

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Return to work following unintentional injury: a prospective follow-up study
AUTHORS	Hepp, Urs; Schnyder, Ulrich; Hepp-Beg, Sofia; Friedrich-Perez, Josefina; Stulz, Niklaus; Moergeli, Hanspeter

VERSION 1 - REVIEW

REVIEWER	Gregory C. Murphy, Ph.D. Professor of Rehabilitation Psychology, Latrobe University,
REVIEW RETURNED	09-Aug-2013

GENERAL COMMENTS	More detail about the different impact of traffic vs worker compensation accidents would strengthen the paper. Explained variance is relatively low. Discussion of amount of variance explained in comparable studies would greatly strengthen the paper.
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REVIEWER	Vicki Kristman Assistant Professor Department of Health Sciences Lakehead University Thunder Bay, Ontario Canada
REVIEW RETURNED	22-Aug-2013

THE STUDY	<p>Abstract, pg 2, Objective: The objective of the study should be consistent between the abstract and the main body of the paper. Is the objective to best predict return to work following unintentional injuries or to determine whether the patients' own appraisals of the severity of their injury and their coping abilities are associated with work disability (i.e., time off work)?</p> <p>Methods, pg 5, line 15: Why the inclusion criteria of hospitalization for a minimum of 32 hours? Wouldn't any hospitalization for an injury indicate severity?</p> <p>Methods, pg 8, Statistical analysis, line 39: Poisson regression would be more appropriate than hierarchical linear multiple regression given the count nature of the outcome "number of sick-leave days attributable to the accidental injury". This would allow Incidence Rate Ratio estimates to be presented instead of Beta estimates in Table 4. Additionally, tests of statistical interaction should be performed to assess effect modification by mental disorder/serious somatic illness and type of accident as long as the</p>
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	<p>numbers provide sufficient statistical power.</p>
<p>GENERAL COMMENTS</p>	<p>This is a fairly clear, well-written manuscript. The research question is a little unclear (see Major revision point #2) The authors hypothesized that the findings would replicate results from a smaller, more selective sample of patients with unintentional injury requiring hospital admission. An inception cohort study was developed using baseline data collected, on average, 5 days after the referral to the hospital and the outcome, number of days off work collected at follow-up, on average 188 days after the unintentional injury. The attrition rate was acceptable given those who dropped out appeared to have no differences on predictor variables from those who remained in the study. This is a strength of the study.</p> <p>However, some suggestions/revisions are listed below:</p> <p>Major Revisions</p> <ol style="list-style-type: none"> 1. Title and throughout the manuscript: The term “unintentional” injury should be used rather than “unintentional” injury throughout the manuscript as accidental implies randomness and the inability to predict occurrence, which is generally not the case. 2. Abstract, pg 2, Objective: The objective of the study should be consistent between the abstract and the main body of the paper. Is the objective to best predict return to work following unintentional injuries or to determine whether the patients’ own appraisals of the severity of their injury and their coping abilities are associated with work disability (i.e., time off work)? 3. Introduction, pg 3, lines17-21: The authors state that “Although return to work is one of the most relevant measures of functional outcome of injuries, few studies on return to work after accidental injuries have been conducted”. They cite a number of older papers for this. This statement is not accurate – there is a large body of literature around return to work, especially work-related low back injury. In fact, a textbook was recently published this year accumulating the evidence on return to work titled “Handbook of Work Disability Prevention and Management”. 4. Methods, pg 5: Days off work as a dependent variable can be very diverse across different populations. A number of different factors at varying levels (i.e., country, insurance system, etc.) may influence this outcome. For this reason, it is important to set the stage with a section on the “Context” of return to work. For example, what work compensation systems are in place in the countries from which participants come? Is the coverage comprehensive? How many days does the system cover an injured person? 5. Methods, pg 5, line 15: Why the inclusion criteria of hospitalization for a minimum of 32 hours? Wouldn’t any hospitalization for an injury indicate severity? 6. Methods, pg 8, Statistical analysis, line 39: Poisson regression would be more appropriate than hierarchical linear multiple regression given the count nature of the outcome “number of sick-leave days attributable to the

	<p>accidental injury". This would allow Incidence Rate Ratio estimates to be presented instead of Beta estimates in Table 4. Additionally, tests of statistical interaction should be performed to assess effect modification by mental disorder/serious somatic illness and type of accident as long as the numbers provide sufficient statistical power.</p> <p>7. Discussion, pg 13, paragraph 2: Additional limitations include lack of information on other predictors known to influence days off work such as workplace or insurance factors (i.e., insurance factors may play a role in the difference between days lost for sport-related versus work-related injury).</p> <p>Minor Revisions</p> <ol style="list-style-type: none"> 1. Methods, pg 6, lines 10-15: The random procedure used to select patients should be described in this manuscript, at least briefly, so the reader can assess the likelihood of selection bias. 2. Table 3: ACC should be ACA under Variable headings 3. Figure 1: Can't make out the heading for the vertical axis.
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REVIEWER	<p>Dr Rebbecca Lilley Department of Preventive and Social Medicine University of Otago New Zealand</p> <p>This reviewer has no competing interests to declare.</p>
REVIEW RETURNED	28-Aug-2013

THE STUDY	<p>The research objective (question) is to determine if these researchers can replicate their own previous findings in what they describe as a "larger and less selective sample of patients with any accidental injury requiring hospital admission." The methods are poorly described, however, with regard to the time period the study covers and the characteristics of the cohort. It is difficult to see how their inclusion of what appears to be a small number of extra participants from the same hospital (and possibly from the same cohort) as previous identical publications from these authors with hospital admissions of >32 hours admitted really addresses the research question. I am most concerned about possible inclusion of previously participants from previous cohorts as the funding source noted for this study and the author's previous publication (Hepp et al., 2011) seem to be identical as stated in the Acknowledgements section (Funder number #32-053736.98). In which case this cohort would not be appropriate to confirm previous findings as it would not be sufficiently different from the previously published cohort. Also this study includes participants who are severely injured and don't represent the total burden of injuries in the population or in a hospital</p>
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	<p>population as outlined in the research question. Much more care is needed by the authors in describing their research question, their cohort and how it differs from their previous cohorts as this is a straight replication of previously published analysis in this area by these authors.</p> <p>I have real concerns regarding the justification for the main reason for doing this study. This paper doesn't appear to be sufficiently different from their previous publications - even parts of the discussion are almost identical between this manuscript and previous publications by these authors. In the main their cohort is inadequately described to be able to ascertain how this cohort differs from previous cohorts and identical analyses previously published by this research team.</p> <p>An omission in recent literature is a paper recently published by this reviewer - Lilley et al., Factors predicting work status 3 months following injury: results from the Prospective Outcomes of Injury Study, BMJ Open 2012; 2: e000400 doi:10.1136/bmjopen-2011-000400</p>
RESULTS & CONCLUSIONS	I am concerned this paper doesn't really advance existing knowledge in this area sufficiently to justify publication. See my concerns above that the existing publication may not sufficiently differ from previous publications. Until this is clarified by the author it is difficult to judge if the interpretation and conclusions of greater generalisability and further confirmation of previous published findings by these authors are justified.
REPORTING & ETHICS	There is considerable overlap of this paper's discussion and the discussion of Hepp et al., 2011 with regard to Lazarus' theories on stress, appraisal and coping. Part of this section looks almost identical to those used in Hepp et al., 2011. (See Hepp et al., 2011 as cited in manuscript).

VERSION 1 – AUTHOR RESPONSE

Reviewer: Gregory C. Murphy, Ph.D.
Professor of Rehabilitation Psychology,
Latrobe University,
Australia, 3086.

More detail about the different impact of traffic vs worker compensation accidents would strengthen the paper.

In Switzerland there is no difference between traffic and work accident compensation. All inhabitants of Switzerland receive compensation in the case of work incapacity or disability, independent of the type of accident. Thus, it is unlikely that different compensation rules related to different types of accidents biased our results. We added a comment on this to the limitations section (pp. 15-16). For more details on compensation issues, see below.

Explained variance is relatively low. Discussion of amount of variance explained in comparable studies would greatly strengthen the paper.

We agree with the reviewer that the percentage of explained variance is relatively low ($R^2=.34$), but this figure is comparable to the figures observed in similar studies. We added a comment on this to the manuscript (cf. p. 16f).

Reviewer: Vicki Kristman
Assistant Professor
Department of Health Sciences
Lakehead University
Thunder Bay, Ontario
Canada

Abstract, pg 2, Objective: The objective of the study should be consistent between the abstract and the main body of the paper. Is the objective to best predict return to work following unintentional injuries or to determine whether the patients' own appraisals of the severity of their injury and their coping abilities are associated with work disability (i.e., time off work)?

We revised the last paragraph of the introduction as follows (cf. p. 6): "The aim of this study was to predict return to work following unintentional injuries due to accidents in an independent, larger and less selective sample of patients with any unintentional injury requiring hospital admission"

Methods, pg 5, line 15: Why the inclusion criteria of hospitalization for a minimum of 32 hours? Wouldn't any hospitalization for an injury indicate severity?

The minimum of 32 hours was chosen because in our hospital some victims of accidents are kept overnight in the emergency department, which formally represents an instance of hospitalisation but actually rather has the character of an outpatient treatment. That is, if a patient receives outpatient treatment at the emergency room at midnight, he or she is counted as a hospitalisation by law, even if he or she is not lying in a bed of a ward. Only those patients who stayed for a minimum of 32 hours including two consecutive nights had definitely been referred to a ward of the department of trauma surgery and can therefore be considered "real" hospitalisations. We specified this in the methods section of the manuscript (p. 7).

Methods, pg 8, Statistical analysis, line 39: Poisson regression would be more appropriate than hierarchical linear multiple regression given the count nature of the outcome "number of sick-leave days attributable to the accidental injury". This would allow Incidence Rate Ratio estimates to be presented instead of Beta estimates in Table 4. Additionally, tests of statistical interaction should be performed to assess effect modification by mental disorder/serious somatic illness and type of accident as long as the numbers provide sufficient statistical power.

The number of days off work did not follow a Poisson distribution (Kolmogorov-Smirnov Test: $Z=6.34$, $p<0.001$). Also, the count-nature of the variable time off work is questionable since we do not count the number of days off work per patient and 6 months, but we rather measure the period of time beginning with the accident. Given these empirical findings and theoretical reflections, a poisson regression analysis of our data seems not to be the adequate approach.

The fact that neither the presence of a mental disorder ($t(219)=0.252$; $p=.801$) nor the presence of a chronic somatic illnesses ($t(218)=-0.687$; $p=.493$) were significantly related to time off work suggests limited relevance of pre-existing morbidity and makes it unlikely that these two variables interact with other predictors (though of course not excluding that possibility).

As suggested by the multiple regression analysis reported in Table 1 of the manuscript, the type of

accident seems to be relevant regarding time off work. To examine the role of the other predictors under consideration in our study depending on the type of accident, we performed some additional exploratory analyses for the various types of accidents separately. As can be seen in the Table below, the appraisal of coping abilities is no longer a statistically significant predictor of time off work in the patient subgroup with traffic accidents. Among patients with workplace or household accidents, neither the ISS nor the appraisal of the accident severity did predict time off work – the only significant predictor in that type of accident was the appraisal of coping abilities. Finally, when compared to the whole sample, the ISS did also not predict time off work after sports/leisure accidents, while the age becomes an important predictor in that patient subgroup.

Table | Prediction of time off work over 6 months after the accident by type of accident

Traffic accident

(n=72) Workplace/ household accident

(n=72) Sports/leisure accident (n=77)

Predictor variable Beta p Beta p Beta p

Injury Severity Score .32 .008 .22 .063 .12 .229

Female gender .06 .549 -.19 .118 .10 .335

Age .08 .431 -.01 .931 .29 .004

IES intrusion subscale .01 .907 .05 .667 .09 .392

Appraisal of accident severity .33 .007 .04 .766 .38 .000

Appraisal of coping abilities -.10 .320 -.28 .018 -.20 .043

These exploratory analyses in the patient subgroups with different types of accidents, however, are only marginally powered and therefore preclude definitive conclusions. We thus desisted from adding this information to the manuscript. This furthermore allowed us to keep the manuscript short and concise. It might indeed be an idea for future research to merge the dataset reported in this study with the one of our earlier study published in BMC Psychiatry (2011;11:53) and then to examine predictors of time off work depending on the type of accident in adequately sized samples.

Full comments:

This is a fairly clear, well-written manuscript. The research question is a little unclear (see Major revision point #2) The authors hypothesized that the findings would replicate results from a smaller, more selective sample of patients with unintentional injury requiring hospital admission. An inception cohort study was developed using baseline data collected, on average, 5 days after the referral to the hospital and the outcome, number of days off work collected at follow-up, on average 188 days after the unintentional injury. The attrition rate was acceptable given those who dropped out appeared to have no differences on predictor variables from those who remained in the study. This is a strength of the study.

However, some suggestions/revisions are listed below:

Major Revisions

1. Title and throughout the manuscript: The term “unintentional” injury should be used rather than “unintentional” injury throughout the manuscript as accidental implies randomness and the inability to predict occurrence, which is generally not the case.

We replaced the term “accidental” injury by the term “unintentional” injury in the title and throughout the manuscript.

2. Abstract, pg 2, Objective: The objective of the study should be consistent between the abstract and the main body of the paper. Is the objective to best predict return to work following unintentional injuries or to determine whether the patients' own appraisals of the severity of their injury and their coping abilities are associated with work disability (i.e., time off work)?

Cf. above.

3. Introduction, pg 3, lines 17-21: The authors state that "Although return to work is one of the most relevant measures of functional outcome of injuries, few studies on return to work after accidental injuries have been conducted". They cite a number of older papers for this. This statement is not accurate – there is a large body of literature around return to work, especially work-related low back injury. In fact, a textbook was recently published this year accumulating the evidence on return to work titled "Handbook of Work Disability Prevention and Management".

We added some references for newer studies to the manuscript (Lilley et al., 2012), and we included a tempering statement making explicit that there are numerous studies on return to work (e.g. in the case of low back injury)(Loisel & Anema, 2013), but that research after involuntary injuries due to accidents is still quite sparse (cf. p. 5).

4. Methods, pg 5: Days off work as a dependent variable can be very diverse across different populations. A number of different factors at varying levels (i.e., country, insurance system, etc.) may influence this outcome. For this reason, it is important to set the stage with a section on the "Context" of return to work. For example, what work compensation systems are in place in the countries from which participants come? Is the coverage comprehensive? How many days does the system cover an injured person?

Switzerland has a very good health insurance system (cf. above). For employees there is a mandatory accident insurance that covers both work- and non-work-related injuries due to accidents. This insurance covers 80% of the income during the time off work as well as all medical expenses. In the case of irreversible disability, the disability insurance covers the income until the old age pension starts at an age of 65 years.

For non-employed victims of accidents all medical expenses are covered by the mandatory health insurance in Switzerland. In the case of disability, people receive a pension from the disability insurance, beginning 12 months after the accident and being active until the old age pension starts at an age of 65 years.

The generous health insurance systems in Switzerland may abet time off work after accidents, resulting in a higher level of time off work in Switzerland when compared to other countries with less generous health insurance systems. Work eligibility compensation is known to affect return to work (Zelle et al. 2005, Hou et al. 2012). We added some more information to the manuscript to make clear that the very generous compensation system in Switzerland may limit the generalisability of our findings to other countries (p. 16).

5. Methods, pg 5, line 15: Why the inclusion criteria of hospitalization for a minimum of 32 hours? Wouldn't any hospitalization for an injury indicate severity?

Cf. above.

6. Methods, pg 8, Statistical analysis, line 39: Poisson regression would be more appropriate than

hierarchical linear multiple regression given the count nature of the outcome “number of sick-leave days attributable to the accidental injury”. This would allow Incidence Rate Ratio estimates to be presented instead of Beta estimates in Table 4. Additionally, tests of statistical interaction should be performed to assess effect modification by mental disorder/serious somatic illness and type of accident as long as the numbers provide sufficient statistical power.

Cf. above.

7. Discussion, pg 13, paragraph 2: Additional limitations include lack of information on other predictors known to influence days off work such as workplace or insurance factors (i.e., insurance factors may play a role in the difference between days lost for sport-related versus work-related injury).

As mentioned above, compensation does not differ for various types of accidents or injuries in Switzerland. All inhabitants get compensation independent of the type of accident or injury. However, we fully agree that there must be other predictors of time off work since the factors examined in our study did by far not explain all outcome variance. We added a comment on this to the manuscript (p. 16).

Minor Revisions

1. Methods, pg 6, lines 10-15: The random procedure used to select patients should be described in this manuscript, at least briefly, so the reader can assess the likelihood of selection bias.

The procedure to select patients is now described in more detail in the manuscript (cf. p. 8).

2. Table 3: ACC should be ACA under Variable headings

Done. Additionally, the heading of the last column was changed into AAS (appraisal of accident severity).

3. Figure 1: Can't make out the heading for the vertical axis.

Obviously, there was a problem when converting the manuscript to the PDF format. The label of the vertical axis says “Sick-leave days”.

Reviewer: Dr Rebecca Lilley
Department of Preventive and Social Medicine
University of Otago
New Zealand

Introduction

My main concern with the introduction lies with the authors justification for undertaking this particular analysis that “the aim of this study was to determine whether the predictive value to the patients’ own

appraisals of the severity of their accident and of their coping abilities may be replicated in a larger and less selective sample of patients with any accidental injury requiring hospital admission". I am not entirely convinced the inclusion of what appears to be a few participants with pre-existing mental disorders plus (n=35) and an unknown (small?) number of Foreign-language patients is a valid justification for a new publication nor does it improve the external generalisability of the analysis as raised by the authors in the introduction. The authors need to very clearly articulate how this study differs from their other publications and what this study adds to the body of knowledge.

There is absolutely no overlap between the cohorts of the two studies. The recruitment phase of the current study submitted to BMJ Open started 18 months after the recruitment phase of the study published in BMC Psychiatry (2011;11:53) was finished.

Furthermore, the sample of that earlier study in BMC Psychiatry was restricted to German-speaking ICU patients without pre-existing mental disorders, whereas the sample of the current study submitted to BMJ Open included virtually all patients who were hospitalised for a minimum of 32 hours including two consecutive nights. That is, the sample of the present study included non-German speaking patients (n=31) with pre-existing mental disorders (n=35) and the vast majority of them (n=180 / 81.4%) were not treated at the ICU. Of the current sample, only 14.5% of the patients would have fulfilled the much more restrictive inclusion criteria of our previous study. Taken together, these factors clearly strengthen the generalisability of the findings.

For the sake of completeness it is important to note that some data of the current study was reported in a previous publication (Psychother Psychosom 2008;77:111-8), but that study dealt with posttraumatic stress disorder following accidents and did not broach the issue of time off work.

An additional recent reference by this reviewer should be considered for addition with regards to previous studies examining the role of subjectively assessed injury severity. See Lilley et al., Factors predicting work status 3 months following injury: results from the Prospective Outcomes of Injury Study, BMJ Open 2012; 2: e000400 doi:10.1136/bmjopen-2011-000400

That study is now cited in the manuscript. Thanks for the hint.

Methods

1 – It is not clear when the data were collected for this study. Other publications from these authors cited in this paper do not provide dates for data collection of previous data as well making it awfully confusing to understand if the data included in this paper captures a large number participants used in previous publications. I am most concerned about this as the funding source noted for this study and the author's previous publication (Hepp et al., 2011) seem to be identical as stated in the Acknowledgements section (#32-053736.98). In which case this cohort would not be appropriate to confirm previous findings as it would not be sufficiently different from the previously published cohort. Please insert the period of data collection into the paper and clearly explain how this differs from your previous publications.

The present study used a completely independent and new sample (cf. above). In the Hepp et al. (2011) publication, we refer to two grants of the Swiss National Science Foundation: SNF #32-43640.95, and SNF #32-053736.98. The second grant of 1998, while funding primarily the recruitment of the second, independent sample reported in the present study, also covered the three-year-follow-up assessment of the first sample (which had initially been funded in 1995 by SNF #32-43640.95). That is, the second grant SNF #32-053736.98 actually funded two independent studies/data sets: the 3-year follow-up assessment of the first sample reported in Hepp et al. (2011), and the baseline and

follow-up assessments of the present study with a completely independent sample. Therefore, the Hepp et al. (2011) publication also mentioned the second grant but reported on the first sample. We hope that this information, along with some more information on the novelty of the sample reported in our study, helps to clarify matters.

2 – It is not clear how many participant interviews had to be conducted in each language. Given you justify this paper as improving external generalisability by including this group it is important to state how big this group actually is. Please include this information.

We added this information to the manuscript (p. 12). However, probably the most important difference between the (non-overlapping) samples of the two studies was the proportion of ICU patients included: 100% vs. 18.6%.

3 – There is no clear indication how many participants were additionally included in this study over previous studies due to the inclusion of participants with pre-existing mental disorders, serious somatic illness etc. This information is key to justifying why this study differs from the author's previous publications.

In contrast to our previous study that was restricted to severely injured accident victims who were treated at ICU, the completely independent sample of the current study included only 18.6% ICU patients. Of these 41 ICU patients, 32 patients were German-speaking and did not suffer from any pre-existing mental disorder. Thus, only 14.5% of the sample of the current study would have been included in our previous study.

4 – There was no indication how time off work was collected – ie. from compensation records or by self-report. It is difficult to assess if the definition of a “week off work” being set to equal 7 days of leave was appropriate. Given a continuous outcome and linear regression is used in the analyses it is also confusing why this definition a “week off work” was even described in this publication.

Time off work was assessed by means of self-report by the patients on a specified journal they received at T1. Indeed these data were proofed for integrity and plausibility at the follow-up interview. We clarified this on p. 10 of the manuscript. As is explained in the limitations section (p. 16), reliance on patient self-reports was necessary since strict data privacy protection laws in Switzerland prevent the use of health insurance companies' data for the purpose of research projects. Such data would of course have been more reliable.

A “week off work” was set to equal 7 days of leave according to the legal framework in Switzerland. The sick certificate in Switzerland is issued for 7 days per week and not for 5 days per week (since otherwise patients would have to return to work on Saturday when being on sick leave for five days).

Discussion

At times in the discussion the study's findings are over-stated. For example inclusion of a small number (?) of foreign language patients and patients with pre-existing mental disorders does not necessarily improve the generalisability of this study's findings. From what scarce data is given in this paper it is a small number of these participants in this study. There are other larger generalisability issues that should be discussed associated with the fact this study includes participants who are severely injured and don't represent the total burden of injuries in the population or in a hospital population.

As mentioned above, in contrast to our previous study, the findings of the current study were assessed in a sample that mainly included non-ICU patients. This clearly enhances the generalisability of our current study's findings when compared to our previous study. Nevertheless, even the generalisability of the findings of the current study is limited, namely to patients with injuries leading to hospital admission. This is repeatedly mentioned in the discussion section.

A further overstated finding is that the "current study confirmed the predictive value of patients' subjective appraisals of the accident severity for the whole spectrum of patients admitted to hospitals with accidental injuries". In fact this study excludes hospital admissions of less than 32 hours, therefore it is clearly not all patients admitted to hospitals with accidental injuries but rather a sub-group of these with injuries requiring a stay of 32 hours or more with 2 consecutive nights. This study includes participants who are severely injured and don't represent the total burden of injuries in the population or in a hospital population.

The reason for the 32 hours-threshold was already explained earlier. While this inclusion criterion guarantees that we only included patients who were really hospitalised (and not patients who were treated in the emergency room overnight only), it may have caused a selection of more severely injured patients. A comment on this issue was added to the limitations section (p. 15).

It is not clear to what extent this study adds to the previous studies published by these authors as it is not easily ascertained how this particular cohort differs from the previous cohort described by Hepp et al., 2011. Statements regarding the contribution of this study to the body of knowledge generated by these authors previous may be over-stated again but it is difficult to ascertain this currently.

Cf. above

There is considerable overlap of this paper's discussion and the discussion of Hepp et al., 2011 with regard to Lazarus' theories on stress, appraisal and coping. Part of this section looks identical to those used in Hepp et al., 2011.

The theories on stress, appraisal and coping of Lazarus provide a helpful explanation of the results of the current study as well as of the findings of our previous study (Hepp et al., 2011). Since we cannot expect that all the readers of the current paper will also read our previous publication(s) – though we would of course appreciate that –, we desisted from deleting this part.

This reviewer has no competing interests to declare.

The research objective (question) is to determine if these researchers can replicate their own previous findings in what they describe as a "larger and less selective sample of patients with any accidental injury requiring hospital admission." The methods are poorly described, however, with regard to the time period the study covers and the characteristics of the cohort. It is difficult to see how their inclusion of what appears to be a small number of extra participants from the same hospital (and possibly from the same cohort) as previous identical publications from these authors with hospital admissions of >32 hours admitted really addresses the research question. I am most concerned about possible inclusion of previously participants from previous cohorts as the funding source noted for this study and the author's previous publication (Hepp et al., 2011) seem to be identical as stated in the

Acknowledgements section (Funder number #32-053736.98). In which case this cohort would not be appropriate to confirm previous findings as it would not be sufficiently different from the previously published cohort. Also this study includes participants who are severely injured and don't represent the total burden of injuries in the population or in a hospital population as outlined in the research question. Much more care is needed by the authors in describing their research question, their cohort and how it differs from their previous cohorts as this is a straight replication of previously published analysis in this area by these authors.

Cf. above

I have real concerns regarding the justification for the main reason for doing this study. This paper doesn't appear to be sufficiently different from their previous publications - even parts of the discussion are almost identical between this manuscript and previous publications by these authors. In the main their cohort is inadequately described to be able to ascertain how this cohort differs from previous cohorts and identical analyses previously published by this research team.

Cf. above

An omission in recent literature is a paper recently published by this reviewer - Lilley et al., Factors predicting work status 3 months following injury: results from the Prospective Outcomes of Injury Study, BMJ Open 2012; 2: e000400 doi:10.1136/bmjopen-2011-000400

Cf. above

I am concerned this paper doesn't really advance existing knowledge in this area sufficiently to justify publication. See my concerns above that the existing publication may not sufficiently differ from previous publications. Until this is clarified by the author it is difficult to judge if the interpretation and conclusions of greater generalisability and further confirmation of previous published findings by these authors are justified.

Cf. above.

There is considerable overlap of this paper's discussion and the discussion of Hepp et al., 2011 with regard to Lazarus' theories on stress, appraisal and coping. Part of this section looks almost identical to those used in Hepp et al., 2011. (See Hepp et al., 2011 as cited in manuscript).

Cf. above

VERSION 2 – REVIEW

REVIEWER	Vicki Kristman Lakehead University, Canada
REVIEW RETURNED	22-Oct-2013

GENERAL COMMENTS	Objective, page 6: The authors have revised the objective to "predict return to work following unintentional, accident-related injuries in an independent, larger and less selective sample of patients with any unintentional injury requiring hospital admission." However, on page 4, they claim that a strength of their study is that they assess time off work rather than just whether or not a participant had returned to
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	<p>work or not at a particular point in time. Therefore, their objective should be stated as "The aim of this study was to predict the time to return to work following unintentional, ..."</p> <p>Statistical analysis, page 11: I thank the reviewers for clarifying the outcome measure for me. I had initially understood the outcome to be a count of days until return to work, but the clarification has helped me to understand that the outcome measure is actually time to return to work. However, hierarchical linear multiple regression is not appropriate for this time to event outcome measure as it cannot account for censoring. Survival analysis would be the more appropriate analysis as it can account for those censored at the end of the 6 month follow-up period. Speaking of censoring, Table 2 indicates that some were still off work at the end of follow-up, but there is no indication of how many.</p>
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VERSION 2 – AUTHOR RESPONSE

Reviewer Name Vicki Kristman

Institution and Country Lakehead University, Canada

Please state any competing interests or state 'None declared': None declared

Objective, page 6: The authors have revised the objective to "predict return to work following unintentional, accident-related injuries in an independent, larger and less selective sample of patients with any unintentional injury requiring hospital admission." However, on page 4, they claim that a strength of their study is that they assess time off work rather than just whether or not a participant had returned to work or not at a particular point in time. Therefore, their objective should be stated as "The aim of this study was to predict the time to return to work following unintentional, ..."

Actually, we did not predict the time to return to work but the time off work (i.e., the number of sick-leave days) during the first 6 months following unintentional, accident-related injuries. Where subjects returned to work on a part-time basis, the days on which they worked less were added to the days of leave on a pro rata basis (cf. p. 10). This provided us with a more accurate estimation of the work-related consequences of the unintentional, accident-related injuries. We therefore rewrote the sentence on p. 6 as follows: "The aim of this study was to predict time off work (i.e., the number of sick-leave days) during the first 6 months following unintentional, accident-related injuries in an independent, larger and less selective sample of patients with any unintentional injury requiring hospital admission."

Statistical analysis, page 11: I thank the reviewers for clarifying the outcome measure for me. I had initially understood the outcome to be a count of days until return to work, but the clarification has helped me to understand that the outcome measure is actually time to return to work. However, hierarchical linear multiple regression is not appropriate for this time to event outcome measure as it cannot account for censoring. Survival analysis would be the more appropriate analysis as it can account for those censored at the end of the 6 month follow-up period. Speaking of censoring, Table 2 indicates that some were still off work at the end of follow-up, but there is no indication of how many.

As explained above, the outcome is not a simple count of days until the first return to work after the accident. The outcome represents a sophisticated calculation of the time off work (i.e., the number of sick-leave days) during the first 6 months following unintentional, accident-related injuries. This

allowed us to accurately account for work-related consequences in subjects who returned to work on a part-time basis after the accident by adding the days on which they worked less to the total days of leave on a pro rata basis (cf. p. 10). Initial return to work on a part-time basis was common in our sample (>60% of the subjects).

Furthermore, with our outcome measure we were able to account for cases where an individual had temporarily returned to work after the accident but then again was incapable to work due to long-lasting consequences of the accident.

For such outcome measure, survival analysis is not the appropriate technique (though it would of course have been for an outcome simply representing the time until the first return to work after the accident). We agree that multiple regression, in contrast to survival analysis, does not account for censoring. However, of the 221 subjects in our sample only 36 (16.3%) did not return to work during the first 6 months following unintentional, accident-related injuries.