing this with an “ideal career decision-maker” to provide specific targets and strategies for counseling (see Table 1). Those difficulties are then classified into three general categories: lack of readiness due to few or no motivation, indecisiveness and dysfunctional beliefs; lack of information about the self, occupations and how to obtain information; and inconsistent information due to unreliable information, internal and external conflicts. Kelly and Lee (2002) provide support to this taxonomy in a study on mapping the domain of career decision problems, identifying six factors associated with indecision related-problems among new university students: trait indecision; choice anxiety; need for information; lack of information; identity diffusion; and disappointment with others.

Forner's six sources of indecision (Forner, 2001) are to a large extent consistent with Gati *et. al.*'s (1996) three categories and Kelly and Lee's (2002) factors: *lack of self-knowledge* (uncertainty about self-representation that may lead to anxiety at the time of making a decision); *lack of readiness* (inadequate commitment to the orientation process, manifested in a delay in making academic and career choices); *lack of method in decision-making* (difficulty in deciding on different but equally attractive goals); *lack of information* (insufficient knowledge on the choice of trades, careers and academic programs that can slow down the decision-making process); *external barriers* (real and tangible events that can hinder

the fulfillment of one's plan); and *dysfunctional beliefs* (negative expectations leading to the perception that one's education and career goals are unattainable).

Table 1: Decision related-problems or sources of indecision: comparison between Osipow & Gati ( 1998), Kelly & Lee (2002), and Forner (2010) conceptual framework

Decision theory (Gati <i>et al.</i> , 1996)/ CDDQ (Osipow & Gati, 1998)	Domain of career decision problems (Kelly & Lee, 2002)	Sources of indecision (EDV-9S, Forner, 2009, 2010)
Lack of Readiness Lack of motivation Indecisiveness Dysfunctional beliefs	Trait indecision	Lack of readiness
	Choice anxiety	Dysfunctional beliefs Lack of self-knowledge (anxiety)
Lack of Information	Need for information Lack of information	Lack of information
About decision-making process		Lack of method in decision- making
About the self		Lack of self-knowledge (information)
About occupations About ways of obtaining information	Identity diffusion	
Inconsistent Information Unreliable information Internal conflicts		
External conflicts	Disagreement with others	External barriers

It is within this conceptual framework that we formulated our hypothesis: SAI orientation programs, as they provided orientation strategies to students, can reduce academic and career indecision as well as six sources of indecision (*lack of self-knowledge, lack of readiness, lack of method in decision-making, lack of information, external barriers, dysfunctional beliefs*) among first-year college students.

## Methods

### Participants

Two groups of first-year college students participated in a repeated measures study. The experimental group was comprised of SAI students, who would benefit from targeted orientation strategies. Students in the comparison group were enrolled in either a technical (i.e. three-year career program) or pre-university program (i.e., two-year, pre-university general education program). No specific orientation interventions were embedded in their program. Using a quasi-experimental design (Shadish, Cook & Cambell, 2002), professionals from 21 colleges (18 career counselors, 2 professors, 1 academic advisor) recruited participants on the basis of similar features among the two groups, according to gender and academic pathway (freshmen). In every college, a professional chose two classes (about 30 students per class). In all, 973 students took part in the pre-test, with 506 in the SAI group

(276 women, 229 men, 1 unspecified) and 467 in the comparison group (272 women, 192 men, 3 unspecified). The mean age of participants was 17.70 years old (SD = 2.12; range 16-42, with 132 participants being 19 years old and over, and 7 unspecified). A total of 857 students were enrolled in French-speaking colleges, and 116 in English-speaking colleges. In the SAI group, 1.2 % had a grade point average (GPA) of 85% and above in high school, 41.7% had a GPA between 73% and 84%, while 42.7% had a GPA lower than 72%. The remaining 14.4% did not specify a GPA. In the comparison group, 11.6% had a high school GPA of 85% and above, 50.1% had a GPA between 73% and 84%, while 22.7% had a GPA lower than 72%. The remaining 15.6% did not specify a GPA. The post-test sample decreased to 730 students, with 351 remaining in the SAI group (208 women, 142 men, 1 unspecified) and 379 in the comparison group (225 women, 152 men, 2 unspecified). Overall, with the exception of the high school grade point average (GPA), there were no statistically significant differences in student-related independent variables between those who withdrew and those who remained at post-test. Participants who withdrew had a GPA of 71.9%, compared to 75.3% for those who remained,  $t = -7.24$ ;  $p < .001$ .

### **Procedure**

Questionnaires and instructions were provided for the 21 college professionals to hand out to students in the SAI and comparison groups during class time. Pre-test data collection took place in August 2009, post-test data collection in December of the same year. A follow-up of students absent at post-test was carried out in January 2010 using an online survey. Students who participated understood the purpose of the study and were free to withdraw.

### **Instruments**

To measure the dependent variables, the student form of the vocational assessment test *Épreuve de décision vocationnelle, forme scolaire* or EDV-9S (Forner, 2009; 2010) was adapted for our questionnaire. For the English-speaking students, the French questionnaire was translated, revised by two bilingual experts in the field and then back translated. A test with good psychometric properties, the EDV-9S comprises scales of academic and career indecision, with six sub-scales measuring sources of indecision (or indecision-related problems). The indecision scales include the following ordinal data: 1) "I've decided on one single path/trade or profession"; 2) "I'm considering a path/trade or profession, but I haven't decided yet"; 3) "I'm considering various paths/trades or professions"; and 4) "I don't have any specific ideas." The sub-scales are: *lack of self-knowledge* ("I'd like to know more about what interests or appeals to me"); *lack of readiness* ("I'll worry about choosing a trade in a few years"); *lack of method in decision-making* ("There are several training paths that look

equally interesting to me”); *lack of information* (“I don’t have the information on academic requirements for those professions that interest me”); *external barriers* (“I had to abandon my plans because of the type of studies I had to do”); and *dysfunctional beliefs* (“I’m afraid I won’t succeed in the studies I would like to pursue”). Each sub-scale provides eight items rated on a four-point Likert-type scale (1 = *does not apply* to 4 = *definitely applies*). Exploratory factor analysis supported six factors according to the conceptual framework (Forner, 2010). Cronbach’s alpha coefficients were greater than .82 for all sub-scales, indicating a good internal consistency. Confirmatory factor analysis also showed satisfactory outcomes (RMSEA = .047; CFI = .977; Bentler & Bonett’s NNFI = .976).

### **Analysis**

To measure the effectiveness of SAIs in reducing academic and career indecision, we calculated the frequencies of indecision scale responses and mean group scores of the change in sources of indecision (EDV-9S) by student group over time. A log-linear analysis with a saturated model was applied to measure the simultaneous effects of student group and observation time on academic and career indecision (Wickens, 1989). A two-way analysis of variance was carried out to test the sources of indecision, simultaneously combining the effects of group and time (Winer, 1971). A level of statistical significance of .05 was applied throughout the analysis.

### **Results**

In the post-test, a higher percentage of SAI students chose option 1 (“I’ve decided on one single path/trade or profession”) than in the comparison group (Table 2). Conversely, a higher percentage of students in the comparison group chose option 2 (“I’m considering a path/trade or profession, but I haven’t decided yet”) as well as option 3 (“I’m considering various paths/trades or professions”) in the post-test, showing slightly more pronounced academic and career indecision levels. On the highest undecided point of the scales (option 4, “I don’t have any specific ideas”), both groups scored the same percentage on the academic indecision scale in the post-test, while a higher percentage of the SAI students chose this option on the career indecision scale.

Table 2: Cross-Tabulated Frequencies and Percentages in EDV-9S Test Scores

	SAI		Comparison	
	Pre-test	Post-test	Pre-test	Post-test
<b>Academic Indecision</b>				
1. I've decided on one single path	161 (32)	138 (39)	148 (32)	108 (29)
2. I'm considering a path, but I haven't decided yet	165 (33)	116 (33)	173 (37)	158 (42)
3. I'm considering various paths	89 (17)	68 (19)	107 (23)	84 (22)
4. I don't have any specific ideas	91 (18)	29 (8)	39 (8)	29 (8)
<b>Career Indecision</b>				
1. I've decided on one single trade/profession	143 (28)	110 (31)	123 (26)	96 (25)
2. I'm considering a trade/profession, but I haven't decided yet	175 (35)	115 (33)	176 (38)	148 (39)
3. I'm considering various trades/professions	87 (17)	75 (21)	114 (24)	91 (24)
4. I don't have any specific ideas	101 (20)	51 (15)	54 (12)	44 (12)

Note: Percentages appear in parentheses, and the total may not be 100 due to rounding.

Table 3 illustrates the frequency of improvement, stability or deterioration in both indecision scales. For example, a three-point improvement indicates a student choosing option 4 in the pre-test and option 1 in the post-test, and vice-versa for a three-point deterioration. The rate of improvement (1, 2 or 3 points) among SAI students at the end of the semester is still higher than the comparison group, while a higher percentage of students in the latter group show stable scores. A lower percentage of SAI students had a deterioration of 1 point, while a higher percentage of this group had a deterioration of 2–3 points. When combining the effect of group over time, statistically significant differences on *academic indecision*  $G^2(9) = 18.61, p = .03$  and *career indecision*  $G^2(9) = 22.33, p = .008$  were recorded.

Table 3: Cross-Tabulated Frequencies and Percentages Of Change in EDV-9S Test Scores Over the First College Semester

	Improvement			Stability		Deterioration	
	3	2	1	0	-1	-2	-3
<b>Academic Indecision</b>							
SAI	7 (2.0)	37 (11.5)	59 (16.8)	179 (51.0)	44 (12.5)	23 (6.6)	2 (.6)
Comparison	0 (0)	19 (5.0)	56 (15.0)	226 (60.0)	62 (16.4)	15 (4.0)	1 (.3)
<b>Career Indecision</b>							
SAI	6 (1.7)	27 (7.7)	65 (18.5)	170 (48.4)	45 (12.8)	30 (8.6)	8 (2.3)
Comparison	2 (0.5)	19 (5.0)	64 (16.9)	211 (55.7)	65 (17.2)	17 (4.5)	1 (.3)

Note: Percentages appear in parentheses, and the total may not be 100 due to rounding.

The trajectory of change in dependent variables representing the six sources of indecision was provided by the mean group score plotted over observation time (see Fig. 1). The intercept represents the mean value at the pre-test, and the slope illustrates the rate of change. A negative slope indicates a reduction in the source of indecision; a positive slope indicates an increase.

An improvement in the SAI group and a deterioration in the comparison group were recorded in the variables *lack of self-knowledge*, *lack of method in decision-making*, and *lack*

of information. Deterioration was noted for both groups in *dysfunctional beliefs*, albeit to a lesser degree in the SAI group. When combining the effects of group and time, these differences are statistically significant. For *external barriers*, a statistically significant difference was recorded over time only, as both groups deteriorated. No significant difference was observed for *lack of readiness*.

Figure 1. Two-way Analysis of Variance of Indecision Sources in EDV-9S Test Scores Over the First College Semester

Variable	F	p
<b>Lack of self-knowledge</b>		
G x T**	21.03	< .0001
G*	.57	.45
T**	1.83	.18
<b>Lack of readiness</b>		
G x T**	2.64	.10
G*	.32	.57
T**	.22	.64
<b>Lack of method in decision-making</b>		
G x T**	5.83	.02
G*	2.32	.13
T**	.20	.66
<b>Lack of information</b>		
G x T**	35.52	< .0001
G*	.13	.72
T**	1.26	.26
<b>External barriers</b>		
G x T**	3.00	.08
G*	.04	.85
T**	8.65	.003
<b>Dysfunctional beliefs</b>		
G x T**	8.32	.004
G*	13.73	.0002
T**	24.49	< .0001

  

Variable	F	p
<b>Lack of self-knowledge</b>		
G x T**	21.03	< .0001
G*	.57	.45
T**	1.83	.18
<b>Lack of readiness</b>		
G x T**	2.64	.10
G*	.32	.57
T**	.22	.64
<b>Lack of method in decision-making</b>		
G x T**	5.83	.02
G*	2.32	.13
T**	.20	.66
<b>Lack of information</b>		
G x T**	35.52	< .0001
G*	.13	.72
T**	1.26	.26
<b>External barriers</b>		
G x T**	3.00	.08
G*	.04	.85
T**	8.65	.003
<b>Dysfunctional beliefs</b>		
G x T**	8.32	.004
G*	13.73	.0002
T**	24.49	< .0001

G = SAI and Comparison Group; T = Observation Time; 1 = Pre-test, 2 = Post-Test;  
 \*  $df = 1,971$ ; \*\*  $df = 1,728$   
 ---- SAI    \_\_ Comparison.

## Discussion

The goal of our study was to measure the effectiveness of the SAI program in reducing academic and career indecision and sources of indecision among first-year college students. In general, the SAI appears to meet the decision-making needs of these students. Indeed, by the end of the first semester, a significant improvement in both *academic* and *career indecision* (as well as in *lack of self-knowledge*, *lack of method in decision-making*, and *lack of information*) was observed in the SAI group, and the differences with the comparison group were significant. The program also seemed to have a protective effect against *dysfunctional beliefs*, as the deterioration in the scores of the SAI group was less pronounced than in the comparison group. These findings partly support our hypothesis.

Counseling students in transition to higher education is a crucial issue. Our data showed the fragility of academic choice for a significant proportion of students in both group. About one student in three “considered various path” or “don’t have any specific ideas” about a major at the college entry. Our data also showed the increase in *external barriers* that have occurred in both group. Freshmen are faced with new academic requirements that can hinder the fulfillment of academic plans.

We did not expect the deterioration of the six indecision sources observed among the freshmen enrolled in a major (comparison group). This result clearly suggests that when no specific orientation interventions are provided during the first semester, indecision and its related-problems increase. Incomplete orientation process characterizes the transition to higher education (Germeijs & Verchueren, 2006, 2007). The orientation strategies imbedded in the SAI (e.g. career information, credit course in orientation, individual and group counseling, etc.) could also benefit freshmen students enrolled in a major.

Forner (2007) maintains that an assessment of indecision sources is one way to identify successful strategies for guidance. The SAI program comprised orientation interventions that clearly sustained the *self-knowledge*, the *decision-making* and the educational and career *information* and had a protective effect on *dysfunctional beliefs*. Our results suggested that counseling interventions should be provided to help college students overcome *dysfunctional beliefs* and *external barriers* as well.

## Limitations

A quasi-experimental design was used in our study. The sample was not randomly assigned. The professionals recruited participants on the basis of the criteria provided, by identifying a common course in each group (SAI and comparison) in their college. Although the professionals were aware of our goals, they did not know every detail of the variables

measured. To some extent, selection bias was attenuated by the fact that students were not assigned by the researchers, but by the professionals (Shadish, Cook & Campbell, 2002). Also, we determined whether sample attrition during the post-test introduced any attrition bias, as more participants in the SAI group withdrew from the study than the comparison group. Often occurring in those participants most affected by the dependent variable being measured, sample attrition tends to produce more positive outcomes (Shadish, Cook & Campbell, 2002). Participants who withdrew had a lower GPA than those who remained, and showed a greater degree of academic indecision compared to those who remained. Thus the effect of attrition at post-test may have contributed to a limited extent in skewing the impact of SAI programs on academic indecision.

### **Conclusion**

We compared first-year college students enrolled in a transition measure—the *Session d'accueil et d'intégration*—designed to reduce academic and career indecision, to students enrolled in regular college program. Our study presents new empirical evidence on the effectiveness of this program. The empirical studies of the effectiveness of career decision-making interventions in higher education are very limited (Barak & Friedkes, 1982; Heppner & Hendricks, 1995; Peng, 2001). A new generation of conceptual frameworks on indecision (Gati *et al.*, 1996; Kelly & Lee, 2002) provides groundwork to address current issues related to transition to higher education, taking into account the decision-making process that is going on at this stage of the academic pathway. More studies need to be conducted on that topic.

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