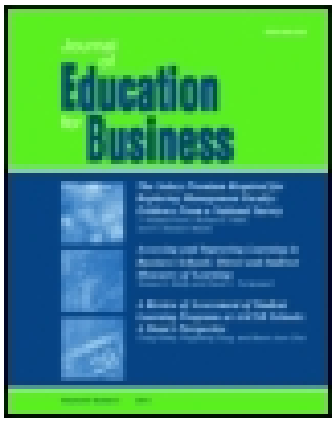

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The Effect of Tuition Increases on Business Student Decisions

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Tuition increases have become all too common as states have cut spending to public institutions and private schools face declining enrollments. As such, understanding the effects of various methods of framing tuition increases is an important, but infrequently researched topic. The authors examine different ways to frame tuition increases presented to students in business-related courses. The outcomes of two empirical studies demonstrate that mental accounting may play a role in how these frames differentially affect students' responses to tuition increases. These differences in turn have significant implications for business program administrators and faculty.

Keywords: loans, mental account, student debt, tuition increase

Over the past decade, the price index for college tuition grew by nearly 80%, a rate nearly twice as fast as the overall consumer price index during the same period (Kurtzleben, 2013). College graduates in the class of 2014 are the most indebted ever, with an average student loan debt of $33,000, and over 70% of bachelor's degree recipients are leaving school in debt, compared to less than 50% just 20 years ago (Izzo, 2014). There have been strong student protests in response to announced increases, including the recent example of protests in the University of California system (Murphy & Neysa Alund, 2014).

Much of this increase in tuition costs has been because schools have had to offset reduced state support of their universities (Hemelt & Marcotte, 2011), and declining enrollments caused by years of depressed family incomes and uncertain job prospects (Martin, 2013). Business schools, however, have shown steady increases in the number of bachelor's degrees conferred for the past decade, with nearly 32% growth during this time (U.S. Department of Education, National Center for Education Statistics, 2013) in part, possibly, because students associate better job prospects with business degrees.

While student satisfaction, influencers of major, and strategies for recruiting students have received attention in the business education literature (Danko & Schaninger, 1988; Hugstad, 1997; LaBarbera & Simonoff, 1999; Schmidt, Debevec, & Comm, 1987), business student responses to tuition increases has not. It comes as no surprise that tuition increases reduce persistence rates among graduate students (Andrieu & St. John, 1993) and probably undergraduates as well. Given that enrollment is a key factor in the budget made available to business schools, it is important for administrators and faculty to develop effective strategies for addressing tuition increases with students.

The present research examines one stratagem for influencing student response to tuition increases. It explores how the framing of tuition increases may affect the decisions students make regarding school choice, financing, and accommodating tuition increases by adjusting their other expenditures.

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BACKGROUND

Framing Tuition Increases: Topical and Comprehensive Mental Accounts

There are two phases in a typical decision problem: a phase of framing and editing, followed by a phase of evaluation (Kahneman & Tversky, 1979). The framing and editing phase consists of a preliminary analysis of the decision problem, which frames what actions or choices can be made, the related contingencies, and possible outcomes. This framing is controlled by the manner in which the problem or decision is presented, as well as by the various norms, habits, and expectations of the person making the decision. After this initial framing phase, the various options are then evaluated, and the option with the highest perceived value is selected.

When deciding between variously framed outcomes, decision makers use mental accounts in order to aid in the evaluation of each choice. Kahneman and Tversky (1981) defined a mental account as "an outcome frame which specifies (i) the set of elementary outcomes that are evaluated jointly and the manner in which they are combined and (ii) a reference outcome that is considered neutral or normal" (p. 456), with the reference point typically set at the status quo. People use such mental accounts to keep track of where their money is going and to keep spending under control (for a detailed review of mental accounting research, see Thaler, 1999). In particular, Kahneman and Tversky (1984) proposed that these mental accounts can be minimal, topical, or comprehensive accounts. Minimal accounts include only the differences between options and disregard the features they share. Topical accounts relate the consequences of possible choices to a reference level determined by the context of the decision. Comprehensive accounts incorporate all other factors including current wealth, projected future earnings, and possible outcomes of other investments. Thaler suggested that in general, the way a decision is framed should not alter choices if the decision maker is using a comprehensive, wealth-based analysis. However, real-world choices are often altered depending on how decisions are framed because people make decisions piecemeal, and thus are influenced by the specific context of the choice.

In the present research we propose that the framing of tuition increases will differentially influence students' choices and may affect their responses related to their choice of school, funding source, and even non–school-related expenditures. Tuition is a major expense for current or prospective college students, and as such it would be expected generally to result in the use of comprehensive mental accounting. Given the general trends toward declining enrollments overall, it is important to note what types of frames may exacerbate enrollment declines or reduced persistence rates as well as what types of frames may counter these trends.

Our prediction is that generalized increases in tuition would lead students to use comprehensive mental accounting and, thus, lead to decisions that more negatively impact enrollment decisions. However, if tuition increases are framed in a piecemeal manner, students may use topical mental accounting that would have a less negative impact on enrollment decisions. We test these predictions in the following experiment.

STUDY 1

Method and Procedure

Forty-five undergraduate students enrolled in business-related courses at a small West Coast public institution participated in this study in return for partial course credit. Participants were randomly assigned to one of two conditions. In each condition, participants read a brief scenario concerning increases in tuition and then were asked to complete a short survey. In the four years immediately preceding this study, at this university tuition had risen by a total of 51%, so tuition increases were very relevant and top of mind for most participants. Based on the prevailing interest rate for student loans (6.41%) and the current cost of tuition ($12,397), a 10-year loan would result in a monthly payment of $140 to cover one year's tuition. As such, participants were shown one of the following scenarios:

> Imagine that you have a student loan to pay for tuition next year. The terms of your loan are for 10 years and a monthly payment of $140. As you are registering for your Fall classes, the university announces a large tuition increase that will result in increasing the monthly payments of your loan by 50%. How would you respond to this tuition increase? (*COMPREHENSIVE treatment*)

> Imagine that you have a student loan to pay for tuition next year. The terms of your loan are for 10 years and a monthly payment of $140. As you are registering for your Fall classes, the university announces a large tuition increase that will result in increasing the monthly payments of your loan from $140 to $210. How would you respond to this tuition increase? (*TOPICAL treatment*)

After reading one of these scenarios, participants were asked to answer the following questions on a 9-point Likert-type scale ranging from 1 (*not very likely*) to 9 (*very likely*):

> If you were to encounter the previously described situation, how likely would you be to cancel registration for classes?

> If you were to encounter the previously described situation, how likely would you be to look for another, less expensive school?

If you were to encounter the previously described situation, how likely would you be to look for other means to finance your education?

If you were to encounter the previously described situation, how likely would you be to feel that you had less disposable income available to spend?

If you were to encounter the previously described situation, how likely would you be to feel poorer in general?

If you were to encounter the previously described situation, how likely would you be to reduce spending on going out to see movies?

If you were to encounter the previously described situation, how likely would you be to consider alternative modes of travel such as mass transit or biking to get to work or school?

Participants were also asked to provide basic demographic information, including their estimated annual income.

Results and Discussion

The sample for Study 1 was 60% men, 82% were seniors and 18% were juniors. Average income was $31,177.78 and average debt was $5,260.87.

Because many of the students at the university worked part-time, or more, it would be expected that income level could also influence their responses. As such, self-reported estimated annual income was included as a covariate. For the question concerning cancelling registration, an analysis of covariance (ANCOVA) with between-subjects factor of framing (percentage or dollars per month) and covariate of income revealed a main effect of framing, $F(1, 42) = 5.170$, $p = .028$, such that participants in the percentage framing condition reported being more likely to cancel their registration for classes. In addition, income was shown to be a significant covariate, $F(1, 42) = 4.493$, $p = .040$.

Similarly, for the question concerning looking for a less expensive school, an ANCOVA with between-subjects factor of framing (percentage or dollars per month) and covariate of income revealed a main effect of framing, $F(1, 42) = 10.378$, $p = .002$, such that participants in the percentage framing condition reported being more likely to look for a less expensive school than those in the dollars per month condition. Income was shown to be a marginally significant covariate, $F(1, 42) = 3.647$, $p = .063$. As shown in Table 1, no other significant effects were found.

These results provide initial evidence that framing of tuition increases may in fact influence students' school related decisions. Presenting tuition increases in terms of dollars per month (i.e., topical framing) appears to lessen the negative effects of the increase on intended continuation with the program.

TABLE 1
Means and Standard Errors of Dependent Variables by Framing Type: Study 1

	Percentage (Comprehensive)		Dollars per month (Topical)	
Dependent variable	*M*	*SE*	*M*	*SE*
Cancel registration	4.832	0.609	3.007*	0.520
Less expensive school	6.242	0.597	3.708**	0.510
Other financing	7.408	0.477	6.779	0.408
Less disposable income	7.909	0.478	7.185	0.405
Poorer in general	6.757	0.547	7.101	0.467
Less on movies	7.247	0.539	7.397	0.461
Alternative transportation	4.456	0.758	5.090	0.647

*$p < .05$. **$p < .01$.

In addition to the framing described, it is also possible to frame a tuition increase in terms of an increase in the length of the loan rather than an increase in the amount owed or monthly payment. Prior research has shown that monetary costs and temporal costs may be accounted for differently (Soster, Monga, & Bearden, 2010). Thus, we replicated Study 1, except we framed the increase in tuition in terms of increased loan length.

STUDY 2

Method and Procedure

Forty-nine undergraduate students were drawn from the same student population that was used in Study 1. Participants were randomly assigned to one of two conditions. In each condition, participants read a brief scenario concerning increases in tuition and then were asked to complete a short survey.

TABLE 2
Means and Standard Errors of Dependent Variables by Framing Type: Study 2

	Percentage (Comprehensive)		Years (Topical)	
Dependent variable	*M*	*SE*	*M*	*SE*
Cancel registration	4.385	0.524	3.957	0.557
Less expensive school	5.962	0.523	5.391	0.556
Other financing	6.385	0.455	8.238**	0.506
Less disposable income	7.231	0.303	8.565**	0.322
Poorer in general	6.231	0.415	8.000**	0.441
Less on movies	6.308	0.477	7.957*	0.508
Alternative transportation	4.308	0.502	6.261*	0.534

*$p < .05$. **$p < .01$.

In contrast to Study 1, participants in Study 2 were shown one of two scenarios depicting a tuition increase in terms of increased loan length. The magnitude of the loan length was calculated to equate to the 50% tuition increase used in Study 1. In particular, participants were shown one of the following scenarios:

> Imagine that you have a student loan to pay for tuition next year. The terms of your loan are for 10 years and a monthly payment of $140. As you are registering for your Fall classes, the university announces a large tuition increase that will result in increasing the payback time of your loan by 93%. How would you respond to this tuition increase? (*COMPREHENSIVE treatment*)

> Imagine that you have a student loan to pay for tuition next year. The terms of your loan are for 10 years and a monthly payment of $140. As you are registering for your Fall classes, the university announces a large tuition increase that will result in increasing the payback time of your loan by 9.3 years. How would you respond to this tuition increase? (*TOPICAL treatment*)

Results and Discussion

The sample for Study 2 was 61% men, 80% were seniors and 20% were juniors. Average income was $21,606.07 and average debt was $11,833.37.

The same dependent variables used in Study 1 were also used in Study 2. Because temporal change was the focus of Study 2, self-reported income was not used as a covariate.

No significant effects were found for the first two questions concerning cancelling registration, $F(1, 47) = 0.314$, $p > .57$; and looking for a less expensive school, $F(1, 47) = 0.558$, $p > .45$. The remaining measures however, yielded significant results as shown in Table 2.

GENERAL DISCUSSION

As enrollment is a matter of considerable importance to business programs, developing effective strategies for addressing tuition increases with students is well warranted. Business school faculty and administrators have been shown to be important influencers of student satisfaction and choice of major. This research suggests that faculty and administrators may also play an important role in mitigating the effects of tuition increases on students' enrollment and persistence decisions by expertly framing their explanations of those tuition increases. In the course of individual and group interactions with students in and out of class and in program newsletters, it appears that framing tuition increases in terms of dollars per month will generate less negative response than the normal percentage increase approach taken by university administrators.

Business faculty are probably quite familiar with the time-tested approach in consumer marketing of framing the cost of a purchase via consumer loan in terms of lower dollars per month but with extended loan length. The findings of this study do not provide clear advice on whether this stratagem should be applied when working with students. Topical framing was not statistically different than comprehensive framing when the length of student loans was the main talking point with respect to enrollment decisions.

Research Extensions

These results are suggestive that faculty may be able to influence other important student decisions through the framing of their explanations and information. It would be interesting to explore whether students could be influenced to invest more effort toward achieving a course's learning outcomes by using comprehensive framing of the potential change in course grade, for example. This would require faculty to connect the discussion of a score on a test or other assignment in terms of total course percentage rather than just the points on the specific assignment. Faculty could more appropriately influence student's decisions to persist in courses or in the major when approaching the drop deadline by the framing of performance feedback.

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