title : “A Risky Business: Perceived Risk of Concussion Associated with Intentions Toward Health Behaviours” shorttitle : “A Risky Business”

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abstract: | All sports maintain some level of risk of injury. For contact sports, the risk of concussion is guaranteed to be elevated. Athletes’ perception of this risk motivates their adherence to protective health behaviours on and off the pitch. While it is clear from prior research that athlete estimates of likelihood and severity are central driving factors in adherence to health behaviours, the strength of these variables and the associated moderating variables are still unclear. Our goal was to examine these cognitive components of perceived risk and the intent to execute the appropriate health behaviours per the Common Sense Model of Illness Representation presented by Diefenbach and Leventhal (1996). We predicted that higher estimates within severity and likelihood components would lead to greater intention toward health behaviours. Additionally, we predicted that retrospective adherence to these protective behaviours would also be related to greater estimates of severity and likelihood. Finally, we hypothesized that optimism bias would be a moderating variable for estimating direct likelihood and intentions toward health behaviours. Results were achieved using a series of regression analyses on data collected for two prior studies (N = 315, 57% male) using standard measures of risk representation. Results indicated that factors of Schmitt and colleagues’ (2021) updated concussion perception questionnaire contributed to the association between risk estimates and intention toward health behaviours. These results illustrate that a complete understanding of the injury is more likely to result in intentions toward health behaviours but also indicate the need for further research into the motivating factors behind health intentions and behaviours.

keywords : “keywords” wordcount : “X”

bibliography : “r-references.bib”

floatsintext : no linenumbers : yes draft : no mask : no

figurelist : no tablelist : no footnotelist : no

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# Seed for random number generation  
set.seed(42)  
knitr::opts\_chunk$set(cache.extra = knitr::rand\_seed,  
 warning = FALSE, message = FALSE)

study1 <- read\_excel("C:/Users/sgras/OneDrive/Documents/School/A Risky Business (publication)/A Risky Business (Data Analysis)/Data/Study\_1(MJ - Formatted).xlsx",   
 sheet = "Concussion Questionnaire")  
study2A <- read\_excel("C:/Users/sgras/OneDrive/Documents/School/A Risky Business (publication)/A Risky Business (Data Analysis)/Data/Study\_2A&B(MH - Formatted).xlsx",   
 sheet = "Recode")

study1$GEN <- factor(study1$GEN, levels=c(2,1),labels=c("Female","Male"))  
study1$VAR.TEAM <- factor(study1$VAR.TEAM, levels=c(1,2,3,4,5,6,11,15),labels=c("Rugby", "Soccer", "Lacrosse", "Curling","Rowing", "Volleyball","Hockey","Other"))  
  
study2A$Gender <- factor(study2A$Gender, levels=c(2,1),labels=c("Female","Male"))

demo1 <- c("AGE", "GEN", "VAR.TEAM")  
demo2A <- c("Age", "Gender", "Sport")

study1[demo1] %>%   
 tbl\_summary(  
 type = list(  
 c(AGE) ~ "continuous",  
 c(GEN, VAR.TEAM) ~ "categorical"),  
 label = list(  
 AGE ~ "Age", GEN ~ "Gender", VAR.TEAM ~ "Sport"),  
 statistic = list(  
 c("AGE") ~ c("{mean}({sd})"),  
 c(GEN, VAR.TEAM) ~ "{n} ({p}%)"),   
 missing = "no"  
 ) %>%  
 add\_n() %>%  
 modify\_header(label ~ "Variable") %>%  
 modify\_caption("Table 1. Demographic Information Study 1") %>%  
 modify\_footnote(  
 all\_stat\_cols() ~ " Mean(SD) or Frequency (%)"  
 ) %>%  
 bold\_labels() %>%  
 italicize\_levels() %>%  
 as\_flex\_table()

Table 1. Demographic Information Study 1

| Variable | **N** | **N = 175**1 |
| --- | --- | --- |
| **Age** | 173 | 19.84(1.79) |
| **Gender** | 174 |  |
| *Female* |  | 70 (40%) |
| *Male* |  | 104 (60%) |
| **Sport** | 175 |  |
| *Rugby* |  | 58 (33%) |
| *Soccer* |  | 22 (13%) |
| *Lacrosse* |  | 31 (18%) |
| *Curling* |  | 9 (5.1%) |
| *Rowing* |  | 18 (10%) |
| *Volleyball* |  | 24 (14%) |
| *Hockey* |  | 8 (4.6%) |
| *Other* |  | 5 (2.9%) |
| 1 Mean(SD) or Frequency (%) | | |

study2A[demo2A] %>%   
 tbl\_summary(  
 type = list(  
 c(Age) ~ "continuous",  
 c(Gender, Sport) ~ "categorical"),  
 label = list(  
 Age ~ "Age", Gender ~ "Gender", Sport ~ "Sport"),  
 statistic = list(  
 c(Age) ~ c("{mean}({sd})"),  
 c(Gender, Sport) ~ "{n} ({p}%)"),   
 missing = "no"  
 ) %>%  
 add\_n() %>%  
 modify\_header(label ~ "Variable") %>%  
 modify\_caption("Table 1. Demographic Information Study 1") %>%  
 modify\_footnote(  
 all\_stat\_cols() ~ " Mean(SD) or Frequency (%)"  
 ) %>%  
 bold\_labels() %>%  
 italicize\_levels() %>%  
 as\_flex\_table()

Table 1. Demographic Information Study 1

| Variable | **N** | **N = 143**1 |
| --- | --- | --- |
| **Age** | 142 | 19.69(1.71) |
| **Gender** | 142 |  |
| *Female* |  | 65 (46%) |
| *Male* |  | 77 (54%) |
| **Sport** | 142 |  |
| *Lacrosse* |  | 30 (21%) |
| *Rugby* |  | 75 (53%) |
| *Soccer* |  | 37 (26%) |
| 1 Mean(SD) or Frequency (%) | | |