

Quality of Alternatives, Institutional Preference, and Institutional Commitment among **First-Year**
College Students

Morris A. Okun, Brian Goegan and Natasha Mitric

Department of Psychology

Arizona State University

Corresponding Author: Morris A. Okun
Department of Psychology
Arizona State University
Tempe, AZ 85287-1104
USA
Okun@asu.edu

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Abstract

We tested the hypotheses derived from investment theory (Rusbult & Farrell, 1983) that quality of alternatives and institutional preference exert additive and interactive effects on institutional commitment in a sample of 1,166 first-year college students at a large state university who were surveyed within two weeks of the start of their first semester. As predicted, a hierarchical regression analysis revealed that (a) as quality of alternatives increased, institutional commitment decreased; (b) as preference for the university increased, institutional commitment increased; and (c) as institutional preference decreased, the inverse relation between quality of alternatives and institutional commitment increased. The findings of the present study suggest that first-year college students who do not rank the university as being one of their top three choices and who rate the quality of alternatives as high should be classified at risk for dropping out and targeted for proactive advising.

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According to Tinto (1993), **dropping out from college** involves a process in which background variables influence students' intentions and commitments to educational goals and the institution. Initial intentions and commitments are the precursors of the types of interactions that students have in the academic and social spheres of the college environment. These interactions, in turn, are conceived of as the primary determinants of whether students become academically and socially integrated into the college or university. Academic and social integration, in conjunction with external commitments, are proposed to influence changes in students' intentions and commitments to their educational goals and the institution. Changes in intentions (from stay to leave) and declines in commitment to the goal of **obtaining** a college degree (goal commitment) and to the particular institution (institutional commitment) are viewed as being the most proximal determinants of college student **withdrawal**.

In support of Tinto's hypothesis that institutional commitment is a proximal determinant of college student departure, several studies have shown that low institutional commitment increases the risk of dropping out (Hatcher, Kryter, Prus, & Fitzgerald, 1992; Okun & Finch, 1998). Nevertheless, Tinto (2006) has acknowledged the need to incorporate constructs from other disciplines that can potentially illuminate the dynamics underlying college student withdrawal. To this end, the present study examines the additive and interactive effects of two variables derived from investment theory (Rusbult, 1980a; b)--quality of alternatives and institutional preference--on the institutional commitment of newly enrolled first-year college students.

Investment Theory

Investment theory is a social-psychological theory that was initially developed to study the maintenance versus dissolution of close interpersonal relationships (Rusbult, 1980a; Rusbult, 1980b). Subsequently, this theory has been applied to a lesser extent to work turnover and to college student withdrawal. According to investment theory, there are three determinants of commitment--quality of alternatives, investment size, and satisfaction level. Commitment, in turn, is posited to mediate the effects of quality of alternatives, investment size, and satisfaction level on persistence/departure behavior.

Commitment has been characterized as being an intention to remain in a **relationship** (or at a university) (Rusbult & Buunk, 1993). Quality of alternatives involves a comparison of actual outcomes derived from a current partner (or university) with the potential outcomes derived from the best alternative (Rusbult, 1980b). Investment size refers to resources attached to the partnership (or to the university) that would be lost or seriously diminished upon dissolution of the relationship (or leaving the university). Investment includes both intrinsic resources (e.g., the importance that the relationship (or attending the university) has for one's identity (Rusbult, 1980a) and extrinsic resources (e.g., social network) that a person has built up in a romantic relationship (or with a university) (Rusbult, Drigotas, & Verette, 1994). Satisfaction level is defined as the subjective evaluation of the relative positivity or negativity that a person experiences in a relationship (or at a university) (Arriaga & Agnew, 2001).

A meta-analysis of applications of investment theory to dating relationships and to other targets of commitment including work and college revealed strong support for Rusbult's (1983) contention that quality of alternatives, investment size, and satisfaction level are predictors of commitment (Le & Agnew, 2003). On average, these variables accounted for 61 percent of the variance in commitment. Furthermore, the average correlation between commitment and stay-

leave behavior was .47.

In the first study to apply investment theory to post-secondary education, Kluger and Koslowsky (1988) administered measures of satisfaction level (defined as rewards and costs), investment size, quality of alternatives, and commitment to students enrolled in a calculus course two weeks prior to the end of the semester. The investment-related measures were all tailored to the calculus course. Investment size and the rewards component of satisfaction level were strongly related to commitment but quality of alternative was not. Investment size, the reward and cost components of satisfaction level, and commitment were positively related to both calculus course grade and semester GPA. Perhaps, quality of alternatives for the calculus course was not a significant correlate of commitment or grades because the questionnaire was administered two weeks before the end of the semester when other options such as dropping the course and enrolling in another course were no longer viable.

Okun, Ruehlman, and Karoly (1991) used investment theory to predict the intentions and withdrawal behavior of part-time community college students. Students indicated whether they intended to persist at the college, to transfer to another college, or to stop out (i.e., take time off from college and then return to get their degree). Scores on the quality of alternative measure were higher among students who intended to transfer rather than persist or stop out. Scores on the satisfaction level measure were lower among students who intended to stop out as opposed to persist or to transfer. Students who continued at the college had higher satisfaction and investment size scores than students who withdrew from the college.

Hatcher et al. (1992) examined the contribution of variables derived from investment theory (quality of alternatives, investment size, and the reward and cost components of satisfaction level) to predicting institutional commitment and persistence in a sample of college

students. Controlling for background variables (sex, race, high school class rank, and total SAT scores) and for variables derived from Tinto's (1993) model (graduation commitment, academic development, interactions with faculty, interaction with peers, and cumulative GPA), the investment variables accounted for an additional 36% of the variance in institutional commitment. A discriminant function analysis indicated that, controlling for the background variables, the investment variables uniquely explained 18 percent of the variance in persistence/departure behavior. When institutional commitment was included in the model along with the background variables, the investment variables did not account for a substantial amount of the variance in persistence/departure behavior.

More recently, Barry and Okun (in press) examined whether investment variables predicted maintenance versus decay in the intent to persist in a sample of first-year college students who indicated at the start of a fall semester that they intended to persist at the university. Controlling for variables derived from Tinto's (1993) model of college student withdrawal (social integration, academic integration, and goal commitment), they found that alternative value was the strongest predictor of decay in the intent to persist.

The Hypotheses of the Present Study

Based upon investment theory and previous research, we hypothesized that quality of alternatives would be an inverse predictor of institutional commitment. Studies of institutional preference have focused on the antecedents of student college choice (Chapman, 1981; Isherwood, 1991) rather than the consequences of institutional preference. We conceived of institutional preference as an intrinsic resource that taps into an aspect of investment size. We assumed, for example, that students who are attending a university that was their top choice (high institutional preference) will have more of a psychological stake in the university than say

students who are attending a university that was their fourth choice (low institutional preference). Consequently, we hypothesized that relative to students with lower institutional preference, students with higher institutional preference will have stronger institutional commitment.

Few researchers studying the effects of investment-related variables on commitment have examined interaction effects. In a study of gay males and lesbians cohabitating with their partners, Kurdek (2007) found an interaction between quality of alternatives and satisfaction level on relationship commitment. More specifically, he found that the inverse relation between quality of alternatives and relationship commitment increased as satisfaction level decreased. One way to interpret the form of this interaction is to conceive of satisfaction level (and investment size) as “centripetal forces” that serve to bind people to relationships whereas quality of alternatives can be conceived of as a “centrifugal force” that acts to pull people away from their relationships. The form of the interaction effect found by Kurdek (2007) suggests that when centripetal forces are weak, centrifugal forces exert a larger effect on relationship commitment. In the context of the present study, we hypothesized that when students enter a university with a low as opposed to high preference for the institution, ratings of the quality of the college that they would most likely attend if they were not enrolled at the university will exert a stronger influence on their institutional commitment.

Method

The University

The students in the present study were enrolled at Arizona State University, one of the fastest growing multi-campus universities in the United States. The campus where the study was conducted has the nation’s second largest single-campus combined enrollment of undergraduate (41,256) and graduate (10,356) students. According to the Carnegie classification system, the

University is a Research I institution. The drop out rate for students from the first year to the second year in 2005 was 21.5%.

Procedures

To be eligible for the present study, students had to be attending the University for the first time and be in their first year of study. During the second week of the fall 2008 semester, students enrolled in sections of Introduction to Psychology completed a battery in class containing a variety of questions. Embedded in the battery were twelve questions germane to the present study. Students completed two items that were used to screen for eligibility, one item to assess institutional preference, five items that measured quality of alternatives, and a four-item institutional commitment scale.

A total of 1,324 students were eligible for the present study. Due to missing data, 12 percent of the eligible participants were excluded from the analyses. Thus, the final sample consisted of 1,166 first-semester students. Slightly over half of the students were women (54%). Eighty-nine percent of the students were 18 years old. The ethnicity of the sample was predominantly White/Caucasian (78%) with the next most common ethnicity being Hispanic (10%).

Measures

Screening questions. On the battery administered during the second week of classes during the fall 2008 semester, students were asked whether this was their first semester attending the University and their class standing.

Institutional preference. Students were asked, “Which of the following best describes your decision to attend Arizona State University?” There were 10 response options. The first response option (coded 0) was “Arizona State University was my only choice“. The second

response option (coded 1) was “Arizona State University was my first choice“. The final response option (coded 9) was “Arizona State University was not among my top 8 choices”.

Quality of alternatives. We used a measure of quality of alternatives that was developed by Barry and Okun (in press). Students read the following statement: “We want you to compare the value of attending Arizona State University with the value of the university or college that you realistically would attend, if you were not enrolled at Arizona State University. We refer to this other college as the *alternative college*.” Participants then rated the alternative college in comparison to the University on five dimensions: quality of education, working conditions, social life, recognition, and compensation. Students read a brief description of each dimension before rating it. For example, the brief description used for the quality of education dimension was: “Quality of Education refers to the various academic conditions that contribute to the student’s intellectual and vocational development, such as the competence and helpfulness of the faculty and staff, including advisors and counselors, and the adequacy of curriculum requirements, teaching methods, and assignments.” Then, students answered the following question, “In comparison to Arizona State University, how would you rate the alternative college on quality of education?”

The responses to this question and to the other quality of alternatives questions were rated on a five-point scale with anchor points of (0) “The alternative college is much worse than the University” and (4) “The alternative college is much better than the University”. Scores on the quality of alternative scale were formed by averaging the ratings on the five items. Barry and Okun (in press) reported a coefficient alpha for the quality of alternative scale of .62. As evidence of its validity, Barry and Okun (in press) reported that students who switched their intention from persisting to transferring had significantly ($p < .001$) higher quality of alternative

scores than students who maintained their intent to persist ($M = 3.52$ versus $M = 2.97$). In the present study, the internal consistency reliability of the quality of alternatives scale as estimated by coefficient alpha was .81.

Institutional commitment. Institutional commitment was measured using a brief scale developed via exploratory factor analysis (Okun, Karoly, Martin, & Benschhoff, 2009). The initial pool of items consisted of six items from the Institutional and Goal Commitment subscale of the Institutional Integration Scale (Pascarella & Terenzini, 1983) and 10 items came from the Attachment subscale of the College Adjustment Questionnaire (Baker & Syrik, 1986). They found support for a two-factor solution and labeled the factors institutional commitment (commitment to a particular institution) and goal commitment (commitment to obtaining a college degree). A sample institutional commitment item is, “I am pleased now about my decision to attend Arizona State University in particular.”

Students rated these items on a five-point scale with anchor points of “doesn’t apply to me at all” (0) and “applies to me a great deal” (4). Scores on the institutional commitment scale were formed by averaging the ratings on the four items. Internal consistency reliability estimates for the four-item institutional commitment scale via coefficient alpha range from .79 to .88 (Barry & Okun, *in press*; Okun et al., 2009). As evidence of its validity, Barry and Okun reported that students who switched their intention from persisting to transferring showed a significantly ($p < .001$) greater decline in their institutional commitment over time ($M \Delta = -.1.30$) than students who maintained their intent to persist ($M \Delta = -.0.16$). In the present study, the internal consistency reliability for the institutional commitment scale as estimated by coefficient alpha was .79.

Results

Descriptive Analyses

In this section, we compare eligible students who were included in the analyses with those who were excluded from the analyses, present descriptive statistics for the main study variables, and examine the bivariate associations among the main study variables.

Comparison of participants included and excluded from the analyses. The participants included in the analyses were compared with the participants who were excluded from the analyses due to missing data on sex, age, ethnicity, institutional preference, quality of alternatives, and institutional commitment. Depending on the variable, the number of cases in the excluded group ranged from 23 (quality of alternatives) to 158 (sex). Of the six t and χ^2 tests, only one was significant—the association between participant status (included versus excluded) and institutional preference, $\chi^2(4, 1310) = 16.96, p < .01$. The percentage of students excluded was lower among students who ranked the University as their fourth or higher choice (3%) or as their third choice (3%) as compared to students who ranked the University as their second choice (10%), first choice (11%), or as their only choice (17%).

Descriptive statistics for the main study variables. For the participants included in the analysis, the mean and standard deviation for institutional commitment were 3.16 and 0.89, respectively. The mean and standard deviation for quality of alternatives was 1.89, and 0.76, respectively. Thus, on average, students were highly committed to the University but viewed the alternative college as having only slightly less value than the University. To explore the ratings of quality of alternatives further, we examined the mean ratings of quality of alternatives for each dimension. With one exception, students rated the alternative college as comparable to the University, with means ratings ranging from 1.91 to 2.00. For the social life dimension, students rated the alternative college substantially lower than the University ($M = 1.55$). Fourteen percent of the first-semester college students indicated that the University was their only choice, 47

percent that it was their first choice, 25 percent that it was their second choice, 8 percent that it was third choice, and the remaining 6 percent indicated that it was not one of their top three choices.

Bivariate associations among the main study variables. The correlation between quality of alternatives and institutional commitment was significant, $r(1164) = -.41, p < .001$. The bivariate relations between institutional preference and (a) quality of alternatives and (b) institutional commitment were estimated using 1-way Analysis of Variance. In these analyses, the factor was Institutional Preference and it consisted of five levels (no choice, first choice, second choice, third choice, and not one of top three choices). The dependent variables were quality of alternatives and institutional commitment. Institutional Preference had a significant effect on quality of alternatives, $F(4, 1161) = 52.88, p < .001, \eta^2 = .15$, and on institutional commitment, $F(4, 1161) = 63.52, p < .001, \eta^2 = .18$. The means and standard deviations for quality of alternatives and institutional commitment by level of institutional preference are presented in Table 1.

Insert Table 1 about here

Tukey post-hoc comparison tests ($\alpha = .05$) revealed that first-year college students who did not rank the University as one of their top three choices had significantly higher alternative value scores than first-year college students who ranked the University as one of their top three choices or who indicated that the University was their only choice. Furthermore, first-year college students who ranked the University as their second or third choice had higher alternative value scores than first-year college students who ranked the university as their top choice or who

indicated that the University was their only choice. First-year college students who did not rank the University as one of their top three choices had lower institutional commitment scores than first-year college students who ranked the University as one of their top three choices or who indicated that the University was their only choice. Furthermore, first-year college students who ranked the University as their third choice had lower institutional commitment scores than first-year college students who ranked the University as one of their top two choices or who indicated that the University was their only choice. Finally, first-year students who ranked the University as their second choice had lower institutional commitment scores than first-year college students who ranked the University as their first choice.

Inferential Analyses

We tested the hypotheses of the present study using hierarchical multiple regression. The dependent variable was institutional commitment scores. Quality of alternative value scores were centered (i.e., the mean was subtracted from each score). Institutional preference was coded as a set of four dummy (coded 0 or 1) variables—CHOICE0, CHOICE1, CHOICE2, and CHOICE3. For CHOICE0, students were coded 1 if they indicated that the University was their only choice. For CHOICE1, students were coded 1 if they indicated that the University was their first choice. For CHOICE2, students were coded 1 if they indicated that the University was their second choice. For CHOICE3, students were coded 1 if they indicated that the University was their third choice. The reference group (i.e., the omitted category) consisted of students who indicated that the University was not one of their top three choices.

Four interaction terms were created by multiply each **student's** centered quality of alternative value score by his or her dummy variable code for CHOICE0, CHOICE1, CHOICE2, and CHOICE3.

In step 1 of the model, the five main effect predictors were entered. The main effects model accounted for 27 percent of the variance in institutional commitment scores, $F(5, 1160) = 83.81, p < .001$. Controlling for the institutional preference dummy variables, quality of alternatives accounted for 9% of the variance in institutional commitment and the institutional preference dummy variables, controlling for quality of alternatives, explained 10% of the variance in institutional commitment.

Table 2 presents the unstandardized partial regression coefficients, their standard errors, and the standardized partial regression coefficients at step 1 and at step 2. At step 1, all of the

Insert Table 2 about here

institutional preference dummy variables were significant ($p < .001$) indicating that first-semester college students who ranked the University as one of their top three choices or who indicated that the University was their only choice had higher institutional commitment scores than first-semester college students who did not rank the University as one of their top three choices. Also, at step 1, quality of alternative was a significant ($p < .001$) inverse predictor of institutional commitment scores. In step 2, the four interaction terms were entered into the model. The conditional F test associated with adding the four interaction terms to the model was significant, $F(4, 1156) = 4.69, p = .001$. With all nine predictors in the model, 28 percent of the variance in institutional commitment scores was explained, $F(9, 1156) = 49.24, p < .001$.

At step 2, the additive effects of quality of alternatives and institutional preference were qualified by significant ($p < .01$) interaction effects between quality of alternatives and the dummy variables representing CHOSE0, CHOSE1, and CHOSE2. The model was then re-

estimated changing the institutional preference dummy variables and the interaction terms that were included so that all possible interaction effects between quality of alternatives and institutional preference could be tested for significance. When the reference group consisted of first-year college students who ranked the University as their third choice, two interaction terms were significant ($p < .05$)--quality of alternatives by CHOICE1 ($b = .32$) and quality of alternatives by CHOICE2 ($b = .27$).

To examine the form of the interaction effects, we computed the regression line for predicting institutional commitment from quality of alternatives at each level of institutional preference using procedures outlined by Aiken and West (1991). Table 3 summarizes the results of these analyses and Figure 1 provides a visual display of the regression lines for predicting

Insert Table 3 about here

institutional commitment from quality of alternatives at each level of institutional preference. These regression lines were plotted for centered values of quality of alternatives at one and two standard deviations below the mean (-0.76 and -1.52, respectively), at the mean (0.00), and at one and two standard deviations above the mean (+0.76 and +1.52, respectively).

Insert Figure 1 about here

The slope for predicting institutional commitment from quality of alternatives was significantly ($p < .05$) greater when the University was not of the student's top three choices ($b = -.80$) as compared to when the University was the student's first choice ($b = -.28$), second choice

($b = -.33$), or had no choice ($b = -.41$). Furthermore, the slope for predicting institutional commitment from quality of alternatives was significantly ($p < .05$) greater when the University was the student's third choice ($b = -.60$) as compared to when the University was the student's first choice ($b = -.28$) or second choice ($b = -.33$).

Discussion

Only a handful of researchers have used investment theory to predict the academic outcomes of college students such as GPA, institutional commitment, graduation intentions, and dropping out. The purpose of this study was to extend previous research applying Rusbult's (1980) investment model to post-secondary education by testing hypotheses pertaining to the additive effects of quality of alternatives and institutional preference and their interactive effect on institutional commitment.

The Additive Effect of Quality of Alternatives

In several studies, quality of alternatives has been shown to predict institutional commitment and the intent to transfer (Barry & Okun, *in press*; Hatcher et al., 1992; Okun et al., 1991). Consistent with these findings, in the present study, alternative value shared 17% of the variance with institutional commitment and controlling for institutional preference, uniquely explained 9% of the variance in institutional commitment. As expected, as quality of alternative scores increase, institutional commitment scores decrease.

The Additive Effect of Institutional Preference

In previous studies, investment size has been shown to be positively related to GPA, institutional commitment, and institutional persistence behavior (Hatcher et al., 1992; Kluger & Koslowsky, 1988; Okun et al., 1991). In accord with these findings, in the present study, institutional preference shared 18% of the variance with institutional commitment and

controlling for quality of alternatives, uniquely explained 10% of the variance in institutional commitment. As expected, relative to students who did not rank the University among their top three choices, students who rated the University as one of their top three choices had higher institutional commitment scores.

The Institutional Preference by Quality of Alternatives Interaction Effect

Rusbult (1991) suggested that the impact of external barriers on relationship commitment could be contingent on satisfaction level and investment size. When individuals are very satisfied with a relationship or heavily invested in a relationship, then external barriers such as the quality of alternatives to the relationship are posited to exert little influence on relationship commitment. However, under conditions of low relationship satisfaction and investment, quality of alternatives is posited to exert much more influence on relationship commitment. This speculation formed the basis in the present study for the hypothesis that as institutional preference decreases, the relation between quality of alternatives and institutional commitment increases.

In support of this hypothesis, we found several significant interaction effects between dummy variables representing institutional preference and centered quality of alternative scores. As indicated in Figure 1, among first-year college students who indicated that they had a choice, the magnitude of the slope for predicting institutional commitment from quality of alternatives increases as institutional preference decreases. Alternatively, Figure 1 reveals that the impact of first-year college students' institutional preference on institutional commitment varies with their ratings of the quality of alternatives. More specifically, institutional preference is more strongly related to institutional commitment among first-year college students who perceive the quality of their alternatives to be good as opposed to poor.

Limitations

The present study has several limitations. First, because we studied first-semester students who were enrolled at the University for only a couple of weeks, it was not feasible to assess satisfaction level. Second, because the measure of quality of alternatives that we used only involved a comparison of the current university with another university, we did not capture other options that some students may consider such as dropping out and working full-time. Third, first-year college students with a low preference for the University were more motivated than first-year college students with a high preference for the University to complete the items assessing the main study variables. Fourth, because the present study was conducted at one university, the external validity of the findings is not established. Fifth, because all variables were measured concurrently, causal inferences regarding the relations among quality of alternatives, institutional preference, and institutional commitment are unwarranted.

Implications for Post-Secondary Educational Institutions

Although the quality of alternatives by institutional preference interaction effect only accounted for one percent of the variance in institutional commitment, ratings of quality of alternatives *and* institutional preference jointly exerted a large effect on predicted institutional commitment scores. On the one hand, a student who is two standard deviations below the mean on alternative value (raw score = 0.37) and who ranked the University as his or her first choice, would be predicted to have an institutional commitment score on a scale that ranges from 0 to 4 of 3.81. On the other hand, a student who is two standard deviations above the mean on alternative value (raw score = 3.41) and who did not rank the University as one of his or her top three choices, would be predicted to have an institutional commitment score of 1.28. Because low institution commitment is associated with increased likelihood of dropping out (Pascarella &

Chapman, 1983; Pascarella & Terenzini, 1983), it is important for administrators to assess first-time college students before classes start with respect to quality of alternatives and institutional preference. We contend that first-time college students who do not rank the university as one of their top three choices and who rate the quality of alternatives as high should be classified **at risk for dropping out and targeted** for proactive advising.

One of the advantages of the measure of quality of alternatives used in the present study (Barry & Okun, **in press**) is that administrators can examine differences in the ratings of the individual dimensions. In the present study, first-year college students rated the alternative college substantially lower than the University they were currently attending only on the social life dimension ($M = 1.55$). Based on these findings, administrators at this University could develop strategies for enhancing first-year college students' perceptions of the other dimensions of quality of alternatives. For example, academic units could provide information to new students regarding the quality of their educational offerings.

Future Directions for Research

Based on the findings of the present study, an important direction for future research involves conducting a longitudinal study with measurement occasions spanning the period from pre-entrance into the university environment through the end of the first academic year. At the first measurement occasion, institutional commitment, institutional preference, and an expanded version of the quality of alternatives measure that includes academic and non-academic alternatives could be assessed. At all subsequent measurement occasions, other aspects of investment size, satisfaction level, the expanded version of the quality of alternatives measure, and institutional commitment could be assessed. These data could be used to test the causal relations specified by investment theory and to test for interaction effects between (a) aspects of

investment size, (b) satisfaction level, and the expanded version of quality of alternatives on changes in institutional commitment.

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Table 1

Means and Standard Deviations for Quality of Alternatives and Institutional Commitment by Institutional Preference

Variable	Institutional Preference									
	No Choice		First Choice		Second Choice		Third Choice		Fourth Plus Choice	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Quality of Alternatives	1.56	0.84	1.58	0.68	2.18	0.68	2.26	0.67	2.54	0.71
Institutional Commitment	3.21	0.91	3.44	0.69	3.02	0.81	2.66	0.97	1.98	1.09

Table 2

Summary of Hierarchical Regression Analysis Predicting Institutional Commitment

Predictor	Step					
	1		β	2		B
	b	SE		b	SE	
Centered Quality of Alternative	-0.37***	.03	-.32	-0.80***	.13	-.69
Chose 0	0.88***	.11	.34	0.59***	.14	.23
Chose 1	1.14***	.11	.64	0.88***	.13	.49
Chose 2	0.91***	.10	.44	0.62***	.13	.30
Chose 3	0.58***	.12	.18	0.39*	.15	.12
Centered Quality of Alternatives by Chose 0				.40**	.15	.15
Centered Quality of Alternatives by Chose 1				.52***	.14	.28
Centered Quality of Alternatives by Chose 2				.47**	.15	.19
Centered Quality of Alternatives by Chose 3				.20	.18	.05

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3

Simple Slope Equations for Predicting Institutional Commitment from Centered Quality of Alternatives Scores for Each Level of Institutional Preference

Group	Slope	Y-intercept
No Choice	-0.41	3.09
First Choice	-0.28	3.38
Second Choice	-0.33	3.12
Third Choice	-0.60	2.89
Fourth Plus Choice	-0.80	2.50

Figure Caption

Figure 1. Graphic Display of the Quality of Alternatives by Institutional Preference Interaction

Effect on Institutional Commitment Scores.

★ = No Choice

● = First Choice

◇ = Second Choice

■ = Third Choice,

✕ = Fourth Plus Choice

