

## **STUDENT STRESS AND COPING FOLLOWING A UNIVERSITY STRIKE IN CANADA**

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### **ABSTRACT**

Questionnaires were distributed to undergraduate students to determine the relationship of a community strike to students' academic work, social and recreational behavior, emotions, and attitudes toward the university. Results indicated that the labor dispute significantly affected students, interrupting their academic and career progress, worsening their financial situations, and increasing their recreational and social activities. Path analysis tested a model examining the relationships among students' attitudes, emotions, and coping ability. Greater adaptiveness in coping was associated with reduced anger and anxiety, and with greater satisfaction with York University's academic program. The more students' plans had been affected by the labor dispute, the more anger and anxiety was felt, and the less students expressed satisfaction with the academic program at the university. Moreover, the more students felt they had been treated unfairly during the job action, the angrier they felt.

Within the past few decades, strikes have become a frequent occurrence in the Canadian university education system. Since 1976, 28 faculty strikes have occurred in Canadian universities, with twelve of them taking place within the last ten years. Aside from faculty strikes, other job actions afflicting universities have involved teaching assistants and contract faculty, as well as nonteaching

staff including librarians, caretakers, and food-service workers. Overall, these labor disputes have varied in length from several days to as long as four months, as was the case at the University of Québec at Montréal in 1976.

Despite the increasing frequency of university strikes, literature addressing the occurrence of these labor disputes has been quite scarce, and the little material that has been published focuses on the implications of a strike for the striking party rather than on the impact of the strike on students. In a university job action, students are typically caught between the administration and unionized workers, with the job action occurring when it is maximally inconvenient for students in order to pressure the administration to settle. Delays in scheduling examinations, restricted access to instructors and academic resources, and general confusion characterize some of the effects of university strikes on students. Given the negative impact of university labor disputes on students, efforts should be made to determine how students are affected by strikes and how they cope with them.

In studying the 1988 three-week faculty strike at Dalhousie University, Amos, Day, and Power distributed questionnaires to determine the effect of the strike on students' academic work, emotions, and attitudes toward the university [2]. Students reported significant interference with their academic work because of the interruption of classes and an overall diminished sense of productivity. Emotional distress was often reported, but variability in emotional reactions was unrelated to previous academic performance or academic disruption. Amos et al. noted the need for studying individual differences in coping with a faculty strike. As emotional distress may be attributable to student uncertainty about the strike's potential examinations and grading, the authors urged the use of clearly defined contingency plans as a possible means of alleviating the impact of future strikes on students [2].

The most dramatic finding of the Amos et al. study was the students' shift away from a positive to a negative opinion of the university. The most unfavorable views were of the administration, followed by the faculty as a collective; however, there was little shift in students' opinions of their own professors. Variability in opinion of the university was not related to the degree of academic disruption experienced. Negative attitudes toward the university were also found to be greatest among upper-year undergraduates compared to first-year undergraduates. Two years following the strike, the students again displayed an overall positive opinion of the university, possibly because many of these younger respondents had not attended the institution during the strike, while those enrolled during the strike had graduated [2].

Albas and Albas performed a content analysis and observational study of the 1995 three-week University of Manitoba faculty strike [3]. To assess students' emotional, cognitive, and behavioral reactions to the strike, researchers examined written logs; interview transcripts; documents such as enrollment data, newspaper articles, and faculty association media releases; participants' observations on picket lines and at rallies; and validation data obtained by placing a manuscript of

the study in the school library and asking the University of Manitoba community for criticism [3]. The researchers organized their findings in terms of Blumer's three principal phases for studying personal interaction in an industrial setting: interpretation of the experience, the forging of new and emergent relationships, and lines of movement or adjustment [4, 5, 6]. In terms of interpretation, Blumer's first phase, students' emotions and cognitions were queried. During the course of the job action, it was noted that students' emotions changed from exaltation and gratification at what was regarded as a brief holiday, to frustration and anger at their perceived victimization. Cognitions also changed during the strike from a largely faculty-supportive stance to a strongly antifaculty position, due in part to community and parental influence [3].

Based on the varied interpretations of the labor dispute, new student organizations began to emerge, allowing students to forge new relationships and thus to shift into the second (i.e., establishment of new relationships) of Blumer's three principal phases. Each student organization represented a different viewpoint on the conflict, some supporting the administration and others supporting the faculty. As a result of a growing antifaculty sentiment, students engaged in mildly aggressive behaviors. Students used profane language in placards or loudspeakers to communicate antifaculty messages. In response to those hostile displays, the striking professors further increased delays for those trying to cross picket lines. Other student actions included the collection of student signatures from those who advocated a legislative end to the strike [3].

As a result of the job action, Albas and Albas described many examples of lines of movement, the last of Blumer's three phases. Consequences of the strike were an overall decline in enrollment over the following academic years, as well as extended deadlines, reductions in assigned reading, examination cancellations, and other rule changes designed to mollify student anger. Some students also reported shifts in their self-image, viewing themselves as more competent or altruistic than previously. Overall, Albas and Albas successfully applied Blumer's framework for industrial power struggles to the student experience of the University of Manitoba faculty strike, thus providing a structural guide to understanding student reaction to a university job action [3].

The 1997 seven-week faculty strike at York University was analyzed in two research projects. The first of these was a study of the academic and economic costs of the seven-week strike for the student body, and an assessment of whether these costs influenced student support for the strike [7, 8, 9, 10]. To assess these issues, Grayson conducted two telephone surveys. The first survey of 540 full-time undergraduate students was performed in the fifth and sixth weeks of the strike, with the follow-up survey of the same respondents conducted five months after the strike. Results of the survey indicated that students experienced moderate academic hardship due to the strike. Although special accommodations offered by the administration lessened the academic consequences of the strike, many students who needed grades for applications to other schools, or who

planned to attend summer school, and/or to graduate, reported being seriously inconvenienced by the job action [7-10].

The economic hardship suffered by students was slightly less severe than the academic consequences of the strike. In the first survey, 37 percent of students reported that the strike had interfered with a summer job [7, 8, 10]. Only a small percentage of students (less than 15 percent) claimed that the strike had caused other financial concerns, such as additional food and rent costs or interference with full- or part-time employment. In the follow-up survey, students were asked to estimate the financial cost incurred as a result of the strike [9, 10]. Overall, 47 percent of surveyed students reported financial losses that, when applied to the entire student body, totaled an estimated 12 million dollars. Student support for the strike was greater in the follow-up survey than it was during the job action. The academic and economic hardships associated with the strike were unrelated to support for the faculty union. Support for unions in general influenced student support for the faculty strike [9, 10].

Additional research following the 1997 York University strike was conducted by Greenglass, Fiksenbaum, Goldstein, and Desiato [11]. This project dealt with many of the issues raised by Amos et al. [2]. Specifically, the York researchers explored the relationship between individual differences related to emotional responses and the ability to cope with the faculty strike, as well as assessing the supportive role played by various types of media in student reactions to the job action. By reviewing the responses obtained from 290 questionnaires administered to students in commonly traveled areas of the university, the researchers identified predictors of strike-induced states of anger and of anxiety.

Results indicated that the extent to which students' plans were affected by the strike, and the degree to which students felt they had been treated unfairly, were positively correlated with both states of anger and of anxiety. The perceived level of Internet support (e.g., university and union Web sites with postings of press releases) was negatively correlated with students' reported anger state, and self-efficacy was negatively correlated with students' reported anxiety. Regression analyses revealed that the extent to which students' plans were affected by the strike, the degree to which students felt they had been treated unfairly, and students' perceived levels of Internet support predicted anger state. Further regression analyses indicated that the degree to which students' plans were affected by the labor dispute, and students' levels of self-efficacy predicted anxiety state. Moreover, students who reported high levels of anger were also more anxious. These findings demonstrated the role of both situation- and individual-related factors in determining how students are affected by a faculty strike. Recommendations such as increased Internet postings to reduce distress were also suggested.

On October 26, 2000, four years after its lengthy faculty strike, York University experienced another labor dispute. Contract faculty and teaching assistants withdrew their services and picketed all university entrances, effectively stopping

most academic activities. This strike lasted ten weeks, making it one of the longest university strikes in Canadian history. The length of the strike made it a source of significant confusion, uncertainty, and inconvenience for the student body. At the beginning of the conflict, students were uncertain as to whether their classes would go on as scheduled. As the dispute continued and the impact of the striking teaching assistants' action intensified, classes in many departments were cancelled. During this time, students were unsure whether the academic year would be cancelled, when or how classes would be rescheduled, how course requirements would be affected, and what the status of the fall examination period would be. After the conclusion of the strike in January, both the academic term and fall examinations were extended, the February reading week was cancelled, and the winter term was shortened by two weeks. Still, most students lost three or four weeks from their summer vacations or seasonal jobs.

York University's 2000 labor dispute occurred at a different time in the academic year (i.e., fall, as opposed to winter), and involved a different union (i.e., contract faculty and teaching assistants as opposed to full-time faculty) than the university's 1997 conflict, resulting in a qualitatively different work stoppage. However, the 2000 labor dispute represented a prime opportunity for a follow-up field study exploring stress and coping. Although differences in student attitudes and experiences between the two strikes were expected, the current study sought to build and expand upon existing models of student reactions to campus labor disputes posited by previous research. To broaden the methodology of the study, archival measures assessing alcohol sales, campus vandalism, campus counseling appointments, library circulation, and e-mail use were sought.

The current study involved the distribution of a survey consisting of measures similar to those used by Greenglass et al. [11]. To broaden the perspectives of the original Greenglass et al. study and to explore further the student experience of the strike, reports of both financial concern and behavioral changes in academic and recreational activities were included. As well, reflecting recent empirical successes [12, 13], a new measure of coping and adaptiveness was employed in the study, namely the Personal Functioning Inventory (PFI). People who are higher in adaptiveness, as measured by PFI, encounter fewer daily hassles (e.g., traffic delays, waiting for a late appointment) and are less inclined to perceive these hassles as highly stressful [14]. Presumably, greater adaptiveness among students should have facilitated coping with the strike. In addition, path analysis was adopted in data analyses to specify more precisely the relationship among variables. Based on the findings of Greenglass et al., it was hypothesized that the more students perceived their treatment during the labor dispute as unfair, the more angry they would become. Likewise, the more students' plans were affected by the strike, the greater the anger and anxiety they were expected to experience, and the less satisfied they were expected to be with the overall academic program at York University. Similarly, it was expected that greater adaptiveness would lead

to less anxiety and anger, and greater satisfaction with York University's academic program. Furthermore, students were expected to report spending more time and money on recreational activities and less time on academic endeavors during the strike than before the strike.

## METHOD

### Participants

Questionnaire respondents for this study were 374 York University undergraduate students. Following the conclusion of the strike, participants were approached in one of three methods. Twenty-four of the respondents were asked by their psychology class instructor to complete the questionnaire during class time. One hundred and eighty-nine respondents completed the questionnaire while waiting in line at the university's financial aid office. A final group of 161 students was asked to complete the questionnaire by experimenters who were walking around the university. Respondents in this final group included students approached in the university's cafeteria, retail center, computer center, and major corridors. No differences among these three groups were found in terms of the psychosocial constructs.

Questionnaires and consent forms were distributed to students within one week of the union's agreement ratification vote. Students were asked whether they would be willing to spend ten to fifteen minutes completing an anonymous and confidential questionnaire. The response rate was approximately 85 percent.

Of the 374 participants who completed the questionnaire, 35 percent were male, and 60 percent were female. Students in their first year constituted 29 percent of the sample, while second- and third-year students made up 28 percent and 22 percent of the sample, respectively. Students in their fourth and fifth year made up 16 percent of the sample. Approximately 19 percent of students reported that they were presently in their graduating year. Full-time students constituted 93 percent of the sample, whereas 2 percent identified themselves as part-time. In addition, 16 percent of the participants reported living on campus, whereas 79 percent reported living off campus (see Table 1). These demographics are consistent with those of the university population [15], with the possible exception of an increased number of on-campus residents found in the sample (16 percent versus 7 percent in the York University population).

### Measures

The primary measures of the questionnaire were similar, and in some cases identical, to those used by Greenglass et al. [11].

Table 1. Demographic Characteristics of the Sample ( $N = 374$ )

	<i>n</i>	Percent
<b>Gender</b>		
Female	224	60
Male	131	35
Did not answer	<u>19</u>	<u>5</u>
	374	100
<b>Year of study</b>		
First	109	29
Second	103	28
Third	83	22
Fourth	55	15
Fifth	5	1
Did not answer	<u>19</u>	<u>5</u>
	374	100
<b>Graduating year</b>		
Yes	72	19
No	284	76
Did not answer	<u>18</u>	<u>5</u>
	374	100
<b>Full-/part-time status</b>		
Full-time	347	93
Part-time	9	2
Did not answer	<u>18</u>	<u>5</u>
	374	100
<b>Residence</b>		
On-campus	60	16
Off-campus	297	79
Did not answer	<u>17</u>	<u>5</u>
	374	100

*Impact on Academic Study*

The first measure assessed the amount of academic work that students had completed during the strike, and how much had been displaced to the post-strike period. Students were asked how many classes and tutorials they had been scheduled to attend that semester and how many of these classes they had attended on a regular basis during the strike. Students were also asked how many assignments, including tests, final examinations, essays, etc., they were still required to do to complete the semester.

*Plans Affected and Perceived Unfair Treatment*

Using a four-point scale, ranging from “1 = not at all” to “4 = a great deal,” students were asked to indicate the extent to which their plans for graduation, employment, future studies, and travel had been affected by the strike. Using an identical four-point scale, students were also asked to rate the extent to which they felt they had been treated fairly during the strike. The perceived treatment measure was reverse-coded, such that greater scores reflected greater perceptions of unfair treatment.

*State-Anger Scale*

Anger was assessed using Spielberger’s State-Anger Scale [16]. This measure includes ten items that focus on feelings of anger at a particular time. In the current study, participants were asked to indicate how they felt about the recent strike. Participants responded on a four-point scale ranging from “1 = not at all” to “4 = very much so.” The scale included items such as, “I am furious,” “I feel irritated,” and “I feel like yelling at somebody.” Spielberger reports high reliability ( $\alpha = .93$ ) and validity ratings [6].

*Hopkins Symptom Checklist*

Anxiety was assessed using the anxiety measure from the Hopkins Symptom Checklist [17]. A shortened four-item version of the scale was employed in the current study. The items of this shortened scale have strong face validity and were highly reliable ( $\alpha = .84$ ) when used by Greenglass et al. [11]. Participants were asked to indicate how they had felt in recent weeks and to record the frequency of these feelings on a four-point scale ranging from “1 = never” to “4 = extremely often.” The measure included such items as “nervousness or shakiness inside” and “feeling tense or keyed up.”

*Personal Functioning Inventory*

Although a ten-item perceived self-efficacy measure was used by Greenglass et al. [11], the recent success of the PFI [13] made it a more favorable choice for the current study. Adaptiveness in coping, a slightly different construct than self-efficacy, is the ability to cope consistently so as to reduce distress, or, at worst, not aggravate it. Adaptiveness combines three characteristics: a) judgment, meaning the ability to distinguish controllable situations that call for active coping from uncontrollable ones that are better handled passively; b) determination, needed to overcome obstacles that arise in situations judged to be controllable; and c) self-control, needed to react passively in provocative situations judged to be uncontrollable. The PFI consists of 30 items; half of these are adaptive principles of coping (e.g., “If I can’t control whether something bad is going to happen, I try not to worry about it”), whereas the other half are maladaptive principles of coping

(e.g., “When I’m waiting to find out about something important, I just can’t get it out of my mind”). Participants are asked to indicate their level of agreement with each statement on a five-point scale ranging from “1 = strongly disagree” to “5 = strongly agree.” The PFI has been found to relate positively to problem-solving confidence as assessed by the Personal Problem-Solving Inventory [18], and to correlate negatively with the Perceived Stress Scale [19], thereby demonstrating good construct validity [13]. The internal consistency of this measure, as reported in various undergraduate populations, is high ( $\alpha = .85$  to  $\alpha = .92$ ; [12, 13]). Forty-seven percent of the participants (174 of the 374 respondents) were given the PFI to complete.<sup>1</sup>

#### *Internet Support*

Internet support was assessed using an adapted version of a measure developed by Caplan, Cobb, French, Harrison, and Pinneau [20]. Specifically, participants were asked to indicate on a four-point scale, ranging from “4 = very much” to “1 = not at all,” the extent to which the Internet had provided them with information and guidance on the strike and had acted as a source of morale boosting during the strike. This two-item measure attained modest reliability ( $\alpha = .61$ ) when used by Greenglass et al. [11]. However, in the current study, the internal consistency of this measure was lower ( $\alpha = .49$ ). This level of reliability should not be considered extremely poor, given that it was based on two items, and statistical theory suggests that “the more items there are in a scale . . . the more reliable will the measurement be” [21]. However, due to its more-informative nature, only a single question concerning the extent to which the Internet was used as a source of information was chosen to be reported in the current study.

#### *Assessment of Activities*

A change in academic, social, and recreational behaviors was assessed by asking participants to describe their behavior before and during the strike. Comparisons were made involving amount of time spent studying, working in the library, reading or sending e-mail, browsing the Web, exercising, and other recreational activities (i.e., watching television, spending time with friends, etc.). As well, participants were asked for estimates of any change in the amount of money spent on food, alcohol, and cigarettes. Students were also asked to indicate the time they got out of bed each day before and during the strike. The extent to which the strike caused students financial concern was assessed using a single question and a four-point scale ranging from “1 = a great deal” to “4 = not at all.” Finally, students were asked for demographic information, including gender, year of study, department or faculty, and full-time versus part-time status.

<sup>1</sup> Because the research had to respond quickly to the strike situation, the as-yet-unpublished PFI was not available to the project at the start of data collect, but was added later.

## RESULTS

Students reported that they were scheduled to attend an average of 6.52 classes or tutorials per week ( $SD = 2.93$ ) in the fall semester. As a result of the strike, students attended, on average, only 1.54 classes or tutorials per week ( $SD = 2.14$ ) throughout the labor dispute. At the time of the survey, students reported having an average of 6.42 assignments ( $SD = 4.65$ ), including tests, final examinations, essays, take-home examinations, and other assigned projects, yet to complete. Students were asked to indicate the extent to which their plans had been affected by the strike. Approximately 72 percent of the sample reported that their plans for employment had been at least moderately affected by the strike. In addition, 62.8 percent reported that their future studies had been at least moderately affected and 66.3 percent indicated that their travel plans had been affected. Of the seventy participants in their graduating year, 72.2 percent were concerned that the strike had interfered with the timing of their graduation (see Table 2).

A majority of students (56.1 percent) felt that they were well-informed about the strike. When asked about their sources of information about the labor dispute, 47.4 percent, 70.3 percent, and 59.7 percent of students reported relying at least somewhat on the media, the Internet, and other students, respectively. A repeated measures analysis of variance found a significant difference between the levels of reported use of these information sources ( $F(1, 362) = 12.51, p < .001$ ). Furthermore, paired sample  $t$ -tests revealed significant differences among each of the three sources of informational support (see Table 3). Despite being well-informed about the strike, approximately half of the sample (49.1 percent) felt that they had not been treated fairly during the strike. Year of study, which would have been related to class size, did not affect students' reports of unfair treatment ( $F(4, 345) = 1.62, ns$ ).

Interestingly, the degree to which students relied on the various sources of information concerning the 1997 and 2000 labor disputes differed. Merging the data set from the 1997 study with the present study, it was seen that although students reported relying on the media and on other students to the same extent in both strikes, reliance on the Internet increased significantly in the later conflict ( $t(509.22) = -5.50, p < .001$ ). Specifically, in 1997, only 48 percent of students reported relying at least somewhat on the Internet, compared to the 70.3 percent found in the 2000 labor dispute.

Students were also asked to describe a variety of their activities before and during the strike. Using several paired samples  $t$ -tests and a Bonferroni adjustment to account for Type I error, it was found that students spent less time on their studies during the strike ( $t(344) = 16.52, p < .001$ ), and spent less time in the library than they had before the start of the strike ( $t(350) = 10.29, p < .001$ ). Students woke up approximately two hours later during the strike ( $t(347) = -18.25, p < .001$ ) and spent significantly more time on recreational

Table 2. Impact of Strike on Student Plans

	<i>n</i>	Percent
<b>Employment</b>		
Not at all	55	15
A little	40	11
Moderately	87	23
A great deal	182	49
Did not answer	<u>10</u>	<u>3</u>
	374	100
<b>Future studies</b>		
Not at all	54	14
A little	76	20
Moderately	119	32
A great deal	116	31
Did not answer	<u>9</u>	<u>2</u>
	374	100
<b>Travel plans</b>		
Not at all	71	19
A little	44	12
Moderately	76	20
A great deal	172	46
Did not answer	<u>11</u>	<u>3</u>
	374	100
<b>Graduation</b>		
Not at all	7	10
A little	11	15
Moderately	23	32
A great deal	29	40
Did not answer	<u>2</u>	<u>3</u>
	72	100

activities, such as watching television, spending time with friends, or partying ( $t(322) = -11.78, p < .001$ ). Students spent considerably more money on alcohol ( $t(179) = -10.41, p < .001$ ) and food ( $t(337) = -3.30, p = .001$ ) during the strike than they had previously.

Means, standard deviations, Cronbach alphas, and intercorrelations of the variables assessed for this study are shown in Table 4. All reliabilities ranged from .60 to .92. Adaptiveness, as measured by the PFI, correlated positively

Table 3. Means, Standard Deviations, and *t*-Values for Information Sources (*N* = 365)

	<i>M</i>	<i>SD</i>	<i>t</i>		
			Media	Internet	Other student
Media	2.50	0.92	—	6.64***	3.61***
Internet	2.91	0.92		—	2.39*
Other students	2.75	1.00			—

\**p* < .05\*\*\**p* < .001

Table 4. Means, Standard Deviations, Cronbach Alphas, and Intercorrelations of the Variables

	1	2	3	4	5	6
1. Adaptiveness	—					
2. Anger	-.25**	—				
3. Anxiety	-.46***	.33***	—			
4. Plans	-.09	.39***	.23***	—		
5. Unfair treatment	.02	.28***	.09	.16**	—	
6. Satisfaction with overall academic program at York University	.28**	-.23***	-.24***	-.28***	-.20***	—
Mean	100.27	22.91	8.39	2.77	3.32	2.18
<i>SD</i>	13.65	8.41	3.10	0.75	0.78	0.86
$\alpha$	.85	.92	.84	.60	—	—

\**p* < .01\*\*\**p* < .001

with overall satisfaction with the academic program at York University. Adaptiveness was also significantly associated with lower anxiety and lower anger state. Anger increased significantly the more students' plans had been affected by the strike, and the more unfairly they felt they had been treated. Higher anger was significantly associated with higher anxiety. In addition, anger was inversely related to overall satisfaction with the academic program at York University. Anxiety was also inversely related to overall satisfaction with York University's

academic program and was associated with greater impact on students' plans. The extent to which plans had been affected by the strike was positively related to perceived unfair treatment, and negatively related to overall satisfaction with York University's academic program. Perceived unfair treatment was inversely related to overall satisfaction with York University's academic program.

Path analysis, using structural equation modeling techniques (SEM), was used to explore the relationships among perceived unfair treatment, the extent to which plans were affected by the strike, adaptiveness, anxiety, anger, and satisfaction with the overall academic program at York University. AMOS version 4.0 [22] was used to provide path coefficients and tests of the overall fit of the model. The maximum-likelihood method of parameter estimation was utilized. Cases with missing data were excluded from the analyses, yielding a total of 137 respondents. The independence chi-square ( $\chi^2(15, N = 137) = 132.652, p = .000$ ), confirmed the presence of intercorrelations in the data and, therefore, its suitability for SEM analysis. The chi-square goodness-of-fit statistic ( $\chi^2(6) = 6.124, p = .409$ ) indicated that the model provided an adequate fit to the data. Other fit indices were highly satisfactory (GFI = .85, AGFI = .949, CFI = .999, and RMSEA = .012).

In an attempt to develop a better-fitting more-parsimonious model, the non-significant path from perceived unfair treatment to satisfaction with the academic program at York University was removed. Removing this path improved the fit of the data to the model. Table 5 displays the goodness-of-fit indices for the models. A chi-square difference test was calculated between the two models, to determine whether the modified model was a significant improvement over the initial model. The findings indicated a nonsignificant chi-square difference between the two models ( $\chi^2(1) = .808$ ). Thus, both models were statistically viable. However, the modified model was deemed to be more parsimonious, as it had higher degrees of freedom and the RMSEA was lower. In addition, it has been suggested that when two models are plausible descriptions of a set of data, the one with greater degrees of freedom is a stronger candidate [23].

As indicated in Figure 1, adaptiveness was directly and positively linked to overall satisfaction with the academic program at York University ( $\beta = .28$ ) and directly and negatively related to anxiety ( $\beta = -.45$ ) and anger ( $\beta = -.21$ ). Perceived unfair treatment had a direct effect on anger ( $\beta = .23$ ). The extent to which plans were affected by the strike had a direct effect on anxiety ( $\beta = .25$ ) and anger ( $\beta = .40$ ). That is, anxiety and anger increased the more students' plans were affected by the strike. Furthermore, the extent to which students' plans were affected by the strike was directly and negatively related to satisfaction with the academic program at York University ( $\beta = -.21$ ). The values for the squared multiple correlations are as follows: satisfaction with the academic program at York University (.12), anger (.30), and anxiety (.27).

Table 5. Goodness-of-Fit Indices for Models

Model	Chi-square ( $\chi^2$ )	df	p	GFI	AGFI	NFI	CFI	RMSEA	PCLOSE
Initial model	6.124	6	.409	.985	.949	.954	.999	.012	.609
Revised model 1 <sup>a</sup>	6.932	7	.436	.983	.950	.948	1.00	.000	.648

<sup>a</sup>Identical to the initial model, except one nonsignificant path was removed.

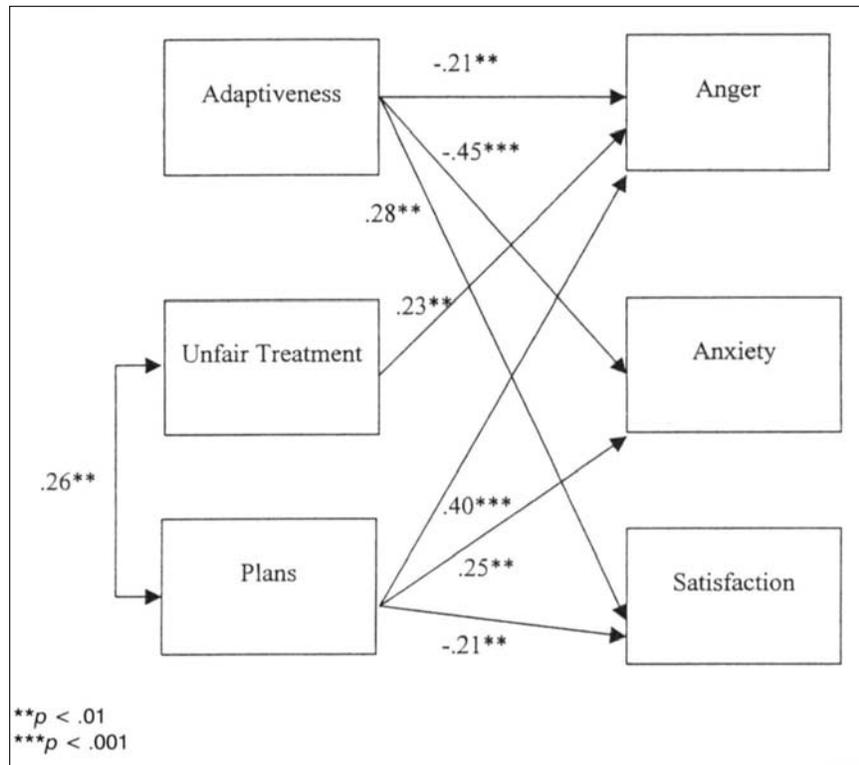


Figure 1. Structural model relating coping, attitudes, and emotions in a university strike.

## DISCUSSION

When interpreting the findings of the current study, it is important to note the differences between the 1997 and the 2000 York University strikes. The first labor dispute involved full-time faculty and occurred late in the second semester. As a result, this job action was qualitatively different from the one that followed. In 2000, it was teaching assistants and contract faculty who were expressing their dissatisfaction with the administration in the fall, which meant that at least for the first few weeks of the dispute, professors were available in many classes to update students on steps being taken to address student needs. As well, although the 2000 strike persisted longer than the 1997 dispute, the earlier conflict occurred at a point in the semester that was more disruptive to students. Therefore, one would expect differences in student attitudes and experiences as a result of the strike.

As was seen in previous studies of university job actions, the present study found that students were negatively affected by the 2000 York University labor dispute. Students attended fewer classes and reported having a significant number of assignments and exams still pending at the end of the conflict. Students' plans for employment, future studies, and travel plans were also affected. Graduating students reported concern that the conflict would interfere with their plans for convocation. Similar to Grayson's findings [7-10], students reported spending more money on food and alcohol, and more time on recreational and social activities. They reported getting up later in the day and spending less time on their academic studies than before the strike.

An article published in one of York University's student newspapers revealed that, according to one of the campus coffee shops/pubs, "business during the day has decreased because residence students are waking up later in the day and spending their money on alcohol instead of food" [24, p. 3]. This suggests that for some students, drinking alcohol may have been a form of escape behavior from the uncertainty and anxiety aroused by the strike. Attempts to gauge alcohol sales on campus were ineffective. Furthermore, archival data obtained from York University Library Services supported students' reported decline in academic activities. Daily library book loans for the strike period dropped by approximately 55 percent, compared to the same period the prior year. Likewise, re-shelving of books used within and taken out of the library declined by 27.3 percent from the previous year [25].

The Counselling and Development Centre (CDC), which provides a range of psychological services to the York University community, was contacted for archival data addressing counseling appointments and demands made upon the CDC during the labor dispute. Although no official data were provided, the Director of the CDC indicated that the clinic experienced a significant rise in the demand for appointments immediately prior to the strike. Although there was a decline in demand for appointments during the dispute because students

could not access the campus, clients who had been in therapy prior to the strike continued to meet their counselors following the dispute. Moreover, this high level of appointment requests persisted much later into the year than is normally the case. Unfortunately, several requests for archival data regarding campus vandalism and e-mail use went unanswered by the respective university departments.

To remain informed about the status of the labor dispute, students relied on several sources of information. More so than was found by studies of the previous York University strike [8, 11], the current study found that the Internet represented the primary source for student information during this strike. Its usage by students increased significantly from York University's previous labor dispute, mirroring the Statistics Canada [27] report of a 23 percent increase from 2000 to 2001 in households regularly accessing the Internet. However, in the current study, we were able to use the measure of Internet support adopted by Greenglass et al. as a predictor of anger and anxiety, as its internal consistency was low in the present study. Data were unavailable from the Computer Services department pertaining to the number of students logging on to the Internet and the duration of time logged on. We were also unable to assess the number of e-mail messages sent and received by the university's servers during and following the strike.

Structural equation modeling was adopted in the current study to examine the relationships among several predictor and outcome measures in one model. This would eliminate the need for separate multiple regression analyses. Based on the findings of Greenglass et al. [11], three predictors were selected for the model: a) students' perception of their treatment during the strike, b) the extent to which the job action had affected their plans, and c) students' level of adaptiveness (which was substituted for the measure of self-efficacy used by Greenglass et al.). In addition to the anger and anxiety measures used as outcome variables in the models identified by Greenglass et al., students' satisfaction with their overall academic program at York University was also included in the current model. Initially, all potential paths from predictor to outcome variables were included, with the exception of a path from perceived unfair treatment to anxiety. In addition, a correlational link was added between perceived unfair treatment and the extent to which plans had been affected.

The model was strong, with significant intercorrelations and goodness-of-fit indices. As expected, greater adaptiveness was associated with reduced anger and anxiety, and with greater satisfaction with the academic program at York University. Consistent with previous research [14], this may suggest that students high in adaptiveness were able to minimize the inconvenience of the strike, or perceived these hassles as less extreme than students low in adaptiveness. Furthermore, these results are consistent with a large body of research demonstrating that coping ability can alleviate the impact of stress (e.g., [28-30]).

The more one's plans had been affected by the labor dispute, the more anger and anxiety were felt by the student, and the less he or she expressed

satisfaction with York University's academic program. Also, as expected, the more students felt they had been treated unfairly during the job action, the higher their anger.

However, one path within the model did not attain significance. The level of perceived unfair treatment failed to predict satisfaction with the academic program. The lack of a significant path between these variables remains suspect. It is possible that the question's focus on the *academic program* may explain this finding. Had students been asked simply about their satisfaction with York University, perhaps the link between unfair treatment and satisfaction would have been significant. This makes sense when one considers that the extent to which students' plans, including academic-related plans such as future studies and graduation, were associated with satisfaction with overall academic program.

Although these results contribute to the understanding of emotional and attitudinal reactions to a university labor dispute, this study also has a number of limitations. This study relied heavily on self-reported data, given that attempts to collect archival data were ineffective. Furthermore, the data were cross-sectional and therefore do not provide a basis for causal statements. Future research should examine changes in emotional and attitudinal reactions over time. Specifically, students may employ more numerous or effective coping strategies, including social support, which may contribute to a decay in reported stress levels. Lastly, the inclusion of a one-item measure assessing Internet support may have been problematic, and future studies should develop a more reliable and extensive measure.

In conclusion, it is clear that students were adversely and extremely affected by the labor dispute. These findings corroborate previous research in demonstrating that students are not immune to strike activities, regardless of whether it is faculty or teaching assistants who are taking job action. In the present study, it caused students significant concern over financial issues, scheduled employment, future studies, and travel. The threat of the job action to student interests led to increased anger and anxiety among the student population and reduced satisfaction with the overall academic program at the university. Although student reaction differed, depending on individual levels of adaptive coping ability, it is clear that all students experienced heightened stress as a result of the conflict. This study highlights the importance for universities to maintain informative Web sites to keep students informed and up-to-date when and if job action is taken on campus. The Internet represented students' primary source of information, and was likely well-appreciated by the student body. In addition, by applying a "stress-and-coping" framework to the study of strike effects, the results of this study confirm the value of conducting stress-and-coping research in a natural setting and underscore the importance of considering both situational and individual factors. Overall, this study contributed to our existing, yet limited, knowledge of student reaction to campus labor disputes and demonstrated the need for continuing research in this domain in the future.

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