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# The Impact of Profession on Depression

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# THE IMPACT OF PROFESSION ON DEPRESSION

A Master's Thesis

Presented to

The Graduate College of

Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Psychology, Experimental

By

Weston Phipps

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## ABSTRACT

Depression has long been a focused topic in the world of clinical psychology. While the exact nature of what drives an individual into depression has been difficult to determine, new at-risk populations are emerging every day, giving clinicians and businesses alike the opportunity to monitor their clients/workers health and stability more closely. The current study aims to examine the connections between individuals born into low resource environments and the likelihood of them taking on high-risk professions later in life. These high-risk professions are thought to be nurturing grounds for depressive symptoms when compared to lower risk professions. The current study's theory is that individuals who are born into low resource environments are more likely to develop risky behaviors. The presence of these risky behaviors is accounted for by an increase in the personality trait of impulsivity, which can then be further divided into functional and dysfunctional impulsivity. The facets of functional vs dysfunctional impulsivity are theorized to be the dividing factor of whether these individuals develop more severe depressive symptoms or have an increased capacity to cope with and overcome depressive symptoms. The aim of this study is to determine the importance of functional and dysfunctional impulsivity for the purpose of proactive clinical treatment.

**KEYWORDS:** depression, impulsivity, risk-taking, risky-professions, socioeconomic status

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# INTRODUCTION

An individual's profession can say a lot about them, but do individuals choose their profession, or are they funneled into it via a series of personality traits and economical situations? What outcomes might be related to these professions? Specifically, high risk careers, such as police work, have traditionally shown high levels of depression within their sampled populations (Chen et al., 2006). Similar phenomenon can be seen throughout other risky careers, such as firefighting (Xiaoran et al., 2020). While high levels of depression have been well documented in high-risk professions, little has been done to test whether or not this correlation is related to some third variable, or another set of variables entirely. Importantly, is it possible to determine the difference between those who will cope, vs those who may develop worsening depression within these populations of increased risk? In order to determine what variables could weigh in on an individual's decision to choose a high risk environment to work in, it is important to examine the trends and circumstances that lead to risky behaviors. When considering individuals from poor socioeconomic backgrounds, or individuals who have suffered significant losses, it is found that individuals may engage in 'risky coping', such as undertaking dangerous jobs, in an attempt to better their financial situation (Takasaki, 2018). This could suggest that individuals who grew up with chronic levels of poverty may be more likely to develop risky behaviors, and overall be more open-minded to risking their health in the line of duty. Additionally, because personality is often related to coping behaviors, personality should be examined (Sleigh and Westmoreland, 2014). The personality trait of impulsivity is noted to be positively correlated with risky behaviors such as drug usage and risky sexual practices (Winters et al., 2009). Impulsivity can be divided into various facets, with two such facets of interest being

that of dysfunctional and functional impulsivity (Dickman, 1990). The category of dysfunctional impulsivity has been correlated with higher levels of negative outcomes, as well as harmful behavior, while functional impulsivity has been correlated with the opposite (Stoyanova and Ivantchev, 2021). Taken together, this combination of increased capacity for risky coping, as well the presence of the personality trait of impulsivity, may be enough to push individuals into high risk jobs. Notably individual trauma, something frequently experienced within these high risk professions, coupled with certain facets of impulsivity have been shown to increase difficulty in the regulation of depression symptoms (Ceschi et al., 2014). Thus, it is important to examine how all of these variables interact.

# LITERATURE REVIEW

## Depression and Risky Jobs

The presence of depression has been well documented in populations that have high risk jobs. For instance, a prior discovered that 21% of the 832-participant sample size screened positive for depression (Chen et al., 2006). Other studies have echoed these findings, showing that rates of depression within police officers were again found to be around 19% of the 497 participants. The World Health Organization (WHO) estimates that out of the general populace, approximately 5% of adults struggle with depression. Despite this, studies continue to document a disproportionate percentage of depressed individuals inhabiting high risk professions. In "Prevalence and predictors of PTSD, depression and posttraumatic growth among Chinese firefighters" it was found that approximately 27% of the sample of 409 participants were positively screened for depression using the Patient Health Questionnaire (Xiaoran et al., 2020). Other studies go on to attest that the psychological distress of high risk positions, such as fire fighters, is not only significantly higher than their low risk counterparts, but so are their levels of alcohol consumptions (Boxer and Wild, 1993). Furthermore, regarding depression rates amongst individuals who are working high risk jobs, there has been a well-documented relationship that suggests depression can be mediated by the perceived stressors of a job (Kim et al., 2018). This would suggest that the longer an individual endures a high stressing job, that the more likely they are of developing mental health disorders such as depression. As expected with this correlation, other studies have found that firefighters bear a higher than average risk of suicide within their populace due to high levels of anxiety sensitivity, and depression (Stanley et al., 2018). Most of

the previous work is correlation so it is hard to determine if risky jobs cause depression, more depressed individuals select risky jobs, or if there is a third variable.

## Factors relating to Risky Behaviors

**Low Socioeconomic Status.** In their study, "Who chooses risky jobs?" Leigh, J. P. (1986) discuses finding that a disproportionate number of African Americans are found in dangerous jobs. A model implicating family background and race as determinants of risk was developed to explain the result. Evidence was also produced suggesting that family background influences risk behaviors and risky job choice. Other research suggested that individuals brought up in harsh environments where there were shortages of physical safety, resource availability, or high levels of poverty were at higher risk for fast life-histories (Roșca et al., 2021). Fast-life histories are suggested to foster in individuals that develop in unstable and unpredictable environments and are associated with early physical maturation, early child birth, a focus on short-term gains/opportunistic lifestyles, disregard for social rules, little social support, and extensive risk-taking (Roșca et al., 2021). These fast life histories were suggested to be the reason that firefighters who were high in Dark Triad traits (narcissism, psychopathy and machiavellianism) reported higher levels of risk taking while having a higher disregard for social rules both on and off the clock. Additionally, the current research between socioeconomic status and risky behaviors suggests that individuals who are birthed into impoverished circumstances have much higher chances of developing habits that include risky sexual behaviors (Cerqueira-Santos and Koller, 2016). Beyond this alcohol usage, drug usage, poor eating habits, and lack of exercise have also been correlated behaviors with poverty (de Winter et al., 2016). Interestingly, some research suggest that this can be generalized across cultural boundaries (Oksuz and

Malhan, 2005). A few of these symptoms can even be seen in those who rapidly have resources taken away from them, or fall into impoverished situations rather than being born into it (Sattler et al., 2018). Risky behaviors might often be related to environmental conditions but, personality types might play a role as well.

**Personality Types and Risky Choices.** Prior research suggested that in addition to lower socioeconomic status, personality traits can be predictors for the choice of going into risky professions, such as police work or firefighting. One study directly compared the personalities of individuals in high risk professions, in this case police officers, in comparison to low risk workers (office job type workers), and found that police officers scored significantly higher on impulsive sensation seeking traits (Próchniak, 2009). There have also been concerns regarding firefighter's ability to perceive the levels of risk within their job, as a study found that only 60% of a 201-sample participant pool of firefighters deemed their profession was a "high risk" profession (Rodríguez-Garzón et al., 2016). The above articles suggest that an individual's background (including biology and environment) can not only foster the path in which they follow in regard to profession seeking but can also stimulate individuals into higher levels of impulsivity through risk taking behaviors. These fostered personality traits are then shown to be significantly higher when comparing a group of high-risk profession works to a control group.

**Impulsivity, Risky Behaviors, and Depression.** Currently the research suggests that many behaviors attributed to risk-taking can be attributed to high levels of impulsivity. These behaviors include drinking and driving (Curran et al., 2010) and suicide attempts (Klonsky and May, 2010). Impulsivity may be further split into functional vs dysfunctional, in order to assess the full scope that the personality trait may have on individuals. Functional impulsivity is considered to be related more to positive outcomes, such as opportunity seizing, while

dysfunctional impulsivity is considered to be more related to negative outcomes, such as inappropriate sensation seeking (Stoyanova and Ivantchev, 2021). The above study also notes the correlation between dysfunctional impulsivity and more health adverse risk taking, such as eating disorders, ADHD, psychopathy, risky sexual behaviors, and poor job performance (Stoyanova and Ivantchev, 2021).

Regarding impulsivity and depression, the trait of impulsivity is thought to worsen depressive symptoms and increase the likelihood of suicidal attempts by promoting poor problem solving techniques and overall causing an individual to feel more ineffective/pessimistic in regards to their problem solving ability (Gonzalez and Neander, 2018). Beyond this, it has been suggested that certain facets of impulsivity may foster the relationship between individuals with depression experiencing suicidal ideations vs experiencing suicidal attempts (Klonsky and May, 2010).

## CURRENT STUDY

Researchers of the current study are interested in determining the pathway that cause individuals to be funneled into high risk professions as well as how impulsivity levels will effect individual depression scores within these groups. It is theorized that each individual's depression levels will be related to the category of work they fall into (high risk/low risk) and the personality trait of impulsivity (functional vs dysfunctional). It was expected that individuals high in high risk professions would score higher in depression than low risk workers. Additionally, researchers are interested in the levels of socioeconomic status experienced by the participants. Research has shown that often having had low socioeconomic backgrounds, individuals can develop hazardous/risky behaviors such as smoking, substance abuse, risky sexual behaviors, and attempted suicide (Oksuz and Malhan, 2005) (Adams et al., 2013).

This increase in participation of risky behaviors may actually represent a relationship with the personality trait of impulsivity, as many of these discussed factors, such as poor health behaviors, excessive alcohol usage, and drug usage have been correlated to increased impulsivity levels that resulted from high levels of early life stressors. (Lovallo, 2013). This increase of impulsivity could be explained by the many negative factors that may come from a low socioeconomic background. This connection from socioeconomic status, to impulsivity, and risky behaviors will be evaluated as a link between the individual's early life to future professional decisions as well as depression levels due to varying types of impulsivity. Different forms of impulsivity have been shown to produce different outcomes. For instance, research has shown that individuals struggling with online gaming addictions were much more likely to relapse if they were high in dysfunctional impulsivity (Blinka et al., 2016). This suggests that

dysfunctional impulsivity may foster an environment in which makes it harder for individuals struggling with risky behaviors and addictions to cut ties with these negative factors, and perhaps even continue to make choices that are detrimental to their health. Whereas functional impulsivity has been shown to be correlated with individuals having more positive outcomes, or taking advantage of impulsive situations in appropriate manners (Smillie and Jackson, 2006). This difference between forms of impulsivity will be examined in relationship to depression symptoms that the sample populations are experiencing. As seemingly little research has been done on what influences individuals to choose risky professions, low socioeconomic status, as well as how specific facets of impulsivity may affect depression symptoms, the current study hopes to elicit the importance of tracking functional and dysfunctional impulsivity for the purpose of proactive treatment.

# METHODS

## Participants

This study was approved by the Missouri State University Institutional Review Board. The study was approved on August 23rd 2022 under the study number IRB-FY2022-562 (See Appendix A.). The SONA recruiting system was used to schedule participants for their time to take the survey, and to grant any partial course credits for participating. Additionally, the survey was distributed via email and various social media platforms in order to get a representative sample of individuals with both high risk and low risk professions. An a priori power analysis was run to determine sample size for the study. The power analysis was a linear multiple regression. A Fixed model, single regression coefficient was ran for an effect size of .15, error probability of .05, and power of .80 with 1 and 2 predictors. The power analysis suggested that a sample size of 55 would be required for 1 predictor, and 68 for 2 predictors.

## Demographics

When considering the entire sample (n=96), the average age was 36.646 (SD=13.361) with a gender split of 54 Females (56%), 41 Males (43%), and one individual that identified as genderqueer (1%). When considering participants ethnicity, 86 (90%) participants identified as white, 1 (1%) identified as Asian/Pacific Islands, 1 (1%) identified as black or African American, 5 (5%) individuals identified as Hispanic or Latino, and 2 (2%) preferred to self-identify. When splitting the sample by level of professional risk, a sample of n=42 participants made up the high-risk profession group, while the low-risk profession group had a sample of n=47. The average age for the high-risk group was 37.5 (SD=9.363) while the low-risk group

had an average of 36.8 (SD=16.465). The gender split revealed that 29% (n=12) of the high-risk group were females, 69% (n= 29) of the sample were males, and 2% (n=1) were genderqueer. Comparatively, the gender split of the low-risk group showed that 74% (n=35) of the sample were females, while 26% (n=12) were males. When comparing the groups based off reported ethnicities, the high risk group had a breakdown of 37 (88%) individuals identifying as white, 1 (2%) identifying as Black or African American, 2 (5%) individuals who identified as Hispanic or Latino, and 2 (5%) individuals who preferred to self-identify. The low-risk group had an ethnicity break down of 44 individuals identifying as white (94%), 1 individual identifying as Asian/Pacific Islander (2%), and 2 individuals identifying as Hispanic or Latino (4%). When examining the dataset for any similarity in careers within groups, there were no significant similarities as most of the individuals within this dataset had very different professions from one another. The largest overlap seen was regarding individuals working within academia, as there were a total of 5 (10%) individuals who worked within an academic setting. When considering the high risk professions group, the majority of individuals worked within a police department setting. 34 (81%) individuals within the high risk professions group reported working within a police department.

## Measures

**Demographic Questionnaire**. This questionnaire was used to assess age, sex, gender identity, ethnicity, age, and socioeconomic status (self-reported childhood income levels). As it was anticipated that many individuals may not want to directly report, or may not remember their childhood income levels, a composite variable for SES was also created from a series of questions. Questions for socioeconomic status included, “What was your mother/fathers highest

completed education level?", "Did both your parents work", "How many vehicles did your household have?", "What was your father/mothers profession", "Did you utilize meal programs growing up?", and "What type of electronics did your household have?". A composite variable that categorized individuals as low middle or high class was calculated upon qualitative analysis of these answers. The composite variable was categorized by examining the survey answers for those who also reported a childhood household income, and averages and frequencies for each level of income were calculated. Individuals were then classified based on how they compared to the averages and frequencies of low, middle, or upper class individuals.

**30-Item Domain-Specific Risk-Taking (DOSPERT) Scale**. This 30-question scale was used in order to assess participants risk taking levels ($r>.6$) (Frey et al., 2017). The scale is divided into five subscales including ethical, financial, health, recreational, and social risk taking scales. These subscales have a Cronbach's alpha ranging from .71 to .86 (Blais and Weber, 2006). The scale was reformatted to exclude any questions regarding risky jobs (See Appendix B-1: DOSPERT Scale).

**Barratt Impulsiveness Scale.** This scale was used to gauge a person's level of generalized impulsivity. This scale has been shown to have an internal consistency of around 0.79, and test-retest reliability of 0.80 per prior research (Orozco-Cabal et al., 2010). The scale can be divided into three second-order factors, attentional impulsiveness, motor impulsiveness, and non-planning impulsiveness, and six first-order factors, attention, motor, self-control, perseverance, and cognitive instability. All of the scale items may also be added into a summary score for analysis (See Appendix B-2: Barratt Impulsivity Scale).

**Dickman Functional and Dysfunctional Impulsivity Survey**. This 23-question scale was used to differentiate between individual levels of dysfunctional impulsivity and functional

impulsivity. Questions answered on a true/false basis. 12 Questions factored into dysfunctional impulsivity scores, while 11 questions factored into functional impulsivity scores. The overall Cronbach's alphas for the scale have varied in previous studies but have been shown to be as high as .84-.85 (Pechorro et al., 2021) (See Appendix B-3: Dickman Survey).

**Beck Depression Inventory (BDI).** This scale was used to measure participants levels of depression. Answers were ranked on a 0-3 likert scale across the 21 questions of the survey. The inventory has a reliability coefficient of .92 and it is considered to be a valid scale due to its questions being equivalent to the DSM-IV definition of depression (García-Batista et al., 2018) (See Appendix B-4: Becks Depression Invention).

## Design and Procedure

A Qualtrics survey was developed to measure individuals on their levels of childhood SES, current risky behaviors, current impulsivity levels, and current depression levels. The survey was randomly distributed via email and social media. Participants signed the consent portion of the survey before being asked any screening questions. Survey sections were randomized in order to account for any carry-over effects. Once the survey was completed, participants were debriefed regarding the questions and surveys that they had answered, as well as thanked for their time.

## HYPOTHESES AND PLAN OF ANALYSIS

### Hypothesis One

It is predicted that low socioeconomic status (SES) will be correlated to increased risky behaviors. SES was studied through both self-reported childhood income and a compositive variable created from the following questions on the demographic form: childhood poverty ratings, safety of neighborhood, and parents' level of education. The composite variable placed individuals into low, middle, or high class groups based on their answers. Self-reported SES and the DOSPERT scale will be used and, this hypothesis will be tested via a Pearson correlation with regards to the self-reported childhood income, and an ANOVA with regards to the composite variable (decreased SES – increased RT).

### Hypothesis Two

It is predicted that risky behaviors are related to increased levels of the personality trait of impulsivity. Using the results from the DOSPERT scale along with the Barret Impulsivity Scale this hypothesis will be tested via a Pearson correlation (Increased RT – increased impulsivity).

### Hypothesis Three

It is predicted that those that are in a risky profession will have higher levels of impulsivity and risky behaviors. Using the results from the Barrett impulsiveness scale and Dickman survey, an independent samples t test will be run with the demographic information of choice of profession.

**Hypothesis Four**

It is predicted that individuals with higher levels of dysfunctional impulsivity will experience the highest levels of depression, whereas individuals with higher levels of functional impulsivity will experience the least. This will be tested via a multiple linear regression.

**Hypothesis Five**

It is predicted that individuals that are in a risky profession will have higher levels of depression. Using the results from the demographics section regarding choice of profession, and the results from the BDI, this will be tested via an independent samples t test.

**Hypothesis Six**

When examining those that have risky professions, it is predicted that individuals with high rates of dysfunctional impulsivity will have more depressive symptoms than individuals with high rates of functional impulsivity. Individuals with similar levels of functional and dysfunctional impulsivity are expected to experience levels of depressive symptoms between those with high functional, and high dysfunctional. Using the results from demographics section regarding choice of profession the data file was split into high risk and low risk professions. Participants Dysfunctional and Functional impulsivity scores will be compared with the participants BDI results. A multiple linear regression with the split data file will be run to verify the relationship between each variable.

# RESULTS

## Hypothesis One

When comparing participants on the composite variable of childhood SES to the risky behavior facets outlined by the DOSPERT scale, there were no statistically significant relationships for this data set. The self-report SES variable correlated with the DOSPERT Sum at $r$=.181, $p$=.213, the DOSPERT Risky ethical category at $r$=.172, $p$=.239, the DOSPERT Risky financial category at $r$=.084, $p$=.567, the DOSPERT Risky Health/Safety category at $r$=.015, $p$=.918, the DOSPERT Risky recreational category at $r$=.193, $p$=.183, and the DOSPERT Risky social category at $r$=.129, $p$=.377. The ANOVA models for the SES compositive variable in regard to low, middle, and high class, were also all non-significant. For DOSPERT risky ethical behaviors results showed $F(2,93)= 1.686$, $p$=.191 for DOSPERT risky financial the results were $F(2, 93)= .410$, $p$=.665, DOSPERT risky health/safety behaviors the results were $F(2, 93)= 1.220$, $p$=.300, DOSPERT risky recreational behaviors the results were $F(2, 93)= .543$, $p$=.583, DOSPERT risky social behaviors the results were $F(2, 93)= 1.067$, $p$=.348, and for DOSPERT summary scores the results were $F(2, 93)= 1.251$, $p$=.291 (See Appendix C-1: SES and DOSPERT Correlations).

## Hypothesis Two

Correlations were ran to determine if there was a statistically significant relationship between facets of risky behaviors and facets of impulsivity. In order to ensure that the collected data was appropriate for parametric analysis, the data was initially screened for missing, out of range values, outliers, and the assumptions of normality and linearity. Participants missing

significant amounts of data were removed from the data, and thus were not considered in any of the overall analyses. Outliers were assessed via standardized Z scores with a cutoff value of +/-3. Overall, there was one outlier under the Barratt motor scores, one under the Barratt perseverance scores, one under the Barratt cognitive complexity scores, and one under the Barratt financial score. These outliers were screened out prior to statistical analysis, bringing the overall sample size down to n=85. The assumption of normality was assessed via comparison of distribution plots and Shapiro wilk values. The following scores showed a significant amount of skew within their distribution plots, and were noted to have *p* values of <.001 for the Shapiro wilks test; DOSPERT Ethical scores, DOSPERT Financial scores, Dysfunctional impulsivity scores, functional impulsivity scores, and the Barratt Perseverance scores. Finally, all continuous variables passed the assumption of linearity via comparison of their individual Q-Q plots with the exception of dysfunctional impulsivity. Variables that violated the assumption of normality were assessed via nonparametric Spearman's Rho correlations, otherwise, parametric Pearson's correlations were utilized for the analysis of hypothesis 2.

In regards to DOSPERT health/safety risk scores there were statistically significant relationships between the Barratt Summary scores ($r$=.238, $p$=.028) and Barratt Motor scores ($r$=.353, $p$<.001). For DOSPERT risky recreational behaviors, there was a statistically significant relationship between Barratt self-control scores ($r$=243, $p$=.025) (See Appendix C-2: Barratt and DOSPERT Correlations). Regarding the nonparametric analysis of DOSPERT risky ethical behaviors, it was found that statistically significant relationships existed between DOSPERT risky ethical behaviors and Barratt attention scores (*Rho*=.224, $p$=.040), Barratt Motor scores (*Rho*=.369, $p$<.001), Barratt perseverance scores (*Rho*=.243, $p$=.025), Barratt self-control scores (*Rho*=.368, $p$<.001), Barratt Cognitive complexity scores (*Rho*=.228, $p$=.036), and the Barratt

summary score (*Rho*=.369, *p*<.001). Nonparametric assessment of Dysfunctional impulsivity revealed statistically significant relationships between DOSPERT sum scores (*Rho*=.273, *p*=.010), DOSPERT Health/safety scores (*Rho*=.2.95, *p*=.004), and Dospert Ethical scores (*Rho*=..453, *p*<.001). Nonparametric assessment of Functional impulsivity revealed statistically significant relationships between DOSPERT Summary scores (*Rho*= .359, *p*<.001), DOSPERT health and safety scores (*Rho*=..307, *p*=.003), Dospert recreational scores (*Rho*=..337, *p*=.001), DOSPERT social scores (*Rho*=.238, *p*=.025), and DOSPERT financial scores (*Rho*=.249, *p*=.019) (See Appendix C-3: Correlations between Functional/Dysfunctional impulsivity and DOSPERT health/safety and recreational scores).

**Hypothesis Three**

Independent samples *t* tests were performed and compared in regards to determining whether or not a difference exists between the level of riskiness of one's profession, and their overall DOSPERT risky behavior scores, and impulsivity scores. In order to ensure that the collected data was appropriate for parametric analysis, the data was initially screened for missing, out of range values, outliers, and the assumptions of normality and equality of variances. Participants missing significant amounts of data were removed from the data, and thus were not considered in any of the overall analyses. Outliers were assessed via standardized Z scores with a cutoff value of +/-3. Overall, there was one outlier under the Barratt motor scores, one under the Barratt perseverance scores, one under the Barratt cognitive complexity scores, and one under the Barratt financial scores. These outliers were screened out prior to statistical analysis, bringing the overall sample size down to n=85. The assumption of normality was assessed via comparison of distribution plots and Shapiro wilk values. The following scores

showed a significant amount of skew within their distribution plots, and were noted to have *p* values of <.001 for the Shapiro wilks test; Functional impulsivity summary scores, Dysfunctional impulsivity summary scores, and the Barratt Perseverance scores. The assumption of equality of variances was checked via Levene's test, and the assumption was met for all variables ($p$>.001). Nonparametric Welch tests were performed on variables that did not meet the assumption of normality.

When comparing high and low risk profession groups on their various scores of impulsivity, there was found to be a statistically different relationship between scores of Barratt cognitive instability $t(83)=-3.518$, $p<.001$, $d=-.766$ (See Appendix D-1: Cognitive Instability Averages), Barratt self control $t(83)=-1.987$, $p= .050$, $d=-.433$ (See Appendix D-2: Barratt Self Control Averages) and Barratt summary scores $t(83)=-3.356$, $p=.001$, $d=-.730$ (See Appendix D-3: Barratt Summary Averages). When considering nonparametric analysis of the variables that did not meet normality assumptions, there was a statistically different relationship between Barratt Perseverance scores $w(83)=-3.713$, $p<.001$, $d=-.801$ (See Appendix D-4: Barratt Perseverance Averages) and functional impulsivity scores $w(83)=5.914$, $p<.001$, $d=-1.276$ (See Appendix D-5: Functional Impulsivity Averages). When comparing high and low profession groups on their various scores of risky behaviors, a statistically significantly relationship was found when considering DOSPERT Health/safety behaviors $t(87)=3.839$, $p<.001$, $d=.815$ (See Appendix D-6: DOSPERT Health and Safety Averages) and DOSPERT recreational behaviors $t(87)=3.788$, $p<.001$, $d=.804$ (Appendix D-7: DOSPERT Recreational Averages). In summary to the above results, individuals that were in high risk professions had statistically higher levels of functional impulsivity, DOSPERT Health/safety scores, and DOSPERT recreational scores. Individuals who were in the low risk profession categories had statistically higher levels of

Barratt cognitive instability scores, Barratt self-control scores, Barratt summary scores, and Barratt perseverance scores.

Due to the statistical difference between groups in regards to impulsivity, a Binary logistic regression was performed to see if any of the continuous variables could predict the likelihood of an individual going into a risky profession vs a non-risky profession. The variables of functional impulsivity and DOSPERT health/safety were included into a model with profession risk as the dependent variable. Overall the model was statistically significant ($X^2(86)=29.193$, $p <.001$, $R^2= .237$). The overall intercept was 4.178 and functional impulsivity was noted to be statistically significant ($p<.001$, 95% CI [2.141, 5.920]) with an overall effect on the intercept of -.333. Health/safety scores were also noted to be statistically significant ($p=.038$, 95% CI [-.164, -.016]) and had an overall effect on the intercept of -.087. For the purpose of this model, the non-risk profession class was coded as a 1, and a higher positive intercept represented a higher likelihood of going into a non-risky profession. The results of both the functional impulsivity and the health/safety scores suggest that as either of those variables increase, so does the likelihood of an individual going into a risky profession.

**Hypothesis Four**

In order to determine whether the level of functional or dysfunctional impulsivity affected individual depression scores, a multiple linear regression was performed. In order to ensure that the collected data was appropriate for parametric analysis, the data was initially screened for missing, out of range values, outliers, and the assumptions of normality and equality of variances. Participants missing significant amounts of data were removed from the data, and thus were not considered in any of the overall analyses. Outliers were assessed via standardized

Z scores with a cutoff value of +/-3. There were no outliers. The assumption of normality was assessed via comparison of distribution plots. There was a significant amount of positive skewing within dysfunctional scores, a moderate amount of positive skewing within BDI scores, and a slight amount of negative skewing within functional impulsivity scores. The assumption of Linearity was tested via comparing Q-Q plots for each variable. Both functional impulsivity scores and BDI scores passed the assumption of linearity, while the dysfunctional scores did not.

A multiple linear regression was performed with BDI functioning as the dependent variable, while Dysfunctional and Functional scores were used as its covariates. When comparing the entire sample, the overall model was statistically significant ($F(2,86) = 12.79$ , $p<.001$, $R^2=.229$, adj. $R^2=.211$, RMSE=9.312). When comparing individual scores to the models intercept, both functional impulsivity ($\beta = -.42$, $t(86) = -4.247$, $p < .001$, pr2 = .17) and dysfunctional impulsivity ($\beta = .29$, $t(86) = 2.778$, $p = .007$, pr2 = .08) were shown to be statistically significant with regards to affecting the intercept. These results suggest that individuals with higher levels of functional impulsivity or lower levels of dysfunctional impulsivity will have reduced levels of depression.

**Hypothesis Five**

An independent samples *t* test was performed to determine whether there were any significant differences in riskiness within profession and depression scores. In order to ensure that the collected data was appropriate for parametric analysis, the data was initially screened for missing, out of range values, outliers, and the assumptions of normality and equality of variances. Participants missing significant amounts of data were removed from the data, and thus were not considered in any of the overall analyses. Outliers were assessed via standardized Z

scores with a cutoff value of +/-3. There were no outliers. The assumption of normality was assessed via comparison of distribution plots and Shapiro wilk values. The BDI summary score did not meet criteria for normality distributions. The assumption of equality of variances was checked via Levene's test, and the assumption was met for all variables ($p$>.001). Nonparametric Welch tests were performed on variables that did not meet the assumption of normality.

When comparing the high risk profession group with the low risk profession group, a statistically significant relationship was noted $t(87)$= -2.099, $p$=.-039, $d$=-.445 (See Appendix D-8: Depression Averages). This relationship shows that on average the low risky professions group had higher depression scores than the high risky professions group.

**Hypothesis Six**

In order to determine whether there was a difference in how the level of functional or dysfunctional impulsivity affected individual depression scores in regard to career, a multiple linear regression was performed with a split data file. In order to ensure that the collected data was appropriate for parametric analysis, the data was initially screened for missing, out of range values, outliers, and the assumptions of normality and equality of variances. Participants missing significant amounts of data were removed from the data, and thus were not considered in any of the overall analyses. Outliers were assessed via standardized Z scores with a cutoff value of +/-3. There were no outliers. The assumption of normality was assessed via comparison of distribution plots. There was a significant amount of positive skewing within dysfunctional scores for both groups, a moderate amount of positive skewing within BDI scores for both groups, and a moderate amount of negative skewing within functional impulsivity scores for both groups. The assumption of Linearity was tested via comparing Q-Q plots for each variable. Linearity plots for

the non-risky group passed the assumption of linearity for Functional, dysfunctional, and BDI measures. The risk group passed the linearity assumption for the BDI and functional impulsivity, but not dysfunctional impulsivity.

A multiple linear regression was performed with BDI functioning as the dependent variable, while Dysfunctional and Functional scores were used as its covariates. When comparing the non-risky sample, the overall model was statistically significant ($F(2,44) = 8.35$ , $p<.001$, $R2=.275$, adj. $R2=.242$, $RMSE=9.319$). When comparing individual scores to the models intercept, both functional impulsivity ($\beta = -.51$, $t(44) = -3.906$, $p < .001$, $pr2 = .26$) and dysfunctional impulsivity ($\beta = .314$, $t(44) = 2.195$, $p = .034$, $pr2 = .10$) were shown to be statistically significant with regards to affecting the intercept. When comparing the risky sample, the overall model was statistically significant ($F(2,39) = 3.599$ , $p=.037$, $R2=.156$, adj. $R2=..113$, $RMSE=9.238$). When comparing individual scores to the models intercept, functional impulsivity was not statistically significant($\beta = -.163$, $t(39) = -1.033$, $p = .308$, $pr2 = .03$) while dysfunctional impulsivity was ($\beta = .336$, $t(39) = 2.228$, $p = .032$, $pr2 = .11$) with regards to affecting the intercept. These results suggest that while dysfunctional impulsivity has a significant role to play within both risky and non-risky professions, functional impulsivity only impacts those in the non-risky group.

## DISCUSSION

The result of the current study shows that lower levels of socioeconomic status in childhood did not significantly increase an individual's likelihood to exhibit increased levels of risky behaviors. These results are in contrast to previous work, and reject the current hypothesis. Prior literature suggests a relationship between low socioeconomic status and risky behaviors, such as alcohol usage, drug usage, poor eating habits, and lack of exercise (de Winter et al., 2016). An explanation for this discrepancy could involve that the current study was examining SES of the individual's childhood, rather than their current SES. Thus, while SES may have an overall relationship with risky behaviors, that relationship may only persist for as long as the individual remains in a low SES, or possibly. An additional explanation could be that the correlation between low SES and risky behaviors is only found in those that are extremely low SES, and the current sample may not fall into that category.

The prediction that risky behaviors would bear a relationship with facets of impulsivity was upheld by the current data set. This can be seen in the significant interactions between DOSPERT risky health/safety behaviors and Barratt Impulsivity Summary scores and Barratt Impulsivity Motor scores, between DOSPERT risky recreational behaviors and Barratt self-control scores, between DOSPERT risky ethical behaviors and Barratt attention scores, Barratt Motor scores, Barratt perseverance scores, Barratt self-control scores, Barratt Cognitive complexity scores, and the Barratt summary score. he relationship between risky behaviors and impulsivity has been previously documented and can be seen as risky behaviors have been linked to increased/higher levels of impulsivity through things such as driving while intoxicated (Curran et al., 2010). Further correlations have been noted between the presence of the personality trait of

impulsivity, and the difference between those who are suicidal ideators vs attempters, although this relationship was partially moderated by alcohol consumption (Morley et al., 2018).

The results for the third hypothesis showed that individuals going into higher risk professions had statistically higher levels of functional impulsivity than those in non-risky professions, which confirmed the studies current hypothesis. Beyond utilizing t tests to determine the significant difference in averages between both groups, a binary logistic regression further shed light on the relationship between profession choice and the variables of Functional impulsivity and DOSPERT health/safety risky behaviors. It was determined that higher levels of functional impulsivity or health/safety risk behaviors was a determinate of going into a risky profession. This trend is supported through the idea individuals who are ranked higher in impulsivity will frequently be more willing to take adverse personal risks in order to achieve personal gain, despite possible personal lethality (Takasaki, 2018). The current study predicted that higher levels of risky behaviors and impulsivity will cause an individual to be more likely to place themselves into lines of riskier work. A previous qualitative study also concluded that higher levels of participation in risky behaviors/activities can desensitize a person towards personal dangers, and even death (Aziz and Rashid, 2018).

The final hypotheses are useful to provide an explanation for the levels of depression found within the varying risks of profession (low vs high). The fourth hypothesis suggested that individuals who are high in functional impulsivity will exhibit the least amount of depression, while individuals high in dysfunctional impulsivity will exhibit the highest levels of depression. This hypothesis was upheld via multiple linear regression results between the BDI and functional/dysfunctional impulsivity. The results suggested that higher functional impulsivity scores decreased overall BDI scores, while higher dysfunctional impulsivity scores increased

overall BDI scores. This would suggest that individuals highest in functional impulsivity will experience the lowest levels of depression, while those highest in dysfunctional impulsivity will experience the highest levels of depression.

The fifth hypothesis suggested that those in high risk professions would exhibit higher levels of depression than those within low risk professions. Independent samples *t* tests determined that there was a statistically significant difference between the two groups, however results showed that those within the non-risky profession group had higher average depression scores than those within the high-risk profession group. A possible suggestion for this finding, is that the risky-profession group of this sample also had statistically higher averages of functional impulsivity, which is moderately negatively correlated with depression scores. These results are different from previously documented research suggesting that high risky profession populations have higher average rates of depression than the normal population (Chen et al., 2006). A possible explanation for this discrepancy is that the current studies sample overall had very low levels of dysfunctional impulsivity, and that the risky professions sample had high levels of functional impulsivity. The combination of both of these factors could be pulling the risky professions depression scores lower than one would expect to see in the true population.

The sixth hypothesis suggested that within each profession (risky vs non-risky) individuals higher rates of functional impulsivity will experience less depression, whereas individuals with higher rates of dysfunctional depression will experience more depression. The results suggested that while the hypothesis was upheld for the non-risky group, the risky group did not bear statistical significance for functional impulsivity effects on their depression scores. This suggests that within the risky group, the major predictor of depression would be dysfunctional impulsivity. This is a possible explanation for why the current studies risky

profession sample had lower depression scores than the non-risky individuals, as overall the current studies sample had very low dysfunctional impulsivity scores.

The results of the current study suggest that childhood SES is not a main cause of funneling individuals into high risk professions, rather, it is the risky behaviors that are related to impulsivity traits (specifically functional impulsivity and dysfunctional impulsivity). In a typical sample, these traits of functional and dysfunctional impulsivity may determine whether or not individuals within risky professions have high rates of depression. However, being as the current sample had high rates of functional impulsivity, and relatively low rates of dysfunctional impulsivity, these trends of highly risky professions and depression were not detected.

**Data Limitations**

Future studies would benefit from a larger and more normative sample. With the sample gathered for the current study, there was a significant lack in diversity, with a large portion of the sample population belonging to individuals who were Caucasian and middle class. Current measures for testing functional and dysfunctional impulsivity could also benefit from updated measures. Currently the Dickman survey asks 23 questions on a true/false answering basis. This has led to floor and ceiling effects within the current sample for measures of functional and dysfunctional impulsivity. Updating the survey to reflect a Likert scale rating of 1-5 could greatly benefit the variability of the Dickman survey. There could also be a benefit in pulling from a wider array of high-risk professions. The current studies populace focused mainly on police department samples. Finally, the study could benefit from replication, as several of the current continuous measures within the study did not have normal bell curves when considering their distribution, and thus had to be analyzed with nonparametric analyses.

**Future Implications**

Going forward, it became apparent that the current format of the Dickman survey has a lack of variability that created a floor affect for the dysfunctional scores and a ceiling effect for functional scores. The scale would benefit from revision, as validating the Dickman survey as a 5-7 point Likert scale could eliminate these floor and ceiling effects. The relevancy in continued testing on Functional impulsivities effects on depression scores may also be of use to clinical fields. Future research may include determining whether or not functional impulsivity moderates the relationship between depression and coping skill usage.

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# APPENDICES

## Appendix A: Research Compliance and Permissions


**To**:
Amber Abernathy
Psychology

**Date**: Aug 23, 2022 9:43:56 AM CDT

**RE**: Notice of IRB Exemption
**Study #:** IRB-FY2022-562
**Study Title**: The Impact of Profession on Depression

This submission has been reviewed by the Missouri State University Institutional Review Board (IRB) and was determined to be exempt from further review. However, any changes to any aspect of this study must be submitted, as a modification to the study, for IRB review as the changes may change this Exempt determination. Should any adverse event or unanticipated problem involving risks to subjects or others occur it must be reported immediately to the IRB.

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This study was reviewed in accordance with federal regulations governing human subjects research, including those found at 45 CFR 46 (Common Rule), 45 CFR 164 (HIPAA), 21 CFR 50 & 56 (FDA), and 40 CFR 26 (EPA), where applicable.

Researchers Associated with this Project:
**PI:** Amber Abernathy
**Co-PI:**
**Primary Contact:** Weston Phipps
**Other Investigators:**

**Appendix B-1: DOSPERT Scale**

The DOSPERT Scale was utilized in tracking participants propensity to various types of risky behaviors. In total the DOSPERT consisted of 30 questions that individuals could answer on a 1-7 Likert scale of Extremely unlikely, to extremely likely. The questions asked throughout the DOSPERT are as follows:

1. Admitting that your tastes are different from those of a friend.
2. Going camping in the wilderness.
3. Betting a day's income at the horse races.
4. Investing 10% of your annual income in a moderate growth diversified fund.
5. Drinking heavily at a social function.
6. Taking some questionable deductions on your income tax return.
7. Disagreeing with an authority figure on a major issue.
8. Betting a day's income at a high-stake poker game.
9. Having an affair with a married man/woman.
10. Passing off somebody else's work as your own.
11. Going down a ski run that is beyond your ability.
12. Investing 5% of your annual income in a very speculative stock.
13. Going whitewater rafting at high water in the spring.
14. Betting a day's income on the outcome of a sporting event.
15. Engaging in unprotected sex.
16. Revealing a friend's secret to someone else.
17. Driving a car without wearing a seat belt.
18. Investing 10% of your annual income in a new business venture.

19. Taking a skydiving class.

20. Riding a motorcycle without a helmet.

21. Choosing a career that you truly enjoy over a more secure one.

22. Speaking your mind about an unpopular issue in a meeting at work.

23. Sunbathing without sunscreen.

24. Bungee jumping off a tall bridge.

25. Piloting a small plane.

26. Walking home alone at night in an unsafe area of town.

27. Moving to a city far away from your extended family.

28. Starting a new career in your mid-thirties.

29. Leaving your young children alone at home while running an errand.

30. Not returning a wallet you found that contains $200.

**Appendix B-2: Barratt Impulsivity Scale**

The Barratt Scale was utilized in tracking participants propensity to various types of impulsive behaviors. In total the Barratt consisted of 30 questions that individuals could answer on a 1-4 Likert scale of rarely/never, to almost always/always. The questions asked throughout the Barratt are as follows:

1. I plan tasks carefully.
2. I do things without thinking
3. I make up my mind quickly
4. I am happy-go-lucky
5. I don't pay attention
6. I have racing thoughts
7. I plan trips well ahead of time
8. I am self-controlled
9. I concentrate easily
10. I save regularly
11. I squirm at plays or lectures
12. I am a careful thinker
13. I plan for job security
14. I say things without thinking
15. I like to think about complex problems
16. I change jobs
17. I act on impulse
18. I get easily bored when solving thought problems

19. I act on the spur of the moment

20. I am a steady thinker

21. I change where I live [I change residences].

22. I buy things on impulse

23. I can only think about one problem at a time

24. I change hobbies

25. I spend more than I earn [I spend or charge more than I earn].

26. I have outside thoughts when thinking [I often have extraneous thoughts when thinking].

27. I am more interested in the present than the future

28. I am restless at lectures or talks

29. I like puzzles

30. I plan for the future [I am future oriented].

**Appendix B-3: Dickman Survey**

The Dickman Survey was utilized in tracking levels of functional and dysfunctional impulsivity. In total the Dickman Survey consisted of 23 questions that individuals could answer on a true/false basis. Eleven question from the survey were dedicated to functional impulsivity, whereas 12 questions were dedicated to dysfunctional impulsivity. The questions asked throughout the Dickman Survey are as follows:

1. Often, I don't spend enough time thinking over a situation before I act.
2. I try to avoid activities where you have to act without much time to think first.
3. I don't like to make decisions quickly, even simple decisions, such as choosing what to wear, or what to have for dinner.
4. I enjoy working out problems slowly and carefully.
5. I am good at taking advantage of unexpected opportunities, where you have to do something immediately or lose your chance.
6. I would enjoy working at a job that required me to make a lot of split-second decisions.
7. I often make up my mind without taking the time to consider the situation from all angles.
8. I have often missed out on opportunities because I couldn't make up my mind fast enough.
9. I often say and do things without considering the consequences.
10. I frequently make appointments without thinking about whether I will be able to keep them
11. I am uncomfortable when l have to make up my mind rapidly.

12. I don't like to do things quickly, even when I am doing something that is not very difficult.
13. I frequently buy things without thinking about whether or not I can really afford them.
14. I am good at careful reasoning.
15. I like to take part in really fast-paced conversations, where you don't have much time to think before you speak.
16. I like sports and games in which you have to choose your next move very quickly.
17. Many times the plans I make don't work out because I haven‘t gone over them carefully enough in advance.
18. I often get into trouble because I don't think before I act.
19. Most of the time, I can put my thoughts into words very rapidly.
20. People have admired me because I can think quickly.
21. I will often say whatever comes into my head without thinking first.
22. Before making any important decision, I carefully weigh the pros and cons.
23. I rarely get involved in projects without first considering the potential problems.

**Appendix B-4: Becks Depression Invention**

The Becks Depression Inventory was utilized in tracking levels of depression. In total the Becks Depression Inventory consisted of 20 questions that individuals could answer on a 1-4 Likert scale basis of how much they related to the word/prompt given. The prompts given throughout the Becks Depression Inventory are as follows:

1. Sadness
2. Pessimism
3. Past failure
4. Loss of pleasure
5. Guilty feelings
6. Punishment feelings
7. Self-dislike
8. Self-criticalness
9. Crying
10. Agitation
11. Loss of interest
12. Indecisiveness
13. Worthlessness
14. Loss of energy
15. Changes in sleeping pattern
16. Irritability
17. Changes in appetite
18. Concentration difficulty

19. Tiredness or fatigue

20. Loss of interest in sex

**Appendix C-1: SES and DOSPERT Correlations**

Table 1. Pearson's Correlations Between SES and DOSPERT Scores

| SES Scores | | DOSPERT Scores | Pearson's *r* | *p* |
|---|---|---|---|---|
| Childhood Income Updated | - | DOSPERT Sum | .181 | .213 |
| Childhood Income Updated | - | DOSPERT Ethical | .172 | .239 |
| Childhood Income Updated | - | DOSPERT Financial | .084 | .567 |
| Childhood Income Updated | - | DOSPERT Health/Safety | .015 | .918 |
| Childhood Income Updated | - | DOSPERT Recreational | .193 | .183 |
| Childhood Income Updated | - | DOSPERT Social | .129 | .377 |

**Appendix C-2: Barratt and DOSPERT Correlations**

Table 2. Pearson's Correlations Between Barratt and DOSPERT

| Correlate variables | | Correlate Variables | Pearson's *r* | *p* |
|---|---|---|---|---|
| DOSPERT Sum | - | DOSPERT Health/Safety | 0.785 | < .001 |
| DOSPERT Sum | - | DOSPERT Recreational | 0.786 | < .001 |
| DOSPERT Sum | - | DOSPERT Social | 0.479 | < .001 |
| DOSPERT Sum | - | Barratt Sum | 0.291 | 0.006 |
| DOSPERT Sum | - | Barratt Attention | 0.157 | 0.140 |
| DOSPERT Sum | - | Barratt Cognitive instability | 0.096 | 0.370 |
| DOSPERT Sum | - | Barratt Attentional both Attention and Cognitive instability | 0.151 | 0.158 |
| DOSPERT Sum | - | Barratt Motor | 0.357 | < .001 |
| DOSPERT Sum | - | Barratt Motor Both Motor and Perseverance | 0.338 | 0.001 |
| DOSPERT Sum | - | Barratt Self-Control | 0.331 | 0.002 |
| DOSPERT Sum | - | Barratt Cognitive Complexity | 0.057 | 0.593 |
| DOSPERT Sum | - | Barratt nonplanning Self control and Cognitive complexity | 0.253 | 0.017 |
| DOSPERT Health/Safety | - | DOSPERT Recreational | 0.489 | < .001 |
| DOSPERT Health/Safety | - | DOSPERT Social | 0.164 | 0.125 |
| DOSPERT Health/Safety | - | Barratt Sum | 0.244 | 0.021 |
| DOSPERT Health/Safety | - | Barratt Attention | 0.225 | 0.034 |
| DOSPERT Health/Safety | - | Barratt Cognitive instability | -0.002 | 0.987 |
| DOSPERT Health/Safety | - | Barratt Attentional both Attention and Cognitive instability | 0.145 | 0.175 |
| DOSPERT Health/Safety | - | Barratt Motor | 0.345 | < .001 |
| DOSPERT Health/Safety | - | Barratt Motor Both Motor and Perseverance | 0.283 | 0.007 |
| DOSPERT Health/Safety | - | Barratt Self-Control | 0.231 | 0.030 |
| DOSPERT Health/Safety | - | Barratt Cognitive Complexity | 0.073 | 0.498 |
| DOSPERT Health/Safety | - | Barratt non-planning Self-control and Cognitive complexity | 0.194 | 0.069 |
| DOSPERT Recreational | - | DOSPERT Social | 0.212 | 0.046 |
| DOSPERT Recreational | - | Barratt Sum | 0.180 | 0.091 |
| DOSPERT Recreational | - | Barratt Attention | 0.099 | 0.355 |
| DOSPERT Recreational | - | Barratt Cognitive instability | 0.007 | 0.948 |
| DOSPERT Recreational | - | Barratt Attentional both Attention and Cognitive instability | 0.068 | 0.527 |
| DOSPERT Recreational | - | Barratt Motor | 0.194 | 0.068 |
| DOSPERT Recreational | - | Barratt Motor Both Motor and Perseverance | 0.192 | 0.071 |

Table 2. Continued

| Correlate variables | | Correlate Variables | Pearson's *r* | *p* |
|---|---|---|---|---|
| DOSPERT Recreational | - | Barratt Self-Control | 0.252 | 0.017 |
| DOSPERT Recreational | - | Barratt Cognitive Completexity | 0.051 | 0.636 |
| DOSPERT Recreational | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.196 | 0.065 |
| DOSPERT Social | - | BarrattSum | 0.107 | 0.318 |
| DOSPERT Social | - | Barratt Attention | -0.061 | 0.573 |
| DOSPERT Social | - | Barratt Cognitive instability | 0.038 | 0.720 |
| DOSPERT Social | - | Barratt Attentional both Attention and Cognitive instability | -0.020 | 0.854 |
| DOSPERT Social | - | Barratt Motor | 0.191 | 0.073 |
| DOSPERT Social | - | Barratt Motor Both Motor and Perserveranec | 0.205 | 0.054 |
| DOSPERT Social | - | Barratt Self-Control | 0.175 | 0.100 |
| DOSPERT Social | - | Barratt Cognitive Completexity | -0.044 | 0.685 |
| DOSPERT Social | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.095 | 0.377 |
| BarrattSum | - | Barratt Attention | 0.778 | < .001 |
| BarrattSum | - | Barratt Cognitive instability | 0.620 | < .001 |
| BarrattSum | - | Barratt Attentional both Attention and Cognitive instability | 0.819 | < .001 |
| BarrattSum | - | Barratt Motor | 0.724 | < .001 |
| BarrattSum | - | Barratt Motor Both Motor and Perserveranec | 0.862 | < .001 |
| BarrattSum | - | Barratt Self-Control | 0.778 | < .001 |
| BarrattSum | - | Barratt Cognitive Completexity | 0.605 | < .001 |
| BarrattSum | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.845 | < .001 |
| Barratt Attention | - | Barratt Cognitive instability | 0.490 | < .001 |
| Barratt Attention | - | Barratt Attentional both Attention and Cognitive instability | 0.897 | < .001 |
| Barratt Attention | - | Barratt Motor | 0.460 | < .001 |
| Barratt Attention | - | Barratt Motor Both Motor and Perserveranec | 0.526 | < .001 |
| Barratt Attention | - | Barratt Self-Control | 0.485 | < .001 |
| Barratt Attention | - | Barratt Cognitive Completexity | 0.393 | < .001 |
| Barratt Attention | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.535 | < .001 |
| Barratt Cognitive instability | - | Barratt Attentional both Attention and Cognitive instability | 0.825 | < .001 |

Table 2. Continued

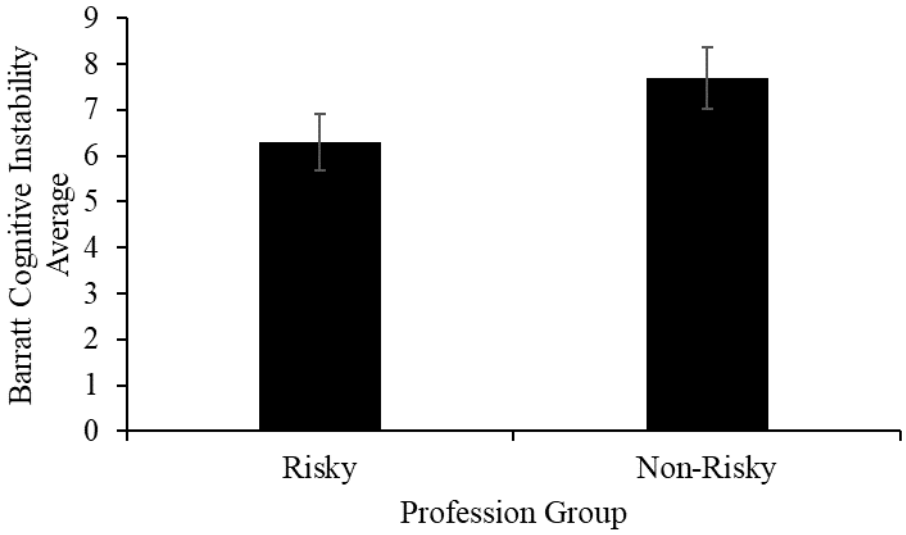
| Correlate variables | | Correlate Variables | Pearson's *r* | *p* |
|---|---|---|---|---|
| Barratt Cognitive instability | - | Barratt Motor | 0.369 | < .001 |
| Barratt Cognitive instability | - | Barratt Motor Both Motor and Perserveranec | 0.469 | < .001 |
| Barratt Cognitive instability | - | Barratt Self-Control | 0.302 | 0.004 |
| Barratt Cognitive instability | - | Barratt Cognitive Completexity | 0.141 | 0.188 |
| Barratt Cognitive instability | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.278 | 0.008 |
| Barratt Attentional both Attention and Cognitive instability | - | Barratt Motor | 0.486 | < .001 |
| Barratt Attentional both Attention and Cognitive instability | - | Barratt Motor Both Motor and Perserveranec | 0.579 | < .001 |
| Barratt Attentional both Attention and Cognitive instability | - | Barratt Self-Control | 0.468 | < .001 |
| Barratt Attentional both Attention and Cognitive instability | - | Barratt Cognitive Completexity | 0.326 | 0.002 |
| Barratt Attentional both Attention and Cognitive instability | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.488 | < .001 |
| Barratt Motor | - | Barratt Motor Both Motor and Perserveranec | 0.895 | < .001 |
| Barratt Motor | - | Barratt Self-Control | 0.465 | < .001 |
| Barratt Motor | - | Barratt Cognitive Completexity | 0.309 | 0.003 |
| Barratt Motor | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.477 | < .001 |
| Barratt Motor Both Motor and Perserveranec | - | Barratt Self-Control | 0.613 | < .001 |
| Barratt Motor Both Motor and Perserveranec | - | Barratt Cognitive Completexity | 0.398 | < .001 |
| Barratt Motor Both Motor and Perserveranec | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.624 | < .001 |
| Barratt Self-Control | - | Barratt Cognitive Completexity | 0.369 | < .001 |
| Barratt Self-Control | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.869 | < .001 |
| Barratt Cognitive Completexity | - | Barratt nonplanning Selfcontrol and Cognitive complexity | 0.781 | < .001 |

**Appendix C-3: Correlations between Functional/Dysfunctional impulsivity and DOSPERT health/safety and recreational scores**

Table 3. Spearman's Rho Correlations Functional/dysfunctional and health/safety and recreational

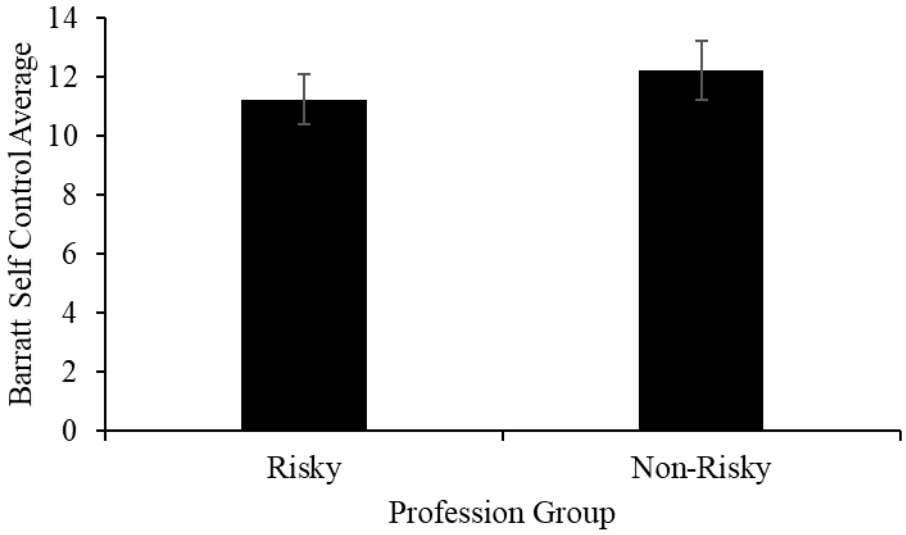
| Correlate Variables | | Correlate Variables | **Pearson's *r*** | ***p*** |
|---|---|---|---|---|
| DOSPERT Ethical | - | DOSPERT Financial | 0.061 | 0.570 |
| DOSPERT Ethical | - | Barratt Attention | 0.279 | 0.008 |
| DOSPERT Ethical | - | Barratt Cognitive_instability | 0.239 | 0.024 |
| DOSPERT Ethical | - | Barratt Attentional_both_Attention_and_Cognitive_instability | 0.293 | 0.005 |
| DOSPERT Ethical | - | Barratt Motor | 0.396 | < .001 |
| DOSPERT Ethical | - | Barratt perseverance | 0.244 | 0.021 |
| DOSPERT Ethical | - | Barratt Sum | 0.412 | < .001 |
| DOSPERT Ethical | - | Barratt Self-Control | 0.407 | < .001 |
| DOSPERT Ethical | - | Barratt Cognitive_Completexity | 0.224 | 0.035 |
| DOSPERT Financial | - | Barratt Attention | -0.027 | 0.803 |
| DOSPERT Financial | - | Barratt Cognitive_instability | 0.085 | 0.431 |
| DOSPERT Financial | - | Barratt Attentional_both_Attention_and_Cognitive_instability | 0.011 | 0.920 |
| DOSPERT Financial | - | Barratt Motor | 0.052 | 0.627 |
| DOSPERT Financial | - | Barratt perseverance | -0.103 | 0.338 |
| DOSPERT Financial | - | Barratt_Sum | -0.006 | 0.957 |
| DOSPERT Financial | - | Barratt Self-Control | -0.011 | 0.917 |
| DOSPERT Financial | - | Barratt Cognitive_Completexity | -0.056 | .599 |
| Functional Impulsivity | - | DOSPERT Health/Safety | .307 | .003 |
| Functional Impulsivity | - | DOSPERT Recreational | .337 | .001 |
| Functional Impulsivity | - | DOSPERT Social | .238 | .025 |
| Functional Impulsivity | - | DOSPERT Ethical | -.191 | .073 |
| Functional Impulsivity | - | DOSPERT Financial | .249 | .019 |
| Dysfunctional Impulsivity | - | DOSPERT Health/Safety | .295 | .005 |
| Dysfunctional Impulsivity | - | DOSPERT Recreational | .122 | .253 |
| Dysfunctional Impulsivity | - | DOSPERT Social | .120 | .263 |
| Dysfunctional Impulsivity | - | DOSPERT Ethical | .453 | <.001 |
| Dysfunctional Impulsivity | - | DOSPERT Financial | .0002548 | .998 |

**Appendix D-1: Cognitive Instability Averages**



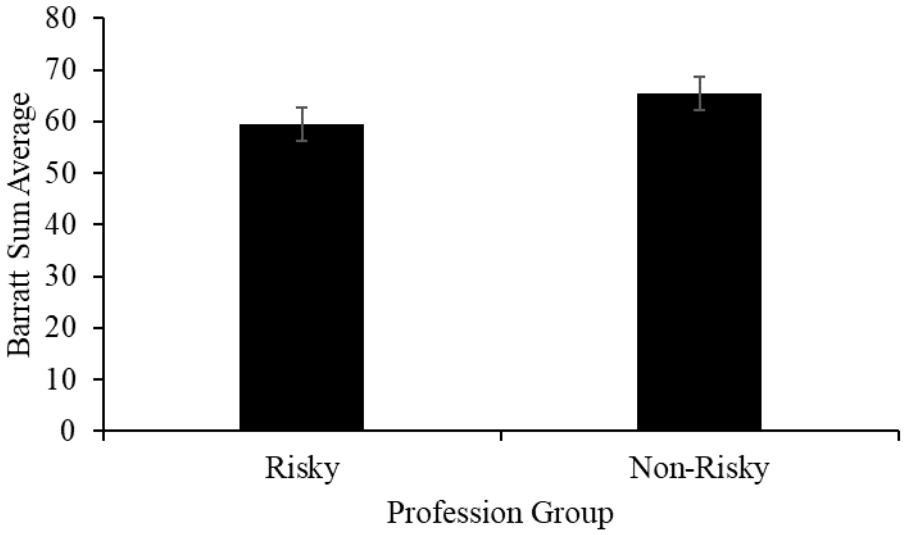

Appendix D-1: Barratt Cognitive Instability Averages in comparison to risky and non-risky professions with 95% confidence intervals.

**Appendix D-2: Barratt Self Control Averages**



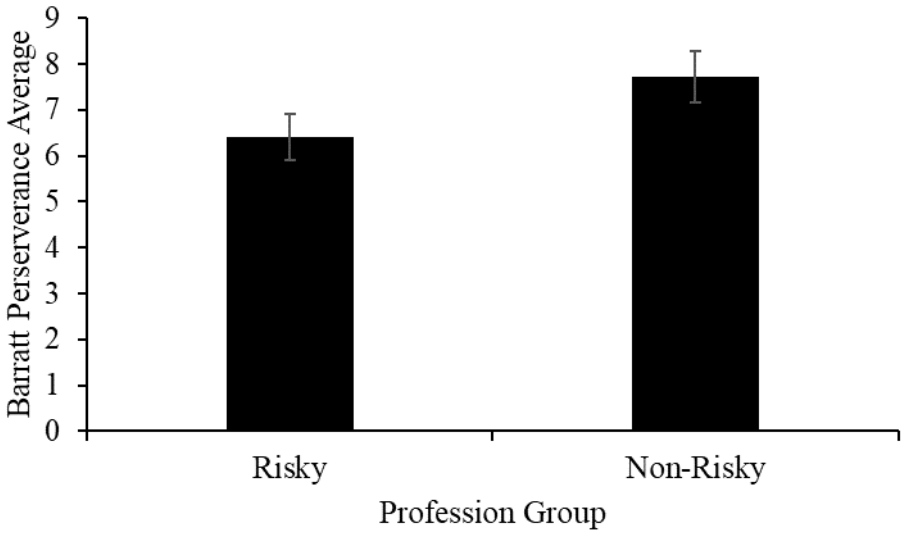

Appendix D-2: Barratt Self Control Averages in comparison to risky and non-risky professions with 95% confidence intervals.

**Appendix D-3: Barratt Summary Averages**



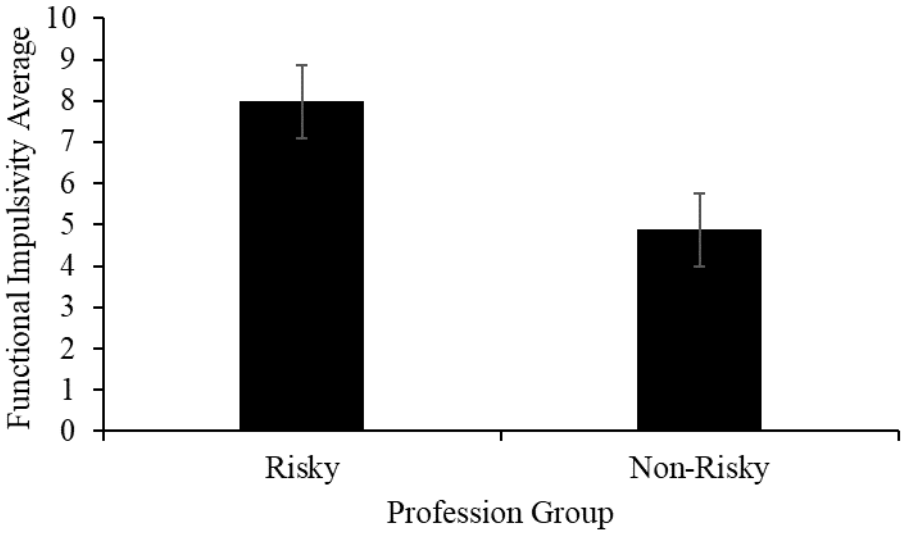

Appendix D-3: Barratt Summary Averages in comparison to risky and non-risky professions with 95% confidence intervals.

**Appendix D-4: Barratt Perseverance Averages**



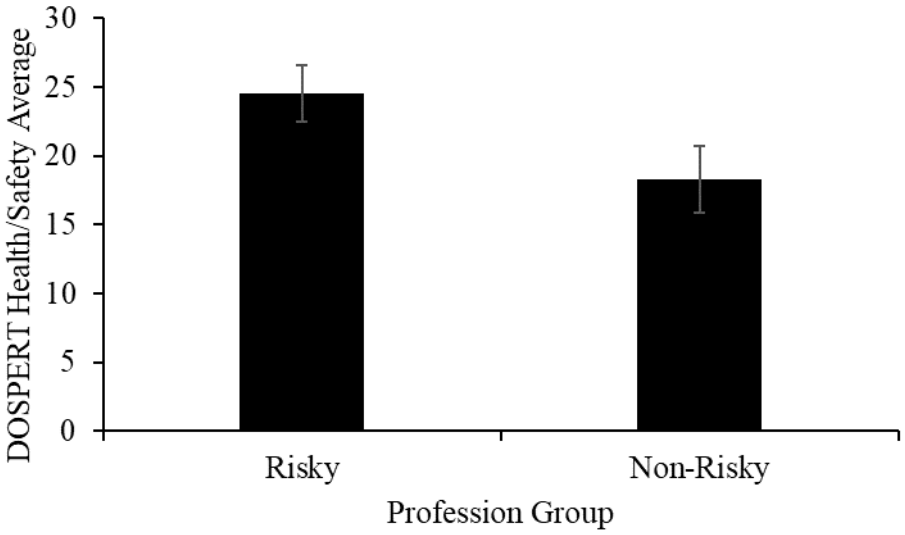

Appendix D-4: Barratt Perseverance Averages in comparison to risky and non-risky professions with 95% confidence intervals.

**Appendix D-5: Functional Impulsivity Averages**



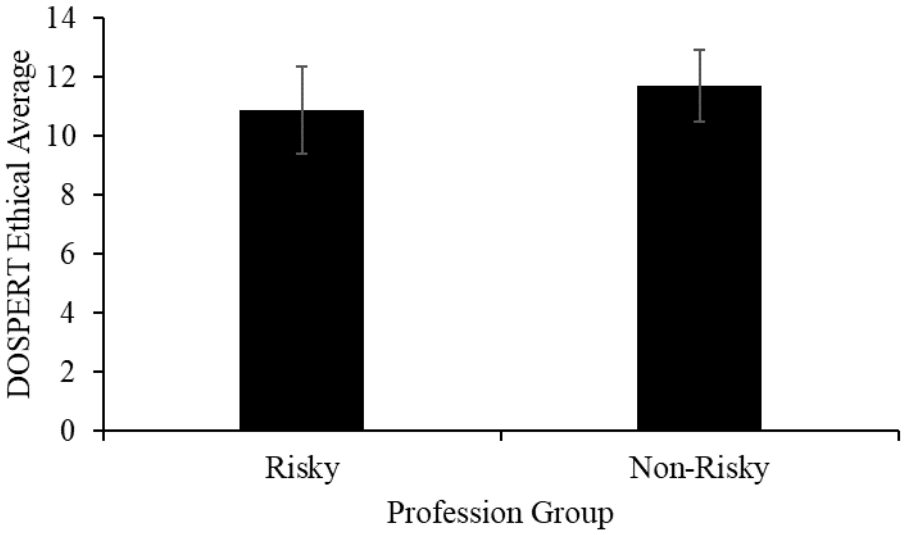

Appendix D-5: Functional Impulsivity Averages in comparison to risky and non-risky professions.

**Appendix D-6: DOSPERT Health and Safety Averages**



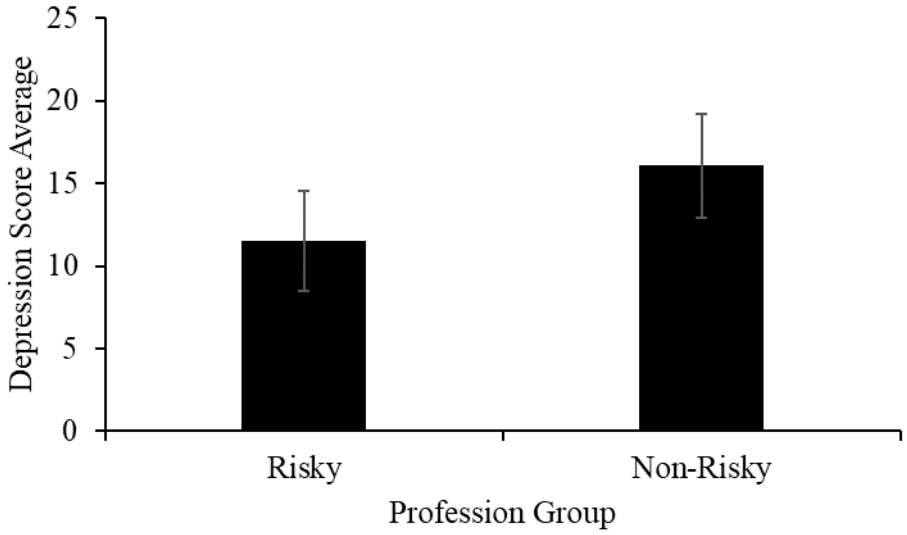

Appendix D-6: DOSPERT Health/Safety Averages in comparison to risky and non-risky professions with 95% confidence intervals.

**Appendix D-7: DOSPERT Recreational Averages**




Appendix D-7: DOSPERT Ethical Averages in comparison to risky and non-risky professions with 95% confidence intervals.

**Appendix D-8: Depression Averages**




Appendix D-8: Depression Averages in comparison to risky and non-risky professions with 95% confidence intervals.