

Antecedents of Specialty Indecision

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Abstract

Why do medical students have difficulty choosing a specialty? A sample of 567 students at one college of medicine responded to questions on the Medical Career Development Inventory (MCDI), the Career Decision Scale (CDS), and a background questionnaire. The answer suggested by the data is that many students try to choose a specialty without formulating a clear and stable picture of their abilities, interests, and goals and without distinguishing the tasks and rewards that differentiate the specialties. The most frequent student explanations for being undecided are lack of information about the specialties, being attracted to several specialties, having too many interests, and not knowing one's interests and abilities. The results also suggest that about ten percent of students may experience specialty indecision not because they lack knowledge but because they have motivational problems. These indecisive students need to be distinguished from undecided students and given more intensive interventions to resolve their specialty indecision.

Antecedents of Specialty Indecision

Choosing a specialty is the major vocational development task faced by medical students. Many students have difficulty making a choice (1) and more students change their initial choice than stay committed to it (2-3). Much of the research on the specialty choice problem deals with what choices students make rather than on how students make choices (4). Typically, these studies match the specialties that students choose to their personality traits or background characteristics. This study investigates the decision-making process, that is, how students choose a specialty rather than what they choose. In particular, it tries to identify the restraints that impede the specialty decision-making process and reduce certainty of specialty choice.

Choosing a specialty is a process not an event. Realistic choices develop over time as students deal with a sequence of three vocational development tasks (5). Initially, students must crystallize clear and stable pictures of their abilities, interests, and goals. After formulating preferences about what they like to do, students must specify what they will do. Finally, students must implement their choices. Distinct types of coping behaviors deal with the three vocational tasks. Exploring the self and the specialties helps students to crystallize preferences; decision-making and planning help students to specify a choice; and effecting a course of enabling behaviors implements a choice. Logically, the exploration that facilitates crystallization should precede and inform the decision-making that facilitates specification. Students who explore less

should experience more difficulty in decision-making because they know less about themselves and the specialties. Thus it was hypothesized that the most prevalent antecedents of specialty indecision are insufficient information about the specialties and one's abilities, interests, and goals. To test this hypothesis medical students were asked to report the coping behaviors they used and the restraints they encountered in the specialty decision-making process.

Methods

All 845 students enrolled in the College of Medicine at The Ohio State University in January, 1982, were asked to participate in a study of career planning. Participation was voluntary and individual and group feedback was offered to students. Students who agreed to participate in the study responded to two career inventories and a background questionnaire during their free time and returned the materials through campus mail. Although this procedure lacked certain controls, the students were accustomed to it.

The first scale, the Medical Career Development Inventory (MCDI), measured degree of career development. A specialty scale score indexes the place reached on the task continuum of crystallization, specification, and implementation. Three scale (i.e., exploring, decision-making, and performing) scores index the amount of reflection and action directed toward each vocational task. The MCDI seems to be a reliable

and valid measure of the specialty choice process (5). For the sample in the present study, the MCDI had a reliability coefficient of .92.

The second scale, the Career Decision Scale (CDS) measured 16 distinct reasons for being undecided that have been identified in programmatic research as antecedents of career indecision in college students (6). Each reason can reduce a student's ability to make a career choice and a student may simultaneously experience more than one of these independent antecedents. Thus the total score indexes degree of indecision. The CDS manual (7) reports substantial reliability and validity evidence for the scale. For the present study the CDS was modified, with its authors' permission, to assess specialty indecision. The modified CDS attained a reliability coefficient of .82 for the present sample of students.

The background questionnaire asked students to indicate their age, sex, and year in school and to respond on a scale from 1 ("Not at all like me") to 4 ("Exactly like me") to two items. The first item scaled certainty of career choice and read "I have decided on a medical career and feel comfortable with it. I also know how to go about implementing my choice." The second item scaled certainty of specialty choice and read, "I have decided on a specialty and feel comfortable with it. I also know how to go about implementing my choice."

Results

A total of 617 (73%) students participated in this study and 567 (67%) students produced a complete set of usable data. The return rate was similar for students in three levels of training: Year I/Basic Science = 200, Year II/Pre-clinical = 182, Years III & IV/Clerkships and Electives = 180. The sample had a mean age of 24.56 years with a standard deviation of 2.61 years. They were predominantly male (77.6%) and white (93.1%).

As expected, responses to the two certainty items indicated that, in general, students were certain about their career choice of medicine ($\bar{X}=3.18$, S.D.=.77) and undecided about their specialty choice in medicine ($\bar{X}=2.26$, S.D.=.97). Among the students, 85.9% indicated that they were decided on their career but only 37.8% indicated that they were decided on their specialty. Career and specialty choice certainty correlated .45 ($p<.001$) which indicated that they share only 20% common variance. The 16 reasons for being undecided appear to form a construct, presumably degree of specialty indecision, in that the items had an internal consistency coefficient .82. This justifies computing a total score. Students had a mean score of 28.53 with a standard deviation of 6.82 on the 16 items.

Reasons

Table 1 reports the means and standard deviations for the 16 reasons for being undecided. The endorsement percentage column in Table 1 shows the percentage of students who responded either "exactly like me" or "very much like me" for each reason for being undecided.

The most frequently endorsed (50% of students) reasons for being undecided were need for information about the specialties, several specialties being appealing, and having too many interests. Three other reasons for being undecided were not as prevalent but still were frequently endorsed by students (from 24-49%): need help implementing, what my abilities, and what my interests.

Less than 10% of students used the following reasons for being undecided: must please someone, first choice impossible, none appeal, lack skill or opportunity, and bothered by having to choose. These reasons are used frequently by college undergraduates to explain why they are undecided but medical students do not use them to explain why they are undecided. Pleasing someone and being bothered by decision-making reflect an immaturity that most medical students have outgrown. First choice impossible and lack skill or opportunity rarely restrain the specialty choices of medical students because of their talents and accomplishments. None appeal may reflect an inexperience and naivete among some undergraduates that occurs infrequently among medical students.

The mean score for each reason for being undecided indicates its prevalence as a perceived reasons. To test the hypothesis about the association of the reasons for being undecided with actually being uncertain, Pearson product-moment correlation coefficients were computed between the 16 reasons for being undecided and the certainty of career and of specialty choice items. These coefficients are reported in

Table 1. Needing more information about the specialties shared 56% common variance with certainty of specialty choice and seems to be the major reason for being undecided. Other strong associations with uncertainty were found in what my ability (35%), what my interests (31%), and several appeal (27%).

Because the reasons for being undecided interrelate, a stepwise multiple regression was computed to determine the significant unique antecedents of specialty uncertainty. The 16 reasons were entered as predictors of the criterion of certainty of specialty choice. Table 2 reports the reasons that were significant and unique predictors of specialty uncertainty. Eight items contributed significant unique variance in predicting specialty uncertainty. The best predictor was need for information ($R=.758$). Adding what my abilities increased the R to .776. Over 60% of the variance shared between certainty of specialty choice and the 16 reasons for being undecided can be accounted for with just the information and abilities reasons.

A similar stepwise multiple regression was computed on the criterion of certainty of career choice. The results reported in Table 3 show that four reasons were significant and unique predictors of career uncertainty. Together they accounted for only 18% of the variance in the criterion. Comparing the unique antecedents of career uncertainty to the unique antecedents of specialty uncertainty suggests that the two sets have different underlying themes. Specialty uncertainty seems to be predicted by cognitive reasons whereas career uncertainty seems to be predicted by conative reasons.

To determine if the reasons for specialty indecision differ from the reasons for career indecision, a post hoc analysis was conducted. The 16 reasons for being undecided were factor analyzed with the principal axis method and the factor extraction criterion of eigenroots greater than one. The four extracted factors were rotated to simple structure to facilitate their interpretation. Varimax criteria produced two substantive derived factors. Five items (Nos. 2, 11, 12, 13, & 15) loaded on the first factor and six items (Nos. 1, 3, 5, 6, 7, & 8) loaded on the second factor. The items in the first factor attribute indecision to knowledge deficits whereas the items in the second factor attribute indecision to motivation deficits. Based on the two factors, scores were computed for each student on a knowledge subscale and on a motivation subscale. Specialty certainty correlated higher to the knowledge subscale ($r=.74$, $p<.001$) than to the motivation subscale ($r=.41$, $p<.001$) whereas career certainty correlated higher to the motivation subscale ($r=.40$, $p<.001$) than to the knowledge subscale ($r=.25$, $p<.001$).

Behaviors

Table 4 reports the means and standard deviations for the MCDI specialty scale and its three subscales. The subscale means indicate that, as a group, the students were trying to cope with the specification task before dealing adequately with the prerequisite crystallization task. A score of 20 indicates adequate coping. Not only did students as a group score less than 20 on exploring, they also had a lower mean on exploring ($\bar{X}=14.67$) than on decision-making ($\bar{X}=15.46$).

Table 5 reports the correlations of the task coping behaviors to degree of indecision and to the two certainty items. Career development correlated positively to certainty of specialty choice ($r=.67$, $p<.001$). As expected, decision-making behavior had the highest relationship to certainty of specialty choice ($r=.72$, $p<.001$). Decision-making behavior also related strongly ($r=.69$, $p<.001$) to exploratory behavior. Degree of indecision correlated inversely with degree of career development ($r=.55$, $p<.001$) and with decision-making behaviors ($r=.59$, $p<.001$).

Discussion

The results of this study support the conclusion that exploratory behavior strongly relates to decisiveness and certainty in choosing a specialty. Students who have explored their abilities and interests as well as the specialties cope more effectively with the specification tasks, are more decisive, and are more certain about a specialty choice once it has been made. Conversely, students who have not explored as much experience more difficulty with the specification task, are more indecisive, and more uncertain about a choice once it has been made.

It seems that the major reason that so many medical students experience specialty indecision is that they try to deal with the task of specifying a specialty choice without dealing adequately with the prior task of crystallizing general preferences. Practically, this means that undecided students try to choose a specialty without first

formulating a clear and stable picture of their abilities, interests, and goals and distinguishing the tasks and rewards that differentiate the specialties. Many students are certain that they want to be physicians but, primed with uncrystallized self-structures and undifferentiated occupational schemas, they are not ready to choose a specialty.

Inadequate exploration and crystallization is clearly reflected in the five prevalent reasons given by students to explain why they are undecided. The most frequently used reason is the need for information about what the different specialties are like. Next in frequency are that several specialties have equal appeal and that many things interest them. More occupational exploration would increase the differentiation of students' appraisals of their interests and the specialties. The other two prevalent reasons for being undecided are inadequate knowledge about abilities and interests. More self-exploration would reduce these two decision-making restraints.

What is striking about student explanations for being undecided is their circumscription when compared to the explanations given by college students. Medical students primarily used just five of the 16 reasons commonly used by college undergraduates. The five reasons all deal with knowledge deficits and constitute a coherent factor, labeled cognitive reasons for indecision, that correlates strongly ($r=.74$, $p<.001$) to certainty of specialty choice. The remaining 11

reasons for being undecided are used much less frequently and either (a) do not relate to specialty or career certainty (four items have r from $-.03$ to $-.15$); (b) deal with implementing a choice (No. 18); or (c) form a 6-item factor, labeled conative reasons for indecision, that relates to career certainty more than to specialty certainty.

The six explanations in the conative factor each can demoralize students and reduce their motivation to choose. Feeling lost (No. 5), discouraged (No. 6), apathetic (No. 3), frustrated (No. 7), inferior (No. 1), and perfectionistic (No. 8) can stall or slow movement toward a specialty choice. Interpreting this second factor as dealing with motivation rather than knowledge suggests that two types of specialty indecision occur.

Apparently, specialty indecision can occur because one is undecided or because one is indecisive. Undecidedness is an acute state that occurs among students who do not know enough about themselves or the specialties to make a specialty choice. In contrast, indecisiveness is a chronic trait that occurs among students who experience dysfunctional anxiety when they try to make any important choice. The undecided type of indecision is predominant yet the present results suggest that as many as ten percent of students who experience specialty indecision may be of the indecisive type. For them, choosing a specialty is not just a career concern, it is another in a series of life problems. Thinking about choosing raises their

anxiety and provokes rumination about whether they really want to become physicians. In our experience, indecisive students have been more likely to drop out of school or take a leave of absence, to have related psychological problems, and to make unrealistic choices when they eventually choose.

Indecisive and undecided students need to be properly identified for any interventions that address specialty indecision. Methods that facilitate choice in one group may further debilitate choice in the other group. Undecided students benefit from short-term interventions that use information and exploration to increase knowledge about interests, abilities, preferences, and the specialties. One viable method of helping undecided students is to use the Medical Career Development Inventory to teach them the tasks in the specialty decision-making process, to explain the coping behaviors that they can use, and to encourage and reinforce their performance of these coping behaviors. This process-oriented intervention reduces undecidedness and leads to more realistic choices because it helps students do the things that prevent or reduce the most prevalent restraints that hinder specialty choice.

Interventions that are designed for undecided students usually increase anxiety among indecisive students. Indecisive students are not ready to use more knowledge about themselves and the specialties because of their attitudes toward and inexperience at making choices.

They need interventions that decrease motivational problems and increase readiness to cope with the decision-making process. Usually they benefit from interventions that encourage self-confidence and teach assertiveness or decision-making skills. Rigidly indecisive students even may require intensive counseling to prepare them for the specialty decision-making process.

This study investigated the problem of specialty indecision. The findings indicate that the prevalent antecedents of specialty indecision are inadequate knowledge about the self and specialties and that a small group of students are indecisive rather than undecided. However, the fact that the data comes from students at a single medical school limits the interpretation and generalization of these conclusions. Replication of these findings at other medical schools would increase the validity of the conclusions. In addition, our understanding of specialty indecision would be increased by longitudinal studies that follow the course of indecision and by experimental studies that give different interventions to undecided and indecisive students.

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TABLE 1

Means and Standard Deviations for Reasons

and Correlation with Career and Specialty Certainty^a

Reasons for Being Undecided	Mean	Standard Deviation	Endorsement Percentage	Correlation with Specialty Choice Certainty	Correlation with Career Choice Certainty
Need information (#15)	2.86	1.15	64.7	-.76***	-.29***
Several appeal (#2)	2.54	.97	54.1	-.52***	-.12**
Too many interests (#13)	2.50	.98	52.0	-.46***	-.09*
Need help to implement (#16)	2.24	1.01	40.4	-.14***	-.06
What my abilities (#11)	2.06	1.00	23.5	-.61***	-.31***
What my interests (#12)	1.90	.91	25.4	-.56***	-.24***
Want "right one" (#8)	1.74	.83	17.3	-.28***	-.16***
Where interests lead (#10)	1.62	.76	13.4	-.08	-.02
How implement (#14)	1.61	.79	16.0	-.08	-.10*
Discouraged (#6)	1.57	.75	11.9	-.33***	-.30***
Feel lost (#5)	1.54	.79	12.4	-.47***	-.32***
Bothered by choosing (#9)	1.42	.69	8.2	-.15***	-.15***
Lack skill or opportunity (#1)	1.31	.60	5.3	-.10*	-.16***
None appeal (#3)	1.29	.55	3.8	-.29***	-.28***
First choice impossible (#7)	1.21	.50	3.3	-.10*	-.05
Must please someone (#4)	1.18	.53	5.0	-.04	-.03

^aN = 567

*** p > .001; ** p > .01; * p > .05

TABLE 2

Stepwise Regression on Specialty Choice Certainty
up to Significant Marginal Contribution^a

Step No.	Item No.	Item Content	<u>R</u>	<u>R²</u>
1	15	Need information	.758	.575
2	11	What my abilities	.776	.602
3	5	Feel lost	.784	.615
4	13	Many interests	.791	.625
5	3	None appeal	.795	.631
6	10	Where interests lead	.798	.636
7	2	Several appeal	.800	.640
8	4	Must please someone	.802	.643

^a_N = 567

TABLE 3

Stepwise Regression on Career Choice Certainty
up to Significant Marginal Contribution^a

Step No.	Item No.	Item Content	<u>R</u>	<u>R²</u>
1	5	Feel lost	.322	.104
2	3	None appeal	.377	.142
3	11	What my abilities	.408	.167
4	6	Discouraged	.422	.178

^aN = 567

TABLE 4
Specialty Scale and Subscale
Means and Standard Deviations^a

	\bar{x}	S. D.
Specialty Scale	40.24	12.57
Exploring/Crystallization	14.67	4.32
Decision-Making/Specification	15.46	5.70
Performing/Implementation	10.53	4.40

^a $N = 567$

TABLE 5

Intercorrelation of Task Coping with

Choice Certainty and Degree of Indecision^{a,b}

	Career Certainty	Specialty Certainty	Degree of Indecision	Degree of Career Development	Exploring	Deciding	Performing
Career Certainty	1.00						
Specialty Certainty	.45	1.00					
Degree of Indecision	-.33	-.65	1.00				
Degree of Career Development	.37	.67	-.55	1.00			
Exploring (Crystallization)	.32	.50	-.44	.84	1.00		
Decision-making (Specification)	.36	.72	-.59	.93	.69	1.00	
Performing (Implementation)	.28	.57	-.42	.86	.54	.73	1.00

^aN = 567^bAll correlations were significant beyond the .001 level of probability.