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The psychology of risk and power: Power desires and sexual choices.

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Declaration of Authorship

I, Andrew Ithurburn, declare that this thesis titled, The psychology of risk and power: Power desires, and sexual choices and the work presented in it are my own. I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University.
- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated.
- Where I have consulted the published work of others, this is always clearly attributed.
- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work.
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“*You know the greatest danger facing us is ourselves, and irrational fear of the unknown. There is no such thing as the unknown. Only things temporarily hidden, temporarily not understood.”* — Captain Kirk

Abstract

This thesis explores the link between power motives and negative social/individual outcomes linked to risk preferences toward risky choices and behaviours. Chapter one summarises the current theoretical landscape of power motivation, focusing specifically on new developments in measuring power motives and how this has enhanced our understanding of the nomothetic network of the general power motive. In doing so, we select further areas of research that could be valuable in our understanding of power motivations.

Chapter two lays the foundation of investigating the relationship between the subcomponents of the general power motive (Dominance, Prestige, and Leadership; DoPL) and risk preferences and their specific subcomponents (i.e., benefit, perception, and risk likelihood). Chapter two also extends previous work on dominance and financial risk-taking by extending to other sub-domains of risk-taking (i.e., ethical, financial, social, health and safety, and recreational risk preferences) as well as evaluating our hypotheses on prestige and leadership motives in relation to risk preferences.

In the third chapter, we extend our correlational results with an experimental investigation. When faced with hypothetical decision-making scenarios involving behaviours that were either spiteful (causing harm regardless of wrongdoing by the other party) or were vindictive (causing harm or injury to get even because of perceived wrongdoing), we found that higher dominance motivation predicted a slightly higher endorsement of (potentially self-destructive) spiteful behaviours, even after controlling for individual differences in spitefulness. We discuss how this reinforces and extends previous research linking dominance to harmful and self-defeating behaviours in other contexts.

Chapter four extends our work in linking dominance to risk preferences and risky/spiteful choices in the sexual domain by investigating how individuals actually engage in risky sexual behaviours as

a function of their social power motives. We find, again, that dominance was the strongest predictor of both the frequency of past risky sexual behaviours and the future likelihood of engaging in sexual risk-taking behaviours. We discuss these results in the context of how such behaviours might function to satisfy desires for power over others, and why this does not give rise to connections to the other power motive components (prestige and leadership).

In Chapter Five, we conduct and analyse an extension of Chapter Four by focusing exclusively on the relationship between social power motivations and sexual risk-taking behaviour. In this expanded, nearly 300 participant study, we investigate, in particular, how dominance motivation influences sexual risk-taking behaviours. We find, and confirm, that dominance motivation appears to be a strong positive predictor of not just the likelihood to engage in sexual risk-taking behaviours but actual frequency/engagement in those risk-taking behaviours. We discuss how this extension influences our understanding of sexual risk-taking and risk-taking behaviours at large.

Overall, we find evidence through multiple studies, both correlational and experimental, that dominance is a robust predictor of all subcomponents of general risk preference and in every measured subdomain of risk. Additionally, we find weak evidence to support our prediction that higher leadership motive predicts a lower likelihood of engaging in risky behaviours. Our findings also indicate that dominance is stronger than other predictors often associated with negative and risky behaviours (i.e., narcissism and spitefulness). Our results enhance our understanding of power motivations in decision-making, particularly the role of dominance in influencing not only preferences and choices but also perceptions of those preferences.

Lay Summary

Power, or the desire to influence the world around you, is in many ways an important driving force in people's lives. We believe and argue that there are three different and important types of power motivations: dominance, prestige, and leadership. All three are unique and often influence people's daily decisions, wants, and needs. To reach their own wants and needs, people will often behave and believe in things that are quite risky, such as unprotected sex or gambling. In this thesis, I looked at and showed a considerable connection between the type of power and the likelihood of engaging in certain risky behaviours, along with how one looks at and perceives those risky behaviours. Throughout this thesis, there is an overarching theme of power motivations influencing the way one sees certain risk behaviours and influences their chances of engaging in them. First (Chapter Two), I investigated and found that for generalised risk-taking (ethical, financial, social, recreational, and health and safety), dominance predicted a higher likelihood of engaging in said behaviour, along with and importantly, higher expected benefits of doing so. In this two-part study, we extended and reinforced previous research that also investigates and links dominance to harmful and self-defeating behaviours. Following the results from this study, we sought to experimentally manipulate (Chapter Three) with hypothetical decision-making scenarios involving behaviours that are implied to be either spiteful sexually or not sexually. We found that while spitefulness (causing harm regardless of wrongdoing by the other party) was stronger in predicting justification (not only agreeing with the behaviour but implicitly promoting

the spiteful behaviour. We also found some weak support that dominance motivation predicted justification of spiteful behaviours when the behaviour was sexual in nature. This was important because it shows that dominance appears to change how you see risky behaviours and expect benefits from them. After our findings of dominance motivation and higher justification of sexually spiteful behaviours, we wanted to look more specifically at risky sexual behaviours. Sexually risky behaviours would be multiple sexual partners, condomless sex, and so on. Again, we found that people who were high in dominance we more likely to say they would be sexually risky, along with expecting more benefits from them. An important part of Chapter Four is that we also ask people about their actual sexual behaviours and find a link with both higher likelihood and higher actual behaviours. Like in Chapter Three, we believe that dominance changes the way people perceive risky behaviours, and the findings in Chapter Four further support this. While sexual behaviours are important to investigate, beliefs around behaviours are also important to look at. In our final empirical chapter, Chapter Five, we explore just sexual risk-taking behaviours and social power motives to confirm and extend with more participants.

There is a common thread throughout this thesis on the type of power that motivates an individual, dominance and to a lesser extent, leadership, which affects the way that people see and interact with the world. This research shows that overall, dominance motivation is linked with many diverse types of risky behaviours. Through this research, we

not only highlight risky behaviours, but we also suggest multiple ways to combat these often-harmful behaviours and beliefs.

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Chapter 1: General Introduction

People make decisions every day, from the moment they wake up to the moment they go to sleep. Mundane decisions often appear inconsequential, such as deciding to wear a blue shirt or eating a bowl of cereal for breakfast. However, some decisions are much more complex, such as running for local office. Such decisions can be affected by both internal and external factors. Internal factors are the personal characteristics (states and traits) of the individual that influence their decisions in each context (Bandhu et al., 2024). External factors are the characteristics of the environment that shape the decision. The complexity of human behaviour and the difficulty which arises in studying it are due to the interaction between individual variation in the internal factors and the complexity of external factors.

Another source of complexity is that people often rely on their past experiences, personal values, and beliefs to guide their present decision-making, generating a type of feed-forward cascade in behaviour. Somewhat paradoxically, people also often ignore information that they have available to them or even experiences relevant to current decisions. These dynamics are what make it difficult to answer questions such as ‘Why do some decide to drive recklessly?’ or Why would someone engage in sexual behaviours that increase their chances of contracting a sexually transmitted infection (STI)?’ Risky health behaviours are particularly important to study due to both their high social and personal costs as well as the opportunity they provide for investigating decision-relevant factors.

The world is still reeling from the impact of COVID-19, a highly contagious and in some cases deadly virus that spread worldwide. Health officials from nearly every country, including the World Health Organisation (WHO), advised individuals to be extremely cautious, wear masks, and maintain social distancing to mitigate the impact of the disease (World Health, n.d.). In the event of a positive case, these agencies advised people to isolate. Extensive public information campaigns were launched to inform the public about the benefits and necessity of these measures (Mathieu et al., 2020). However, despite these efforts, cases of COVID-19 continued to soar, eventually totalling nearly 767 million cases with 6.9 million global deaths (World Health, n.d.). In large part, this was due to noncompliance with freely available and, in some cases, mandatory guidance and rules (L. He et al., 2021). There were, and continue to be, reports of Boris Johnson, the former prime minister of the United Kingdom, breaking such rules and holding parties in violation of pandemic guidelines and possibly creating a super-spreader event (Allegretti, 2022). Additionally, many people in the United States, the United Kingdom, and other countries refused to wear masks or socially distance themselves (Lu He et al., 2021). These individuals were not only putting themselves at risk but also others as well. In these cases, the environmental factors often differed in various ways, particularly in terms of information diet (Mach et al., 2021; Ng & Tan, 2021), but in many other respects, particularly within individual countries, the environment was the same (same nation, same language, same government information, same public health responses,

etc.) but the individual reactions to this environment were radically different.

What are the individual differences that motivate people to make these highly risky decisions in diverse ways? One answer, which is under-investigated and which is the core topic of this thesis, is individual differences in power motives and how these drive different risk preferences, judgments, and decision-making in various health-related situations. In the next section, I discuss motivation and the factors that influence motivation, followed by how motivation may relate to risk. I will then discuss power, in addition to social power, and how it intertwines with motivation, with the introduction of power motives and use that as a foundation for understanding risk and risk preferences. Finally, I will discuss the current literature around risk while finally introducing the chapters of this thesis and possible future implications.

1.1. Motivation Background

One important, as discussed, aspect of understanding human behaviour is what motivates that behaviour. Motivation is conceptualised as a complex construct that encompasses a range of psychological and physiological processes (Maslow, 1943). At its core, motivation is characterised by a state of readiness or drive to engage in particular behaviours, which is thought to arise from a combination of internal needs and external stimuli. This interplay between internal and external factors gives rise to a series of needs or drives that propel individuals toward goal-directed action (Locke, 2023; Maslow, 1943).

There are different, but overlapping, frameworks within which to conceptualise motivation, including content, cognitive, and process-based theoretical frameworks. Content-based approaches to motivation are concerned with the goals, needs, and desires that drive behaviour - examples are Maslow's hierarchy of needs, Alderfer's ERG theory of needs, and Herzberg's two-factor theory (Alderfer, 1969; Herzberg et al., 1959; Maslow, 1943). Cognitive approaches to motivation are concerned with how individuals' thoughts, beliefs, and expectations influence motivation and the behaviours that underlie motivation, such as goal setting and expectancy (Crawford et al., 2021; Vroom, 1964). Both content and cognitive approaches are largely, though not exclusively, concerned with the representations that form goals, motives, and desires, the content and format of those representations, and the cognitive factors (e.g., higher-level goals or learned norms of behaviour) that alter or moderate those representations. Process-based theories of motivation, on the other hand, are concerned with the process of motivation, that is, the internal algorithm(s) that act on motivational representations. Reinforcement learning theory (Skinner, 1953), Vroom's expectancy theory (Vroom, 1964), or Locke's Goal Setting theory (Tosi et al., 1991) conceptualise motivation more as a step-by-step behavioural process in order to reach a stated goal. These approaches are not mutually exclusive and can be used in conjunction with each other. For example, Maslow's hierarchy of needs, a content-based theory of motivation, can be used in conjunction with cognitive theories of motivation such as expectancy theory (Vroom, 1964). Murray's conceptualisation of motivation categorised certain

personality traits as either being based on one's needs or motives. In doing so, this can reflect the stability of motivation while allowing certain needs to change over time (Murray, 1938). Additionally, motivation is predicated upon two primary levels of needs: the first being basic biological needs or primary needs, and the second being psychological, or secondary needs. Notably, secondary needs hold particular interest as they are not essential for mere survival but rather facilitate personal development and growth.

Within the secondary needs category, Murray proposed 24 primary psychological needs. Three of these needs—affiliation, achievement, and power—are relevant and arguably directly related to power, as defined throughout this thesis (see next section for my definition of power) (Murray, 1938). Affiliation is the need to be with others, achievement is the need to accomplish goals, and power is the need to influence others. These three needs are considered to be the main needs that drive individuals to act (Murray, 1938). The need for power is often described and defined as the need for dominance, which is paired with the need for aggression (Fonberg, 1988). Needs are not inherently positive or negative; it is their attainment and utilisation that determines their impact. Murray's postulation of power is interesting in that it centres around the idea of a need for independent influence. Influence or social influence is defined as the intentional or unintentional (in the context of those wanting power and control, it would be intentional) efforts to change the beliefs and behaviours of those around them (Gass, 2015). Wanting influence over others is often a common theme amongst Western cultures that heavily

individualise the person as distinct from the community (Markus, 2016). Murray proposed that the types of behaviours that arose from the need for power were abasement, avoidance, deference, and dominance behaviours (Markus, 2016). For Murray, dominance was not only a need but also a collection of methods for gaining power. I will discuss power in further detail in the next section.

Murray acknowledged that human behaviour and motivation are a complex interplay of internal versus external forces (1938). External forces or “presses” influence an individual’s psychological needs, shifting the balance between one and another. Conflict may arise in and from this push and pull, for example, with the need for dominance conflicting with one’s need for affiliation, but the latter, and in turn, may be bolstered by the need for affection.

Murray’s theory of motivation is significantly influenced by psychodynamic psychology, which suggests that internal forces drive human motivation. These forces are often innate to individuals and are shaped by their early experiences and socialisation (Murray, 1938). In contrast, McClelland’s theory focuses on three core emotional needs, which are acquired as individuals age and are shaped by external forces such as society (i.e., achievement, affiliation, and power, McClelland, 1961). This acquired needs theory posits that nearly every person is motivated by at least one of these three motivators, but usually a combination of all three, and their specific needs are shaped by exposure to the environment. When the need is strong within oneself, the effect is then to engage in behaviours that satisfy those needs. Furthermore, when

those needs are met, the specific behaviour is often then rewarded, which causes those specifically reinforced behaviours to occur at higher frequencies. According to the need for achievement, the achiever strives for success and excellence in everything that they do. They are characterised by a desire to set challenging goals, take risks, and seek feedback on their performance (Schüler et al., 2013). These achievement-motivated individuals are further motivated by the satisfaction they get from achieving those goals, creating a reinforcement of those behaviours. Social interactions then create some obvious and natural constraints on human behaviour and motivation (Princen, 1997). There are always limits to human behaviour and the striving or push for things to satisfy certain needs and behaviours (Price & Bouffard, 1974). Actions, or similar actions, which satisfy a specific need like hunger or sex, become heavily rewarded, and those specific actions are reinforced. However, people often can overgeneralise those behaviours in an effort to satisfy their needs, even in situations where those behaviours fail to produce desired outcomes (Eisenberger & Adornetto, 1986)

Individuals defined by a need for affiliation are driven by their need to seek out and maintain social relationships with others (McClelland, 1961; Poeller et al., 2021), often characterised by a desire to be liked by others and avoid conflict and rejection (McClelland, 1961). They are satisfied whenever they create or maintain a positive relationship with others. The final motivation, the need for power, is characterised and defined by wanting to control and influence others. These individuals view status and recognition as especially important and ultimately satiate their

need for power (see section 1.2 for further discussion of social status). The power motive is further separated into socialised and personalised power (McClelland, 1970). This distinction reflected the impact that the power motivation would have on society and the individual. Socialised power is defined as a power to help others and achieve a collective goal (Królewiak, 2017; Magee & Langner, 2008), while individualised power is defined as a desire for personal gain and the achievement of individual goals (Magee & Langner, 2008). Those with a high individualised need for power were often characterised as being prone to unethical or selfish behaviours.

The need for (socialised) power is present in both Murray's and McClelland's conceptualisations and lends credence to a group-based or shared goal aspect of human behaviour. Both McClelland and Murray conceptualise (individualised) power as a motivational drive to influence others. McClelland defines it as the desire to control others and their opinions, even in cases where the behaviour or ideas would be objectionable to the individual(s), while Murray sees it as the drive to have an impact on others. This does, however, leave open the type of impact that one would have. In the next section, I will lay the foundation as to how power has often been defined and what power motivation could lead to.

1.2. What is power?

Power influences all forms of social relationships, and its pervasive effects have garnered sustained scholarly attention. Philosophical conceptualisations of power often discuss it as a means to an end, or that power is something that makes some sort of change possible (Aristotle,

1984). What this change is, is generally up to the wielders of power. This view emphasises that power is a tool or a resource that can be used to achieve specific goals or aims. With power framed as a tool, one can understand how pervasive power is and how it includes being able to guide and make a change, and directing/deciding what change is necessary and the methods to reach that change.

Understanding concepts and ideas through metaphor and philosophical ideas is incredibly useful in that it allows for the ideas to become more simplified and universal for more people to understand. However, in doing so, we can lose evidence to support those claims as they are made. Using a metaphor can also confuse and misconstrue the true scientific phenomenon (Taylor & Dewsbury, 2018). While metaphor can be a powerful tool for understanding a target framework, such as power, ultimately, some concepts need to be engaged with directly. An evidence-based approach studies the actual situations, where, in this example, power influences society. Through an evidence-based approach, French and Raven identified five sub-components of power: reward power, defined as the ability to grant rewards; coercive power, defined as the ability to withdraw rewards and/or inflict punishments; legitimate power, defined as the acknowledged/accepted right to govern and influence; referent power, defined as the ability to influence through identification and sympathy; and expert power, defined as the attribution of knowledge in a specific area to the actor (French Jr & Raven, 1959). The six bases of power were expanded to 64, yet were still criticised for missing or omitting certain aspects of power (Winter, 1973). Another fault of this definition is

that the conceptualisation of power into sub-components omits the exertion of force on (or by) a group, focusing only on the individual. Winter then shifted to a more concise definition of power: “a concern for having an impact on others, arousing strong emotions in others, or maintaining reputation and prestige” (Winter, 1988, p. 510). Specifically, Winter’s definition of power, while concise, addresses the group or societal aspect of power by expanding the domain of influence (or desire for it) from just influencing a single person to influencing a group of people.

Power can also be conceived of as a process that fluctuates with the group and social dynamics of a society. Galinsky and colleagues identified power as a dynamic social process that can change over time depending on the context, emerges through inter-individual interactions, and is transferable in nature (2003). People with power often generalise their application of power outside of the original domain in which it was gained (Desmichel & Rucker, 2022; Frevert & Walker, 2014; Lukaszewski et al., 2016; Petersen et al., 2013; Rahal et al., 2021; Richardson, 2021). Dynamic fluctuations in power motive-related behaviours result from priming participants with power cues or manipulations; they are more likely to seek out opportunities for, or increase the intensity of, goal-directed behaviour (Galinsky et al., 2003), including helping others and achieving a collective goal (Galinsky et al., 2003; Magee & Langner, 2008).

Inter-individual interactions also naturally create power dynamics and, in turn, differing social hierarchies. Even in situations where individuals may start with seemingly equal levels of power, variability in individual characteristics creates these power imbalances through inter-

individual interactions (Boldry & Gaertner, 2006). Interestingly, when confronted with such power imbalances, social distance is created between those with more and those with less power (Magee & Smith, 2013). Power is not only determined by the person who has it but also by the social group or the group of individuals who hold positions of power in a given society. In other words, the dynamics of power can be shaped by both the individuals in power and the larger social context in which they operate. Power then can become an influential force in a social fund or group resources, regardless of the pro- or anti-social outcomes of the social fund (Galinsky et al., 2003). Power brokers such as people, institutions, or organisations additionally have structural power to shape the policies, opinions, and laws that govern the social structure present in a society (Barnett & Duvall, 2005). Power is also transferable from person to person. Person A can delegate power through a chain of people, but said power is also transitive in that person A has power over person B, who has power over person C. Person A, through the transitive nature of power, therefore has power over person C. In some cases, when individuals are then given power over large corporations or institutions, the newfound power highlights or encourages self-interested and, in some cases, criminal behaviours (Giurge et al., 2021).

As shown here, power can be difficult to completely define. While I will return to the issue(s) of fluctuations in power, their emergence, etc., in the general discussion, for the remainder of this dissertation, I define power as the ability to influence, control, or affect the behaviours, thoughts, or actions of others (Winter, 1973). However, the motivations

that drive the acquisition and exercise of power are a compelling aspect to consider in the wider context of risk behaviours. At a simple level, having power insulates one from many types of risk. At a more complex level, it is crucial to understand how power motivations affect risk-taking behaviours even when the actual level of power possessed is negligible or irrelevant to the outcomes.

1.2.1. Social status, hierarchies, and power motives

Humans are a hierarchical social species (Anderson et al., 2001; Sidanius & Pratto, 2001; Wilson & Sober, 1994). As such, we often automatically process rank-based cues (Cheng et al., 2016; Desmichel & Rucker, 2022; Thomsen, 2020). Social ranks are inferred even by young children based on relative body size, previous history with similar third parties, and including making inferences of a dominance hierarchy when observing the deference or lack thereof in a group setting (Thomsen, 2020). A social rank is defined as an individual's relative position within a specific social hierarchy, while a social hierarchy is defined as a structured ranking of individuals or groups in a society, often based on the power, status, or resources of the individual or group (S. Fiske, 2010; Magee & Galinsky, 2008). Interestingly, in the case of the latter, young children pay close attention to the type of deference being displayed and place more importance on consensual deference to authority rather than unfair or "malevolent" authority. Similarly, adults process very similar cues to understand social hierarchy, such as children's larger relative body size, relative attractiveness, to behaviours such as expressing approach-related emotions, to even the way an individual speaks (Cheng et al., 2016;

Desmichel & Rucker, 2022; Rahal et al., 2021). Social status refers to and is defined as a person's relative position within a social hierarchy, which can determine many different positions, abilities, and resources available to the person(S. Fiske, 2010; Magee & Galinsky, 2008). Evolutionarily, social status confers many benefits, including, but not limited to, access to larger shared group resources (Sapolsky, 2005). Those with a higher social status are often healthier, faster, and stronger. These individuals were more likely to have their genes and traits passed down to the next generation (for humans see: Alvergne et al., 2010; for animals see: Côté & Festa-Bianchet, 2001; see also: Wingen et al., 2021).

How power, or position in a hierarchy, is obtained is critical. Recognition of power, as previously stated, is often contingent upon physical attributes and displays of those characteristics, while the acquisition of said power can involve a multitude of diverse approaches driven by distinct motivations and means. Early hierarchy research in social psychology explained two methods as either via coercion or through rights endemic to status, namely dominance and prestige (Cheng & Tracy, 2013; Cheng et al., 2013; de Waal-Andrews et al., 2015; Maner, 2017). While social status does share similarities with power, and one can be a by-product of the other, they are distinct(S. T. Fiske, 2010). When two groups are equal in power yet different in social status, those in the higher social status group confer more positive intergroup perceptions (Boldry & Gaertner, 2006). Independent of power, social status appears to affect the perception and acknowledgement of social hierarchies. When differences in power and without defined social hierarchy, people tend to naturally

gravitate towards a hierarchical system with a leader at the top. When faced with a shared task in small groups, participants naturally selected a leader or self-appointed one (Sherif, 1936). Reflecting this, more complex social hierarchies are explained by a combination of dominance-related tactics (physical and psychological aggression, along with leverage tactics) and status hierarchies (Chen Zeng et al., 2022; Redhead & Power, 2022). For example, wealth often confers status, but in other cases, physical size does (Cheng & Tracy, 2014; Kakkar & Sivanathan, 2017; Panchal & Gill, 2020). While in some cases it would make sense to choose a qualified leader who can meet many challenges faced by the group, emotions such as fear of or hatred towards another group may override the decision-making process (Kakkar & Sivanathan, 2017). This is especially seen in times of economic or social upheaval, when the more dominant leader may be chosen over the more qualified, prestigious leader. During times of social upheaval, the more dominant leader is seen as more likely to address and facilitate the “necessary” aggressive responses to address the situation (Laustsen & Petersen, 2017, 2020).

Former President Donald Trump is a recent example of this phenomenon. When primed with dominance-related materials and ideas, people attend to more dominant individuals as well (Roberts et al., 2019). Priming of social status-related materials also influences individuals’ self-regard and eventual behaviour (Mahadevan et al., 2019a). Being of a higher social status not only confers physical benefits but also increases self-esteem, assertiveness, and decreases stress levels (Mahadevan et al., 2019b; Maner et al., 2010; Rose & Vogel, 2020). Social status

incidentally affords individuals more opportunities to express their abilities and even gain support, which becomes counterintuitive when those of lower status may need more support in their endeavours (Calarco, 2011). Those of higher social status are also perceived as being more competent in areas of their supposed expertise, even if their competence is exaggerated, especially those with dominance-related power status (Anderson & Kilduff, 2009; Oh et al., 2020). A positive feedback loop often emerges, wherein those of higher social status have increased motivation to retain and expand their status and enjoy more opportunities and resources for doing so.

The self-fulfilling motivation to keep a higher social status, along with being towards the top of the hierarchy, lends credence to the pervasive nature of motivation and, in turn, power motivation. Like a Black Mirror episode on Netflix, social power and social status become a sort of transactional commodity through complex individual and group-based social interactions (Robinson, 2016). Higher status, with many benefits, affords individuals more power over themselves and others. In turn, individuals high in need for power are more likely to be in positions of power (McClelland & Boyatzis, 1982), but they are not necessarily effective in those positions. An effective leader often has a combination of a high need for achievement, a low to moderate need for affiliation, and a moderate need for power (McClelland, 1961; McClelland & Boyatzis, 1982). According to the literature, the most effective leaders are those who cause those under them to have a personal sense of power, a demonstration of the transitive nature of power (McClelland, 1970). Having

too much affiliation or power motivation can lead to hyper-vigilance for status and power. This hyper-vigilance can lead individuals to obtain more power through their respective constructs of power, either forcefully (i.e., dominance) or through experience-based power attainment (i.e., prestige or leadership). Evidence of effectiveness lends credence to the need for power not inherently having a negative outcome on the individual or those around them.

1.3. Dominance, Prestige, and Leadership

Recent research into understanding the dual process of power and motivation demonstrates how power, motivation, and the interaction within the social sphere. Suessenbach and colleagues (2019) investigated social power and found three distinct subcomponents of dominance, prestige, and leadership, where previous research had usually defined two (dominance and prestige). Dominance is defined as the desire to control or influence others through force, coercion, or intimidation (Suessenbach et al., 2019). Going forward, control is defined as the ability to shape and influence decisions, ideas, and choices of the self or others (S. T. Fiske, 2010). Prestige is defined as the desire to gain status and admiration from others through accomplishment, skills, or social connections. Leadership is defined as the desire to gain status, power, and influence through leading and coordinating cooperation to achieve a common/group goal. Interestingly, in both cases of prestige and leadership, power is voluntarily given by others, while for dominance, power is usually taken. The difference between leadership and prestige is more nuanced. This natural progression of the conceptualisation of the power motive to identify

components related to both individual and social power allows for a more nuanced understanding of power and its effects on the individual and society. Social power motives and power in general are complex, multifaceted phenomena that are connected to a large swath of human behaviour. Social power motivations have been linked to several behaviours. Those with a dominance motivation are more prone to verbal and physical aggression and are less likely to engage in prosocial behaviours like donating money to a charity or cause (Suessenbach et al., 2019). Prestige-motivation has been linked positively to job attainment and social status, along with having higher moral concern (Suessenbach et al., 2019). Leadership-motivated individuals are more likely to occupy positions of greater authority in the employment hierarchy, be more extraverted, and display more helping behaviours. Conversely, while strongly dominance-motivated individuals can also be in positions of authority, they may engage in problematic behaviours in order to satisfy their desire to display dominance. Prestige-motivated individuals may engage in risky behaviours in order to show off certain characteristics or skills. Put simply, different power desires may result in different risk appetites in otherwise similar circumstances.

Dominance, prestige, and leadership (social power motives) as a method of understanding human motivation and behaviours is an efficient and concise method of understanding risk behaviours. Social power motives and power, by extension, differentiate from similar constructs such as status, influence, and control, in that they become the tools in which the user makes choices and decisions for themselves or others(S. T. Fiske,

2010). While they all share similarities with one another, such as the intertwining of control and influence on others, they do not necessarily explain the why of decision-making. We contend that social power motives fill in the gaps that status, control, and influence have on the decision-making process. While there may be some downsides to social power motives, such as some overlapping factors between, say, leadership and prestige, social power motives as a whole fill in the necessary gaps while opening up new and exciting research into understanding how and, more importantly, why someone would act in a risky way.

Social power motives, DoPL, work by giving background to the why of human decisions. In previous understandings of motivation, such as by Murray or McClelland, a wide net is cast to understand motivation that can be quite cumbersome when trying to concisely explain sometimes complex human behaviour. Social power motivations work by understanding that, as social creatures, we are often consciously or subconsciously preoccupied with the social hierarchy, social status, and the personal accumulation of resources(Cheng et al., 2010; Leary & Gabriel, 2022; Maslow, 1943). While previous understandings of motivation and its effect on behaviour have been advantageous and have led to years of research in the field, social power motives (DoPL) as a method has multiple benefits. Suessenbach and colleagues found that DoPL can predict distinct human behaviours such as prosocial outcomes or aggression(Suessenbach et al., 2019). Additionally, DoPL as a motivational framework applies a more structured taxonomy that draws strict distinctions and helps capture the more complex beliefs and

motivations of social power. While broader definitions could be advantageous in that they could explain power and motivation, an inconsistent association can lead to misattribution and irregularities. In this model, we articulate that most individuals are motivated by one of these three areas of social power motives, bridged from earlier understandings of motivation. In this model, as aforementioned, motivation as it pertains to desires for power centres upon dominance, prestige, and leadership. These subclassifications of motivation function as a motivational impulse and drive that, we believe, guide how individuals interact with their environment, especially in interactions with other people and communities. Additionally, this model accounts for self-reinforcement of behaviour and can sometimes result in an overgeneralisation, which we touch upon in subsequent chapters. This model is especially important because of the important dynamic of power differences that is often at the forefront of dyadic and sexual relationships. The DoPL framework not only maps the core social power motives frameworks but also provides a cohesive and important lens for investigating and understanding how these motivations shape and influence real-world choices under risk (which we further define and discuss in the next section). By pinpointing the psychological drives and motivations that underlie interpersonal social hierarchies, the DoPL model, we contend, can help predict and explain why individuals will accept or avoid risks in domains where power dynamics are more salient. This is especially important in situations where power differentials and imbalances are rife, such as situational factors, sexual, and non-sexual interactions.

1.1 Risk in context and impact

With every decision, there comes a risk of one outcome occurring over another, of failure instead of success, and/or of unforeseen consequences of one's actions. An individual's desire for power and influence may lead them to take risks and engage in behaviours that are potentially beneficial or harmful to themselves or others, depending on the outcome(s). Increased risky behaviours are becoming a global health threat (The World Bank, 2013). When an individual gambles or engages in a socially risky situation, they may be doing so as a way to increase their status, often because people constantly compare themselves to others (Dijk, 2017; Gamba & Manzoni, 2014). This raises the concerning possibility that those who are most driven to acquire and use power over others (politicians, CEOs, community leaders, etc.) may also be those most predisposed to taking risky actions that affect others' lives. Understanding the link between power motives and risky decision-making is, therefore, critical to building resilient societies and institutions.

Risk here is defined as the probability (or sometimes the likelihood) of a negative outcome occurring (Kahneman & Tversky, 1979). Risk involves knowing potential negative outcomes, whereas uncertainty is characterised by a lack of information regarding possible results and/or their relative probabilities/likelihoods (De Groot & Thurik, 2018). As noted, there are multiple ways to understand and operationalise risk, which lends credence to the robustness of risk-based research. We seek to focus on this robustness by operationalising risk in diverse ways, as noted in the concluding section of this introduction. In doing so, we operationalise risk

differently while still targeting risk to look at the robustness of social power motives and risk-taking. Many personality traits have been linked with increased risk-taking, such as sensation-seeking, trait dominance, neuroticism, along with impulsivity (Demaree et al., 2009; Liu et al., 2021; Megías-Robles et al., 2022; Zuckerman, 2007). There have also been biological correlates to increased risk-taking, such as increased testosterone levels, also seen with an increasing need for power, along with a possible connection to cortisol production, either increasing or, in some cases, decreasing risk-taking (Jordan-Young & Karkazis, 2019; Kluen et al., 2017). Society and socialisation have a significant impact on risk-taking propensity. Teenagers often compare themselves to their friends and their peers. Usually, in an effort to improve their social status amongst their peers. Teenagers often engage in risk-taking behaviours in hopes of being more popular (Gamba & Manzoni, 2014; Linde & Sonnemans, 2009). While social comparison is an important factor in teens' risk-taking behaviour, parental consent appears to have a rather important effect on risk-taking, especially when under conflicting influence; adolescents take more risks when their parents endorse risky decisions, but not when only their peers endorse the same risky decisions contrary to their parents (Kwon et al., 2021).

Power and a sense of power also have an impact on risk and risk-taking. Individuals high in need for power show an increase in impulsive actions such as gambling, and physical and verbal aggression (Johnson et al., 2007; Sekścińska et al., 2022). Given a socialisation viewpoint of power, it can even influence the way that individuals view risk-taking

behaviours. Power in some contexts is more of a product of socialisation and dynamically changes depending on the social context (Galinsky et al., 2003). Indeed, when primed with a high sense of power, subjects were more likely to take risks such as heavy drinking, gambling, and so on (Anderson & Galinsky, 2006). Individuals with an increased desire for power might also seek their goals via more risky strategies/options. While previous studies have linked risk to a personal sense of power, operationalising power as either personal or social becomes key in understanding the impact that it has on decision-making. Individuals high in dominance engage in risky behaviours, particularly in financial or economic domains (Demaree et al., 2009). Higher dominance is also linked to poorer perspective-taking (Galinsky et al., 2005; Galinsky et al., 2006). If individuals high in dominance are less likely to show empathy, then they would be less likely to consider the feelings, thoughts, and emotions of others when making decisions and possibly, in turn, act rashly without thought of others.

However, previous research linking the need for power, or having (primed) power, to increased risky decisions and behaviours has neglected the structured relationship of different forms of power. In Chapter 2, I investigate just this relationship of how different power motives distinctly influence risk preferences. Different forms of power may have different influences on risk preferences.

1.4. Overview of chapters

The thesis seeks to further our understanding of power motivations and risk preferences, as well as the impact of this relationship on

individual choice in domains that have significant personal and social risks. In Chapter two, I explore how dominance, prestige, and leadership relate to risk preferences with a two-part study submitted and accepted to Sage Open Europe (10.1177/21582440251363317). In Chapter three, I sought to further our findings to include an experimental investigation of decision factors related to risky choices that affect the self and others and how these interact with power motives while controlling for a third variable, spitefulness. The overarching goal was to explore the unique predictive role of power motives in (hypothetical) behaviours that could otherwise be attributed to spitefulness. In Chapter four, I focus on actual engagement in risk behaviours, specifically sexual risk-taking. In this chapter, I discuss the current landscape of risky decisions specific to sexual risk-taking and how social power motives, particularly dominance, impact perceptions of sexual risk-taking and actual engagement in sexually risky behaviours. The final empirical chapter seeks to focus exclusively on sexual risk-taking behaviours of Chapter Four by expanding the number of participants while removing focusing exclusively on the impact of social power motives on sexual risk-taking rather than comparing narcissism to social power motives. We believe that the different operationalisations of risk, i.e., general, spiteful, and sexual risk-taking, help to elucidate the robust effect of social power motives on human decision-making. In the concluding chapter, I discuss the implications of our findings and how they relate to the current literature surrounding power and decision-making. I will also discuss the limitations found in the current research and some best practices to address those concerns, limitations, and future studies.

Chapter 2: Power Motivations and Risk Preferences

Chapter Note: The first empirical chapter, power motivations and risk preferences, has been submitted and accepted to the journal, Sage Open Europe. In this first empirical chapter, I also with joint first author Dr. Adam Moore and second Julie M.E. Pedersen, investigate social power motivations influence on risk preferences. In this two-part foundational chapter, we investigate and find that dominance motivation in particular strongly predicts increased likelihood of risk-taking and influences risk preferences. In the second part we investigate also with a third variable, pathological narcissism, and find that dominance motivation is a stronger predictor for risk preferences along with appearing to be a mediator of pathological narcissism on risk likelihood. This chapter lays the foundation for future studies found in chapters three, four, and five. Given this, the appearance and information displayed as in the tables, figures, and introduction, reflect this chapter being formatted to suit the journals specifications. One error is present in a table caption and has been brought to the attention of the journal prior to publication.

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Power Motivations and Risk Preferences

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Abstract

In the present research, we sought to examine the relationship between the social power motives (dominance, prestige, and leadership) and risk preferences. In study 1, individuals high in the dominance motive were overall more likely to take risks, judge risks as beneficial in their results, and less likely to perceive risks as risky. Similarly, dominance demonstrated robust and unique predictive utility across all measured subdomains of risk taking (ethical, financial, social, recreational, health and safety). In study 2, we replicated the results of study 1 in a larger, more diverse sample while also controlling for narcissism—a possible common cause third variable. We discuss the implications of these findings for the study of power motives and risk-taking behaviors along with possible future directions.

Plain Language Summary

Introduction: Taking risks are a fact of life when we want to achieve are goals or aspirations. Some enjoy and readily take risks while other are quite risk averse. Power and the attainment of power is also a strong motivation in peoples lives. Social power motives (dominance, prestige, and leadership) influence how we interact and see the world. Aim: The present studies sought to examine the relationship between these social power motives and risk preferences. Method: An analysis of social power motivations effect on risk preferences through risk domains (ethical, social, recreational, health and safety, and financial). Study 2 replicates the methods while introducing pathological narcissism (to control for pathological narcissism). Results: In study 1 we found that dominance demonstrated robust and unique predictive utility across all measures sub-domains of risk-taking. Study 2 replicated the results and found similar results. Conclusions: Dominance appears to be the strongest predictor of risk-taking and risk preferences. Additionally, we discuss the implications of these findings of power motives and risk-taking behaviours along with possible future directions.

Keywords

DoPL, power, motives, risk, DOSPERT

Power Desires and Risk Preferences

Literature Review

Risks are a fact, and it is often necessary to take risks to achieve one's goals. However, when done rashly and without consideration, risk-taking can result in negative consequences ranging from loss of wealth/income, social/relationship failures, and in some cases death. Even with equal access to available information, people demonstrate markedly different attitudes towards risk-taking (Brailovskaia et al., 2018; Rolison et al., 2014; Zuckerman & Kuhlman, 2000), how they perceive those risks, if they in fact do perceive them as risks, and if they perceive benefits of the risks (Weber et al., 2002). There has been a large amount of research demonstrating the utility of modeling composites of these different aspects of risk attitudes as risk propensity (Figner & Weber, 2011; Shou & Olney, 2020).

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Data Availability Statement included at the end of the article

A particularly useful insight from this work is that individuals demonstrate very different attitudes toward risk in different domains, including financial, social, sexual, health, and ethical domains (Breakwell, 2007; Kühberger & Tanner, 2009; Shearer et al., 2005; Weber et al., 2002). For example, men often engage in more risky behaviors than women (e.g., financial, recreational, ethical, and health risks) (Chen & John, 2021; Desiderato & Crawford, 1995) except for situations involving social risks, where women tend to engage more than men. Group identity and membership may influence individuals' likelihood to engage in risk-taking behaviors along with cultural differences influencing behaviors (Hao et al., 2023; Qiao et al., 2024). In addition to within-individual differences in domain specific risk-taking propensity, there are also inter-individual differences in risk aversion (Boon-Falleur et al., 2021; Dohmen et al., 2011; Q. Zhu et al., 2024).

Independently, as age increases, risk-taking likelihood decreases for some domains, for example, financial risks, but increases for others such as social and recreational domains (Rolison et al., 2014). Given the variability of individuals' preferences and behavior across different domains of risk behaviors and situations, Weber et al. (2002) developed the domain-specific risk-taking (DOSPERT) scale, which separates risk preferences into five domains. A meta-analysis found that from 104 samples, overall DOSPERT scores showed satisfactory alpha coefficients and ultimately recommended the utility of using the DOSPERT scale (Shou & Olney, 2020).

However, one promising but yet unexplored connection is that between individual differences in risk preferences and desire for power. Previous research, (Demaree et al., 2009), examined the relationship between dominance orientation (trait dominance) and risk-taking behaviors in the financial domain, finding that higher levels of trait dominance predicted an increase in financial risk-taking, but this research has not been extended to other domains, other power motives, nor to components of risk preference. Power desires/motives drive a wide variety of behaviors across all the subdomains measured by DOSPERT (e.g., see Suessenbach & Moore, 2015 for moral; see Winter, 1973 for competitive sports/recreation; see Jackson, 1984, Winter, 1988, and Suessenbach et al., 2019 for attainment of high power profession; see Kyl-Heku & Buss, 1996, for aggressive social behaviors) but recent advances in the measurement and theory of social power motives has not been applied to risk preferences.

The Social Power Motives—Dominance, Prestige, and Leadership Components Predict Unique Outcomes. Recent research on the general power motive has identified three distinct sub-components: dominance, leadership, and prestige (DoPL) (Suessenbach et al., 2019). These constructs represent both different types of social power that individuals prefer and different strategies or methods that people use to pursue/attain power (see below). While these are positively correlated, they are psychometrically distinct and differentially relate to various other elements of personality. For instance, dominance is uniquely positively associated with narcissistic rivalry and admiration, social dominance orientation, and fear of losing control, but negatively with agreeableness, conscientiousness, and desires for intimacy. By contrast, while prestige has similar positive associations with elements of narcissism and fear of losing control, it is uniquely *positively* associated with agreeableness, desires for intimacy, and fear of losing reputation. Leadership is uniquely positively associated with agreeableness, extroversion, conscientiousness, and openness, but *negatively* to neuroticism and fear of losing control. These constructs also differentially predict behavior, some of which suggests that these motives may also be linked to various aspects of risk preference.

Dominance. Dominance refers to a preference for, and strategy of, coercive power. Individuals who prefer dominance seek power through direct methods such as verbal or physical aggression, including bullying and emotional violence/intimidation (Howard et al., 1986; Malamuth et al., 1996; Williams et al., 2017). Critically, dominance as a form of power is exercised at someone else's expense—it is a form of power that is taken from and used against others, primarily (if not solely) for the benefit of the wielder.

When dominance seeking individuals assert themselves, they are doing so to increase their sense of power (Anderson et al., 2012; Bierstedt, 1950), which can be a dangerous task. In the animal kingdom, it often leads to injury and can do so as well for humans. Dominance as a power motive can also result in other negative behaviors, such as increased and problematic pornography consumption, sexual assault, or violence (Bareket & Shnabel, 2020; Rosenthal et al., 2012; Williams et al., 2017). In short, individuals high in dominance are more likely to be male, to take risks that may physically endanger themselves or others, and they put low value on sustained social and interpersonal relationships.

Prestige. In contrast to dominance, prestige is bestowed upon an individual from others in the community for their demonstrated (or claimed) skills, abilities, or accomplishments (Maner & Case, 2016; Suessenbach et al., 2019). Individuals driven by the prestige motive seek opportunities to display or claim competence and success to earn admiration and respect from other members of the social group. Higher prestige motivation is associated with higher reported moral concern across a wide range of moral values (Suessenbach et al., 2019) but is not uniquely related to actual helping behaviors.

Insofar as prestige motivation is associated with both the desire to demonstrate one's valuable skills/abilities but also the fear of losing control and reputation, it is unclear how it might relate to risk preferences.

Leadership. Leadership represents the desire to take charge of a group for the purposes of coordinating goal accomplishment/achievement and prioritizing and advancing group interests (de Waal-Andrews et al., 2015; Suessenbach & Moore, 2015; Suessenbach et al., 2019; D. Zhu et al., 2023). Leadership motivation includes an individual's desire to direct cooperation with others and is reflected in a significant positive relationship with both helping behaviors and actual leadership positions held (Suessenbach et al., 2019). However, insofar as effective leadership requires balancing risks versus rewards at both an individual and group level, we might expect that leadership motivation would predict a pattern of risk preferences quite distinct from that associated with dominance.

The Present Studies. Risk-taking can lead to both positive and negative outcomes. Individuals seem to differ in their likelihood to engage in, perception of, and expectation of benefits from risk-taking behaviors based on context, for example, social, or financial risks. Research on people's motives to acquire power (through dominating their followers, acquiring prestige from them, or establishing a leadership relationship with them) suggests that dominance may be related to increased preference for risk-taking, and leadership might be (weakly) related to a decreased risk-taking preference, but possibly only with respect to certain components of risk preference (e.g., likelihood of risk taking as separated from anticipated benefits or perceived risk). Study 1 investigates what motivates people to prefer risks across a wide range of domains. In particular, how do dominance, prestige, and leadership differentially relate to individual components of risk preference and to specific subdomain preferences for risk? Answering this question should allow us to better understand what motivates individuals to take certain kinds of risks, even when doing so can be dangerous or self-defeating. Study 2 investigates the same influence of the social power motives on risk preferences as in study 1 while controlling for narcissism; a trait that is often linked to risk-taking (Buelow & Brunell, 2014; Foster et al., 2009; Leder et al., 2021) and is also linked to stronger desires for some forms of power (Cheng et al., 2010; Suessenbach et al., 2019).

Study 1

Hypotheses

We pre-registered several predictions (https://osf.io/a5nv4/?view_only = b9baba40070a4652870e0c7bbdb71428): (H1) dominance will be (uniquely) positively associated with belief in risk positivity/benefit, (H2) prestige will not be (uniquely) related to risk positivity/benefit, (H3) leadership will be (uniquely) weakly negatively related to risk positivity/benefit. We further hypothesized (H4) no unique predictive relationships between DoPL motives and general risk perception, (H5) males will be more risk-prone than females for financial risk-taking/acceptance (Franco & D'Angelo, 2011), and (H6) general positive relationships between unique dominance and subdomains of risk taking/acceptance (e.g., see Suessenbach et al., 2019, for a positive association between power motives and personal moral sacrifices in dilemmas; Demaree et al., 2009, for dominance and financial risk-taking; Zurbriggen, 2000, for aggression and social/sexual and financial risk taking). All anonymized data along with analysis code and Supplemental Materials are available at (https://osf.io/a5nv4/?view_only = b9baba4 0070a4652870e0c7bbdb71428).

Methods

Participants

Participants were a convenience sample of 111 individuals from Prolific's crowd-sourcing platform (www.prolific.co). Participants were required to be 18 years of age or older and be able to read and understand English. Participants received £2.50, which is above the current minimum wage pro-rata in the United Kingdom, as compensation for completing the survey. A University Psychology Department Ethics Review Board approved all study procedures [ref: 212-2021/1]. In the present study, we minimized risks to participants by allowing them to withdraw at any time without consequences and providing a comprehensive debriefing statement after their participation. Informed consent was obtained digitally, with participants asked to click "I accept" to confirm their understanding of the information sheet with clearly laid out goals and implications of the study. We believe that the potential benefits of this research, which aims to offer valuable insights into power desires on risk preferences, significantly outweigh any minimal risks involved, contributing to societal knowledge and well-being.

Materials

Demographic Questionnaire. Prior to the main survey, participants responded to a series of questions about their self-identified demographic characteristics such as age, gender, ethnicity, and ethnic origin. Full demographic information for both studies 1 and 2 can be seen in Table 1.

Social Power Motives. Social power motives were measured with the 18-item Dominance, Prestige, and Leadership

Table 1. Demographic Table for Studies 1 and 2.

Characteristics	Study 1 $N = 111$	Study 2 $N = 279$
Age		
Mean (SD)	27 (9.21)	29 (9.81)
Median (range)	24 (18.00, 61)	26 (18.00, 78)
Gender		
Female	54 (49%)	127 (43%)
Gender non-binary	2 (1.8%)	8 (2.7%)
Male	55 (50%)	160 (54%)
Prefer not to respond	0	2 (0.7%)
Ethnicity		
African	2 (1.8%)	52 (18%)
Asian or Asian Scottish or Asian British	2 (1.8%)	5 (1.7%)
Caribbean or Black	6 (5.4%)	0
Mixed or Multi-ethnic	10 (9.0%)	7 (2.4%)
White	77 (69%)	229 (77%)
Other ethnicity	8 (7.2%)	3 (1.0%)
Prefer not to respond	6 (5.4%)	1 (0.3%)
Education		
Primary school	4 (3.6%)	5 (1.7%)
GCSEs or equivalent	8 (7.2%)	19 (6.4%)
A-levels or equivalent	32 (29%)	66 (22%)
University undergraduate program	44 (40%)	133 (45%)
University post-graduate program	21 (19%)	64 (22%)
Doctoral degree	1 (0.9%)	4 (1.3%)
Prefer not to respond	1 (0.9%)	6 (2.0%)
Ethnic origin		
African	—	51 (17%)
Asian	—	7 (2.4%)
English	—	17 (5.7%)
European	—	206 (69%)
Latin American	—	6 (2.0%)
Other	—	10 (3.4%)

scale (DoPL; Suessenbach et al., 2019). Each question corresponds to one of the three domains (e.g., dominance, prestige, and leadership), with each domain scored across six unique items related to those domains using a mixed method approach of assessing goals and statements (e.g., "I relish opportunities in which I can lead others" and "I often share with others when I achieve something great" for leadership). These are rated on a scale from 0 (Strongly disagree) to 5 (Strongly agree). Questions "I have little interest in leading others" and "I avoid positions with responsibility over others" are reversed-scored. Within this scale, 15 items from the intimacy and affiliation subscales of the unified motives scale (UMS) were embedded to mask those specific domains within social power motives (Schönbrodt & Gerstenberg, 2012). The internal consistency reliability for the current sample is ($\alpha = .86$, $\alpha = .82$, $\alpha = .76$, $\alpha = .86$). Cronbach alphas follow a similar trend in previous studies validating the DoPL measure: dominance: $\alpha = .90$, prestige: $\alpha = .83$, and leadership: $\alpha = .89$.

Domain Specific Risk-Taking Scale. The 40-item Domain-Specific Risk-taking Scale, (Weber et al., 2002) assesses individuals' (a) likelihood of engaging in risky behaviors, (b) risk perception sensitivity, and (c) expected benefits from risk-taking within 5 domain-specific risky situations: financial (e.g., "Gambling a week's income at a casino."; likelihood), social (e.g., "Admitting that your tastes are different from those of your friends"; likelihood), recreational (e.g., "Trying out bungee jumping at least once"), health and safety ("Engaging in unprotected sex"), and ethical (e.g., "Cheating on an exam") situations. Each risky situation is then rated on a five-point Likert scale (1 being very unlikely, and 5 being very likely). Two additional five-point Likert scales assess risk perception and expected benefits (1 = *not at all risky* and 5 = *extremely risky*; 1 = *no benefits at all* and 5 = *great benefits*) respectively. Examples of risky situations are "Admitting that your tastes are different from those of a friend" (social risk) and "Drinking heavily at a social function" (health and safety risk). Internal consistency reliability for the current samples for perception, likelihood, and benefits of risk behaviors are $\alpha = .85$, $\alpha = .90$, $\alpha = .92$, respectively. For each of the domains the respective reliabilities of the current sample are as follows (financial: $\alpha = .71$, social: $\alpha = .75$, recreation: $\alpha = .76$, health and safety: $\alpha = .70$, and ethical: $\alpha = .73$) $\alpha = .85$, $\alpha = .90$, $\alpha = .92$ respectively. For each of the domain specific risk-taking domains the respective reliabilitys of the current sample are as follows (financial: $\alpha = .71$, social: $\alpha = .75$, recreation: $\alpha = .76$, health and safety: $\alpha = .70$, and ethical: $\alpha = .73$).

Procedure

We calculated risk preferences from the separate response scales of the DOSPERT scale by combining questions from each subdomain following the aforementioned scoring guide. The coefficients calculated from each subdomain represent the risk attitudes for each of the subdomains for the specific response scale (i.e., likelihood, benefits, and perception). Calculating preference for each of the subdomains requires regressing expected benefits and perceptions of risk-taking for each participant in each subdomain. (Equation courtesy of https://sites.google.com/decisionsciences.columbia.edu/dospert/scoring-instructions).

$$\text{Preference}(x) = \alpha(\text{Expected Benefits}(x)) + \beta(\text{Risk Perception}(x)) + c$$

Positive coefficients suggest risk-seeking while the reverse suggests risk-aversion behaviors. Participants were recruited via Prolific's website or via a direct e-mail to eligible participants. The study landing page included

Table 2. Study 1 | Bayesian Correlation Matrix of All Measured Variables.

Parameter	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1. Age	−0.02	0.05	0.05	−0.1	−0.07	0.03	−0.11	−0.03	−0.11	−0.17	−0.17	−0.19*	−0.11	−0.1	−0.20*	−0.18*	—
2. DoPL	0.26**	0.20*	0.21*	0.27**	0.19*	0.27***	0.002	0.26**	0.41***	0.38***	0.25**	0.38***	0.74***	0.73***	0.73***	—	
3. Dominance	0.26**	0.31***	0.23**	0.20*	0.15	0.29***	−0.12	0.26**	0.42***	0.18*	0.007	0.14	0.28**	0.37***	—		
4. Prestige	0.22**	0.07	0.16	0.26**	0.20*	0.18*	0.12	0.22**	0.31***	0.38***	0.43***	0.45***	0.36***	—			
5. Leadership	0.12	0.05	0.08	0.17	0.09	0.14	0.03	0.12	0.19*	0.31**	0.16	0.29***	—				
6. UMS	0.15	−0.007	0.14	0.17	0.22*	0.05	0.24**	0.16	0.23**	0.95***	0.76***	—					
7. UMS Intimacy	0.06	−0.07	0.07	0.09	0.11	−0.04	0.26**	0.07	0.06	0.53***	—						
8. UMS Affiliation	0.17	0.03	0.15	0.17	0.24**	0.09	0.19*	0.18*	0.28**	—							
9. DOSPERT Likelihood	0.59***	0.49***	0.55***	0.55***	0.46***	0.55***	−0.16	0.58***	—								
10. DOSPERT Benefit	1.00***	0.82***	0.86***	0.84***	0.88***	0.87***	−0.05	—									
11. DOSPERT Perception	−0.09	−0.34**	−0.19*	−0.01	0.0003	−0.16	—										
12. DOSPERT Ethical Preference	0.88***	0.75***	0.77***	0.65***	0.69***	—											
13. DOSPERT Financial Preference	0.88***	0.68***	0.68***	0.67***	—												
14. DOSPERT Social Preference	0.84***	0.59***	0.69***	—													
15. DOSPERT HS Preference	0.87***	0.69***	—														
16. DOSPERT Recreation Preference	0.83***	—															
17. DOSPERT General Preference	—																

Asterisks denote probability of direction: *97.5%, **99.5%, ***99.95 + %.

a brief description of the study including any risks and benefits along with expected compensation for successful completion. Participants accepted participation in the study and were directed to the main survey (Qualtrics, Inc; Provo, UT) where they would be presented with a brief message on study consent.

After giving informed consent, participants answered demographic questions followed by the DoPL and the DOSPERT scales (order counterbalanced across participants), with items randomized with each scale. Upon completion, participants were debriefed, and compensation deposited to their prolific account.

Data Analysis. All analyses were implemented in the R statistical language (R Core Team, 2021). We conducted Bayesian regression analyses using the brms package (Bürkner, 2018), cmdstanr (Gabry & Cesnovar, 2021), bayestestR, rstan, and papaja/quarto packages (Allaire, 2022; Aust & Barth, 2020; Makowski et al., 2019; Stan Development Team, 2020). All continuous variables were standardized prior to analyses. We present results as the median posterior density estimate of the standardized regression coefficient(s) (i.e., betas) with 95% highest density intervals (HDIs) around those estimates, unless otherwise noted. Additionally, unless otherwise stated, all models reported here met diagnostic assumptions of general linear models. See Supplemental Appendix (Figures A1–A8 for performance check figures and results). Model checking was done using the performance package (Lüdecke et al., 2021).

Results

One hundred and thirteen participants participated in the study, however following pre-registered exclusion criteria, two were removed because of incomplete data. Table 1 shows the demographic information for the participants. The average completion time for participants was 20M 58s (SD = 10M 43s). Table 2 reports the zero-order correlation matrix of all measures.

Preregistered Analyses. Our pre-registered hypotheses primarily targeted the associations between DoPL motives and general perceptions of risk benefits, the tendency of males to be more risk-seeking than females on average, and the positive predictive utility of unique dominance for all risk subdomains measured by the DOSPERT scale. To evaluate these hypotheses, we conducted a Bayesian multivariate multiple regression analysis using risk-benefit, likelihood of accepting/taking risks, and perception of risk as simultaneous criteria. Dominance, prestige, leadership, gender, and age were considered as predictors, with the latter two functioning as control

Table 3. Study 1 | Bayesian Regression of Individual DOSPERT Sub-Domains and Social power motives(DoPL).

	Benefit			Likelihood			Perception		
Predictor	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)
Intercept	0.26	[0.01, 0.5]	8	0.25	[0.03, 0.47]	7	−0.25	[−0.5, −0.01]	9
Dominance	**0.26**	**[0.08, 0.46]**	**2**	**0.41**	**[0.23, 0.59]**	**0**	**−0.28**	**[−0.49,−0.08]**	**1**
Prestige	0.15	[−0.05, 0.35]	30	0.18	[−0.01, 0.37]	18	0.19	[−0.02, 0.4]	18
Leadership	−0.09	[−0.27, 0.09]	55	−0.08	[−0.25, 0.09]	60	0.13	[−0.05, 0.32]	35
Age	0.02	[−0.16, 0.2]	74	−0.01	[−0.19, 0.17]	78	−0.1	[−0.29, 0.09]	49
Gender	**−0.57**	**[−0.88,−0.27]**	**0**	**−0.5**	**[−0.8,−0.21]**	**0**	**0.44**	**[0.12, 0.77]**	**0**

Note: ROPE equates to percentage in Region of Practical Equivalence (± 0.10). HDI equates to high density interval of the posterior distribution. Bolded values indicate HDI values in the same direction indicating either a positive or negative effect.

variables. This approach allowed us to assess the specific connections between DoPL motives and perceptions of risk benefit while accounting for the relationships between these motives and other components of the DOSPERT scale, as well as the relationships among the DOSPERT components themselves. The results of our analysis are presented in Table 3.

Supporting H1, we found that increasing levels of dominance motivation predicted a more positive perception of the overall benefit of risk behaviors ($\beta = .26$, 95% HDI = [0.08, 0.46]). Supporting H2, prestige did not uniquely predict perceptions of risk benefit, ($\beta = .15$, 95% HDI = [−0.05, 0.35]). Contrary to H3, leadership motive also did not predict risk benefit perception ($\beta = -.09$, 95% HDI = [−0.27, 0.09]). To aid in visualizing the differences between the domains see Figure 1A.

Regarding H4 (no relationship between DoPL motives and risk perception), we found mixed support. While there was, indeed, no relationship between neither the prestige nor leadership motives and perception of riskiness (see Table 2), there was a moderate negative relationship with dominance, with stronger dominance desires predicting decreasing perception of risk as risky ($\beta = -.28$, 95% HDI = [−0.49, −0.08]). H5 was simply our expectation of replicating the asymmetry between males and females in willingness to take financial risks, however we did not find evidence for this ($\beta = -.30$, 95% HDI = [−0.67, 0.07]).

Our final pre-registered hypothesis was that a stronger dominance motive would predict higher levels of willingness to take/accept risks (i.e., risk preference) for each subdomain. To evaluate this, we computed the risk preference score for each subdomain, which is a participant-wise ordinary least-squares weighted combination of risk-seekingness and risk aversion within each domain. These preference scores for all subdomains were then used as criteria in a multivariate multiple regression identical in specification to that above. Our data support the prediction for unique dominance's predictive utility, most strongly for the recreational subdomain, followed by ethical, health/safety, financial, and finally the social subdomain (see Table 4 for full results).

Exploratory Analyses

Domain-Specific Risk-Taking. We additionally conducted two types of exploratory model. First, we evaluated how the DoPL motives did, or did not, predict the other aspect of risk orientation measured by DOSPERT: likelihood of risk taking (these results come out automatically from the multivariate approach we adopted for our primary analysis, above). Second, we constructed alternative regression models that included interactions between the DoPL motives and gender and compared these to the primary model that lacked such interactions. This was to evaluate if there was evidence for motive by gender interactions for subcomponents of risk orientation, since there is some evidence that, particularly for dominance, males and females differ. Model comparison was via comparison of leave-one-out cross-validated expected log point-wise posterior density estimates.

Overall, non-interaction models were favored over gender interaction models, some by rather large margins, so we do not report those interaction models here (see Supplemental Appendix A for full results and details). Notably, the pattern of results for risk perception being uniquely predicted (unexpectedly) by dominance was also present for likelihood of risk taking, ($\beta = .41$, 95% HDI = [0.23, 0.59]), but in the opposite direction—stronger dominance motive predicted higher likelihood of risk taking (see Supplemental Appendix A).

Discussion

The results of this study largely supported our predictions. Dominance moderately positively predicted increased perception of the benefits of risk-taking, while prestige had no effect. Contrary to our prediction, unique leadership only descriptively negatively predicted perceived benefits of risk-taking. In exploratory analyses,

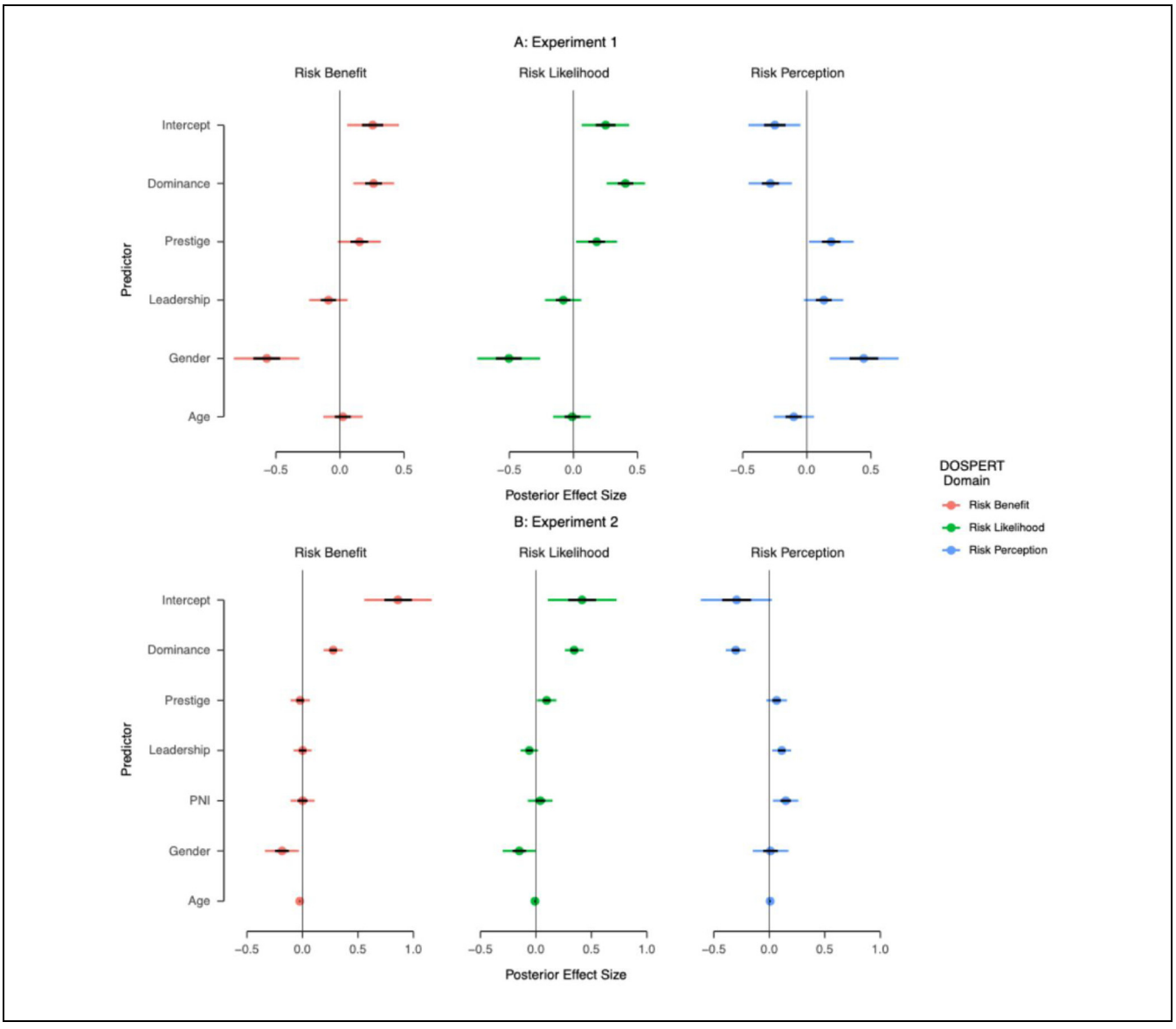

Figure 1. Depicted are figures for the posterior effect sizes for study 1 (A: Experiment 1) and 2 (B: Experiment 2), respectively.

unique dominance motivation was a moderately strong predictor of increased willingness to take risks, independent of the perceived benefit, and also uniquely predicted a reduced perception of risk as risky. There were no other such effects for either prestige or leadership motives. This unique predictive power of dominance extended across all subdomains measured by DOSPERT, with the strongest effects observed in recreational and ethical domains with smaller, but still meaningful effects in health and safety, social, and financial areas.

The results of this study add to the literature by furthering our understanding of how risk-taking behaviors are influenced by dominance, prestige, and leadership motivations. Given that dominance predicts a trifecta of differential risk attitudes—increased likelihood of taking risks, increased perception of benefits, and reduced perception of risk-as-risky—and that the general pattern of increasing dominance motivation predicting increased risk preference is replicated across all subdomains even when individual differences across such subdomains can be robust (Hanoch et al., 2006), this suggests a robust link between dominance as a social power motive and who takes risks and in what contexts. That leadership did not predict any component or subdomain of risk preference came as a surprise, given that accurately judging risks is a fundamental component of good leadership. However, it may be that there is a relationship between this unique power motive component and aspects of risk

Table 4. Study 1 | Bayesian Regression of DOSPERT Risk Preferences and Social Power Motives (DoPL).

	Ethical preference			Financial preference			Health/safety preference			Recreation preference			Social preference		
Predictor	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)
Intercept	0.12	[−0.13, 0.37]	41	0.14	[−0.12, 0.4]	36	0.1	[−0.15, 0.35]	46	0.33	[0.11, 0.56]	0	0.19	[−0.06, 0.44]	22
Dominance	**0.42**	**[0.26, 0.58]**	**0**	**0.22**	**[0.06, 0.38]**	**6**	**0.37**	**[0.21, 0.53]**	**0**	**0.47**	**[0.32, 0.62]**	**0**	**0.24**	**[0.07, 0.4]**	**3**
Prestige	0.02	[−0.17, 0.22]	71	0.13	[−0.07, 0.33]	38	0.05	[−0.15, 0.25]	65	−0.08	[−0.27, 0.09]	57	0.16	[−0.04, 0.36]	26
Leadership	0.03	[−0.17, 0.22]	71	−0.02	[−0.22, 0.17]	70	−0.03	[−0.23, 0.17]	69	−0.04	[−0.22, 0.13]	71	0.03	[−0.16, 0.23]	70
Gender	−0.27	[−0.62, 0.09]	16	−0.3	[−0.67, 0.07]	12	−0.23	[−0.59, 0.13]	21	−0.7	[−1.03, −0.38]	0	**−0.39**	**[−0.75, −0.03]**	**3**
Age	0.16	[−0.02, 0.34]	26	0.01	[−0.18, 0.2]	73	0.15	[−0.03, 0.34]	28	**0.22**	**[0.06, 0.39]**	**5**	0.01	[−0.18, 0.2]	74

Note. ROPE equates to percentage in Region of Practical Equivalence (± 0.10). HDI equates to high density interval of the posterior distribution.
Bolded values indicate HDI values in the same direction indicating either a positive or negative effect.

preference that is masked by a common third variable. This is a point we return to in Study 2.

There are some limitations to the current study. Most of our participants were white Europeans with a higher level of education, and cultural and gender differences in elements of risk preference are linked to learned cultural expectations regarding risk perceptions and expected benefits (Qiao et al., 2024; Weber, 2010). This limits the generalizability of our results.

Another issue that always exists in correlational research is the possibility of a third variable problem. It would be prudent, therefore, to further investigate known correlates of both the DoPL motives and risk preferences. There appears to be a strong connection between risky decision-making and pathological narcissism, and there are links between DoPL and elements of narcissism (Suessenbach et al., 2019). In the next study, we seek to replicate the results from study 1 in a larger, more diverse sample while also controlling for narcissism as a possible third common cause factor, which might distort the actual links between social power motives and aspects of risk preference.

Study 2

The Present Study

The results of study 1 suggest that unique dominance motivation may drive risk preference by a (possibly interacting) combination of enhancing raw willingness to act in risky settings, increased perception of the benefits of taking risks, and dulled/diminished perception of risky behaviors as risky. That dominance was uniquely positively predictive of risk preference across all subdomains in spite of the typically robust inter- and intra-individual differences observed in those contexts further reinforces this possibility, and the likely (though not entirely) negative consequences that probabilistically follow from a significantly higher risk preference across diverse areas of life.

We aimed to replicate previous findings and rule out the possibility that narcissism is driving the relationship between dominance and risk preference. Narcissism is linked to vindictiveness, domineering behavior, and risk-taking (Foster et al., 2009; Ogrodniczuk et al., 2009;Schoenleber et al., 2015). If narcissism is a common predictor of both dominance and risk preference, adding dominance as a predictor should not (meaningfully) improve predictive power. Alternatively, both narcissism and dominance may predict unique variance in risk preference. Or narcissism may influence risk preference *through* dominance desires, leading to a more nuanced understanding of decision-making and power motives.

Following on from study 1, we pre-registered 6 hypotheses (expressed here as Bayesian priors).

Hypotheses 1 through 4 predict replications of results reported in study 1, with associated priors here being the relevant posteriors from that sample. Hypotheses 5 and 6 relate to predictions that narcissism will correlate with DoPL measures (see below) and predict DOSPERT outcomes. We adopt weakly informative (conservative) normalizing priors for exploratory mediation analyses.

Our predictions are: (H1) unique dominance will positively predict belief in risk benefit ($\beta = .26$, 95% HDI = 0.08, 0.46]), (H2) prestige will not be (uniquely) related to risk benefit ($\beta = .15$, 95% HDI = [−0.05, 0.35]), (H3) leadership will not be (uniquely) related to risk benefit ($\beta = -.09$, 95% HDI = [−0.27, 0.09]). We further predicted that we would replicate (H4) a positive relationship between unique dominance and subdomains of risk-taking/acceptance Ethical_b = 0.42, 95% HDI = [0.26, 0.58], financial_b = 0.22, 95% HDI = [0.06, 0.38], recreational_b = 0.47, 95% HDI = [0.32, 0.62], social_b = 0.24, 95% HDI = [0.07, 0.4], and health and safety_b = 0.37, 95% HDI = [0.21, 0.53]. The DoPL motives will all be positively zero-order correlated with narcissism (H5). We have unpublished data to quantify these relationships (redacted). Finally, we predict (H6) narcissism will be positively associated with DOSPERT subdomains (Buelow & Brunell, 2014; Leder et al., 2021).

Methods

Participants. Participants were a convenience sample of 297 adults, 18 years or older and fluent in English, from Prolific's crowd-sourcing platform (www.prolific.co). Our original sampling plan called for 400 participants, but we exhausted available financial resources before meeting that target. Participants received £4.00 as compensation. A University Psychology Department Ethics Review Board approved all study procedures [ref: 212-2021/2]. The present study was pre-registered along with a copy of anonymized data and a copy of the R code available at (https://osf.io/a5nv4/?view_only=b9baba40070a4652870e0c7bbdb71428). Table 1 shows the demographic information of the participants. As with study 1, we minimized risks to participants by allowing them to withdraw at any time without consequences and providing a comprehensive debriefing statement after their participation. Informed consent was obtained digitally, with participants asked to click "I accept" to confirm their understanding of the information sheet with clearly laid out goals and implications of the study. We believe that the potential benefits of this research, which aims to offer valuable insights into power desires on risk preferences, significantly outweigh any minimal risks involved, contributing to societal knowledge and well-being.

Materials

Materials remain the same in terms of the (1) Demographic Questionnaire, (2) Dominance, Prestige, and Leadership Questionnaire, and (3) DOSPERT Questionnaire. However, we added the Brief-Pathological Narcissism Inventory (Schoenleber et al., 2015). As in the previous study, along with the brief pathological narcissism scale, participants completed the DoPL scale and the DOSPERT scale in counterbalanced order.

Brief-Pathological Narcissism Inventory. The 28-item Brief Pathological Narcissism Inventory (Schoenleber et al., 2015) is a modified version of the original 52-item Pathological Narcissism Inventory (Pincus et al., 2009). Like the PNI, the B-PNI is a scale measuring individuals' pathological narcissism.

Items in the B-PNI retained all 7 pathological narcissism facets from the original PNI (i.e., exploitativeness, self-sacrificing self-enhancement, grandiose fantasy, contingent self-esteem, hiding the self, devaluing, and entitlement rage). Each item is rated on a 5-point Likert scale ranging from 1 (not at all like me) to 5 (very much like me). Example items include "I find it easy to manipulate people" and "I can read people like a book." B-PNI was well correlated within itself, with $\alpha = .90$ along with strong internal consistency within the sub-domains of pathological narcissism, along with internal facet α's for Grandiosity (.79) and Vulnerability (.89).

Procedure

Participants were recruited via Prolific's website or via a direct e-mail to eligible participants on that platform. The study landing page included a brief description of the study including any risks and benefits along with expected compensation for successful completion. Participants accepted participation in the study and were directed to the main survey on pavlovia.org (an online JavaScript hosting website) where they were shown a brief message on study consent. Once participants consented to participate in the study, they answered a series of demographic questions. Once completed, participants responded to, in counterbalanced order, the DoPL scale, the DOSPERT scale, and the B-PNI scale. Upon completion, participants were debriefed and paid £4.00 via Prolific. The average completion time for participants was 6.36 minutes ($SD = 55.12$). DoPL scores along with DOSPERT indices calculation remained as in Study 1. Additionally, unless otherwise stated, all models reported here met diagnostic assumptions of general linear models. See Supplemental Appendix (Figures A10–A17 for performance check figures and results).

Results

Two hundred and ninety-seven people (155 males) participated in the present study and are included in the analyses unless otherwise indicated. Descriptive statistics are presented, alongside those for Study 1, in Table 1. Table 5 reports the zero-order correlation matrix of all measures in this sample. The correlations between B-PNI, its subcomponents, and all DoPL motives strongly supports our prediction (H5) that these would be meaningfully positively correlated, at least at the zero-order level (all $rs > .37$, all $pD > 0.975$).

Preregistered Analyses. Our first five predictions related to replicating the results from study 1. To evaluate these, we conducted a Bayesian multivariate multiple regression with risk-benefit, likelihood, and risk perception as simultaneous outcomes (to control for possible correlation among them) and dominance, prestige, leadership, pathological narcissism, gender, and age as predictors (the latter being a control/confound variable). Results are presented in Table 6. Figure 1B visualizes the domain differences of DoPL.

We successfully replicated the pattern of effects for DoPL motives from study 1. Higher dominance motive scores again predicted more positive evaluation of benefits of risks ($\beta = .28$, 95% HDI = [0.17, 0.38]), the prestige motive again did not have a unique predictive relationship with risk benefit ($\beta = -.02$, 95% HDI = [−0.13, 0.08]), and there was also again no unique relationship between leadership and risk benefit, ($\beta = .00$, 95% HDI = [−0.1, 0.1]). See Table 6 for full results. In support of H4, we again find that more dominance motivated individuals had unambiguously stronger preferences for all sub-domains of risk-taking, with effect sizes ranging from weak ($\beta = .21$) to moderate ($\beta = .43$; see Table 5). Contrary to H6, we found no unique relationship between narcissism and any of the sub-domains of risk-taking (see Table 5). However, in the exploratory section we further differentiate narcissism into its two constituent parts of grandiose and vulnerable narcissism.

Exploratory Analyses. Our data analysis strategy focused on 3 targets: evaluating how DoPL motives and narcissism predicted risk preference beyond perceived benefits, exploring if different components of narcissism predicted risk preference in subdomains, and evaluating mediation models including narcissism and dominance for general risk-taking likelihood.

As with study 1, our pre-registered analysis produced results relevant to risk perception and risk-taking likelihood alongside risk benefit (see Table 6). Dominance again negatively predicted risk perception ($\beta = -.30$, 95% HDI = [−0.41, −0.19]) and prestige did not meaningfully predict it. However, unlike in study 1, here higher leadership motive predicted increased perception of risk as risky ($\beta = .11$, 95% HDI = [0.01, 0.21]). Also surprisingly, higher narcissism predicted a similarly increased perception of risk as risky ($\beta = .15$, 95% HDI = [0.01, 0.28]). Regarding risk-taking likelihood, only dominance demonstrated unique predictive utility ($\beta = .34$, 95% HDI = [0.24, 0.45]). Prestige, leadership, and narcissism did not meaningfully predict this outcome.

We next repeated the multivariate multiple regression analysis using DOSPERT subdomain risk preferences as simultaneous outcomes and the DoPL motives, the two subcomponents of PNI—grandiose and vulnerable narcissism, as well as age and gender as predictors. This showed no meaningful predictive utility of elements of narcissism in any subdomain of DOSPERT with the sole exception of social risk preference, where vulnerable narcissism negatively predicts risk preference ($\beta = -.16$, 95% HDI = [−0.3, −0.03]). Full results are presented in Table 7. Of note, in this analysis we find, as with the previous corresponding analysis with undifferentiated narcissism, that dominance positively and meaningfully predicts higher risk preference across all subdomains measured. Unlike the previous result, now leadership also meaningfully, though weakly, predicts risk preference: negatively for health and safety ($\beta = -.11$, 95% HDI = [−0.20, −0.01]) and positively for the social domain ($\beta = .13$, 95% HDI = [0.03, 0.23]).

Mediation. While mediation models are difficult to interpret, particularly using cross-sectional data, they can nevertheless point towards fruitful theoretical relationships testable via longitudinal methods. We sought first to replicate the findings of Foster et al. (2009) who reported a partial mediation of the connection between narcissism and risk-taking likelihood via perceived benefits of risk-taking. Using the reported results from Foster et al. as priors, we found a meaningful, but only partial, indirect positive pathway between narcissism and likelihood of risk-taking via perceived benefits ($\beta = .11$, 95% HDI = [0.06, 0.16]), and a weak, but meaningful, remaining direct path ($\beta = .16$, 95% HDI = [0.08, 0.24]).

Following this, we investigated two theoretically meaningful alternative models (see Figures 2 and 3 and Supplemental Appendix for Figure A1) in which our goal was to evaluate if dominance contributed unique direct and indirect effects toward risk taking in addition to narcissism (see also Supplemental Appendix A). First, we added dominance to the previous model, allowing

Table 5. Study 2 | Bayesian Correlation Matrix.

Parameter	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1. Age	−.08	−.30***	−.19***	−.30***	.08	−.32***	−.22***	−.32***	−.08	.02	−.15**	−.03	−.17**	−.20***	−.25***	−.25***	−.25***	−.29***	−.14*	—
2. Ethical preference	.59***	.76***	.53***	.76***	−.59***	.15**	.07	.13*	−.06	−.19***	.08	.04	−.05	.28***	.73***	.59***	.67***	.65***	—	
3. Financial preference	.50***	.76***	.57***	.76***	−.50***	.15**	.15**	.17**	.05	−.08	.15**	.07	.08	.30***	.65***	.52***	.66***	—		
4. H/S preference	.51***	.76***	.49***	.76***	−.51***	.11	.14**	.13*	.01	−.12*	.13*	.02	.07	.24***	.66***	.54***	—			
5. Social preference	.29***	.78***	.48***	.78***	−.29***	.06	.16**	.11*	.07	−.04	.15**	.21***	.03	.21**	.48***	—				
6. Recreational preference	.60***	.72***	.48***	.72***	−.60***	.11	.07	.1	−.12*	−.29***	.06	−.02	−.04	.33***	—					
7. Dominance	.19***	.30***	.35***	.30***	−.19**	.44***	.37***	.46***	.08	−.13*	.26***	.29***	.30***	—						
8. Prestige	−.06	.05	.17**	.05	.07	.31***	.53***	.45***	.66***	.44***	.69***	.46***	—							
9. Leadership	−.07	.13*	.14**	.13*	.07	.11*	.47***	.29***	.42***	.23***	.48***	—								
10. UMS affiliation	.005	.17**	.23***	.17**	−.003	.20**	.45***	.33***	.87***	.48***	—									
11. UMS intimacy	−.21***	−.11	−.03	−.11*	.21***	.06	.32***	.18**	.84***	—										
12. UMS sum	−.12*	.04	.12*	.04	.12*	.16**	.45***	.31***	—											
13. B-PNI	−.04	.20***	.26***	.21***	.04	.93***	.80***	—												
14. Grandiosity	−.04	.19***	.27***	.19***	.04	.52***	—													
15. Vulnerability	−.03	.17**	.21**	.18***	.03	—														
16. Risk perception	−1.00***	−.23***	−.39***	−.23***	—															
17. Risk benefit	.23***	1.00***	.54***	—																
18. Risk likelihood	.39***	.54***	—																	
19. General expected benefits	.23***	—																		
20. General risk preference	—																			

Asterisks denote probability of direction: *97.5%, **99.5%, ***99.95+%.

Table 6. Study 2 | Bayesian Regression of Individual DOSPERT Sub-Domains and Social Power Motives (DoPL) + Brief Pathological Narcissism Inventory (B-PNI) as Predictors.

	Benefit			Likelihood			Perception		
Predictor	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)
Intercept	0.86	[0.5, 1.23]	0	0.42	[0.05, 0.79]	2	−0.29	[−0.68, 0.08]	14
Dominance	**0.28**	**[0.17, 0.38]**	**0**	**0.34**	**[0.24, 0.45]**	**0**	**−0.3**	**[−0.41, −0.19]**	**0**
Prestige	−0.02	[−0.13, 0.08]	96	0.1	[−0.01, 0.2]	53	0.07	[−0.04, 0.18]	74
Leadership	0	[−0.1, 0.1]	100	−0.06	[−0.15, 0.03]	82	**0.11**	**[0.01, 0.21]**	**40**
PNI	0	[−0.13, 0.13]	92	0.04	[−0.1, 0.17]	84	**0.15**	**[0.01, 0.28]**	**23**
Gender	−0.18	[−0.37, 0]	16	−0.15	[−0.33, 0.02]	28	0.01	[−0.18, 0.2]	73
Age	**−0.02**	**[−0.04, −0.01]**	**100**	−0.01	[−0.02, 0]	100	**0.01**	**[0, 0.02]**	**100**

Note. ROPE equates to percentage in Region of Practical Equivalence (±0.10). HDI equates to high density interval of the posterior distribution.
Bolded values indicate HDI values in the same direction indicating either a positive or negative effect.

Table 7. Study 2 | Bayesian Regression of DOSPERT Risk Preferences and Social Power Motives (DoPL).

	Ethical preference			Financial preference			Health/safety preference			Recreation preference			Social preference		
Predictor	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)	Estimate	HDI [95%]	ROPE (%)
Intercept	0.31	[−0.05, 0.67]	11	0.84	[0.49, 1.21]	0	0.65	[0.29, 1.02]	0	0.69	[0.34, 1.04]	0	0.82	[0.45, 1.19]	0
Dominance	**0.36**	**[0.27, 0.44]**	**0**	**0.31**	**[0.22, 0.4]**	**0**	**0.29**	**[0.21, 0.38]**	**0**	**0.43**	**[0.35, 0.52]**	**0**	**0.22**	**[0.12, 0.31]**	**0**
Prestige	−0.09	[−0.18, 0.01]	61	0.05	[−0.04, 0.15]	86	0.07	[−0.03, 0.16]	76	−0.07	[−0.16, 0.02]	75	−0.03	[−0.13, 0.07]	95
Leadership	−0.02	[−0.11, 0.07]	98	−0.03	[−0.12, 0.06]	96	−0.08	[−0.17, 0.02]	69	−0.08	[−0.16, 0.01]	72	**0.16**	**[0.06, 0.26]**	**9**
PNI	−0.01	[−0.14, 0.12]	91	−0.07	[−0.2, 0.06]	69	−0.07	[−0.2, 0.05]	66	−0.11	[−0.24, 0.01]	42	−0.1	[−0.23, 0.03]	51
Gender	−0.13	[−0.3, 0.03]	35	**−0.23**	**[−0.4, −0.05]**	**5**	−0.12	[−0.29, 0.05]	42	−0.04	[−0.21, 0.12]	74	−0.17	[−0.35, 0.01]	20
Age	−0.01	[−0.02, 0.01]	100	**−0.02**	**[−0.03, −0.01]**	**100**	**−0.02**	**[−0.03, −0.01]**	**100**	**−0.02**	**[−0.03, −0.01]**	**100**	**−0.02**	**[−0.03, −0.01]**	**100**

Note. ROPE equates to percentage in Region of Practical Equivalence (± 0.10). HDI equates to high density interval of the posterior distribution.
Bolded values indicate HDI values in the same direction indicating either a positive or negative effect.

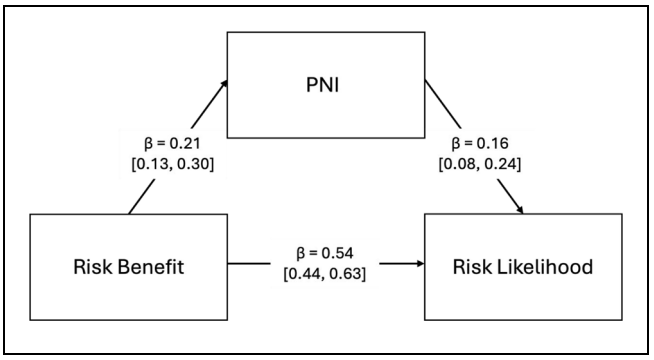

Figure 2. Figure represents a mediation model with Narcissism as the central mediator in the model. The outcome variables being risk likelihood.

both it and narcissism to have parallel direct effects on risk-taking likelihood and indirect effects via perceived benefits of risk. As seen in Figure 3, both dominance and narcissism positively predicted risk-taking likelihood via direct and partial indirect pathways. Figure 3 shows similar results, with a positive indirect path of narcissism via perceived benefits (β = .07, 95% HDI = [0.02, 0.11]) and of dominance via perceived benefits (β = .11, 95% HDI = [0.06, 0.16]).

General Discussion

The present studies sought to further our understanding of risk preferences across domains and how social power motives might explain some of the inter- and intra-individual differences observed in these domains, and in the subcomponents (ethical, social, financial, recreational, and health/safety) of risk preference more generally. Study 1 established a relationship between the unique dominance component of the DoPL motives and risk-taking preferences. Dominance seems to meaningfully predict all components of general risk preference (increased likelihood to engage in risky behaviors, increased perceived benefits of risk-taking, and reduced perception of risk) as well as positively predict risk preference across the sub-domains of ethical, financial, recreational, health and safety, and social activities. Study 2 replicated these results in a larger, more diverse sample while also controlling for narcissism, which is a known predictor of the same outcomes. Dominance was a stronger predictor than narcissism in all cases. This raises questions about the relationship between personality/motive constructs and risk preference.

Interpreting mediation models on cross-sectional data is problematic (Maxwell & Cole, 2007; Maxwell et al., 2011; Thoemmes, 2015), but in this case, the emergence of the personality trait of narcissism and the social power motives are likely antecedent to the development of

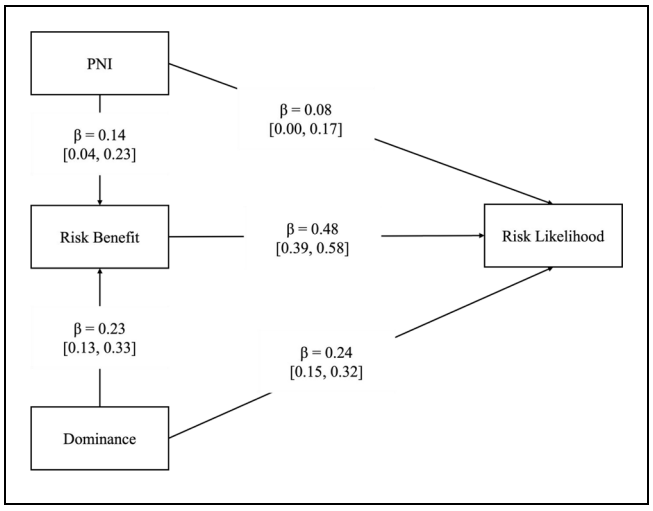

Figure 3. Figure represents a mediation model with Narcissism and Dominance as the central mediators in a parallel model. The outcome variable being risk likelihood.

explicit risk preference attitudes in our adult sample (Boyer, 2006; Brummelman et al., 2015), rendering this problem somewhat attenuated. Hence, we sought not only to independently replicate a reported pattern of effects, but to evaluate if this pattern changes in theoretically suggestive ways with the addition of the dominance motive.

Foster et al. (2009) reported a mediation analysis indicating both a direct positive relationship between narcissism and risk-taking likelihood and an indirect pathway between these constructs, mediated by positive links through perceived benefits of risk-taking. Simply adding dominance to this model does not remove the predictive value of narcissism completely. Rather, it demonstrates that these constructs might operate in parallel, and in similar fashion (see Figure 3). The same is true if dominance is treated as an intervening mediator between narcissism and perceived benefits (present in Figure A9 in the Supplemental Appendix A), though effects in this case are quite weak. These relationships are speculative at best, absent large sample longitudinal evidence to support them, but they are suggestive of directions such research should pursue. It remains unknown, thus far, what the precise developmental relationship is between narcissism and the dominance motive, but our results do imply that they may work together (in some fashion) to amplify risk-taking behavior in a variety of ways. Such behavior can lead to profound success and achievement but also to self-destructive and socially maladaptive consequences (Braun, 2017; Buelow & Brunell, 2014; Leder et al., 2021). Psychologically, what motivates highly dominant individuals to engage in these risky behaviors? Highly dominant individuals may indeed see these risky situations as a pathway to demonstrate their power over others. Equally possible is that highly dominant individuals may use these risky situations as an opportunity to gain power over others or deprive competitors of it. Both explanations lead to the question of intervention and when would interventions be appropriate in maladaptive behaviors. As seen from Brummelman et al. (2015), explicitly narcissistic behaviors emerge in children around the age of 7 years old, and explicit power motives are likely to emerge concurrently. Interventions timed to these critical phases, or earlier, may be advantageous, particularly if they are structured to teach more adaptive behaviors likely to be attractive to individuals with a predisposition to particular social strategies and motives. Difficulties become present when there are disparities between education and funding of education on communities and groups especially when discussing risk-taking and risk behaviors (Fonner et al., 2014; Li et al., 2021). Additionally, recent research alludes to positive parenting styles acting as a risk-buffering for later childhood experiences and behaviors (Cao et al., 2025).

Limitations and Future Directions

While suggestive of a direct relationship between social power motives and risk preferences, our data are correlational and so do not license causal inferences. Future work could experimentally manipulate having power or the experienced sense of powerlessness (Pike & Galinsky, 2020) in order to evaluate possible downstream causal influences on risk preferences (or components thereof). Similarly, longitudinal work could evaluate the temporal relationship between the emergence of social power motive related behaviors and risk preferences in varying domains. To move beyond the suggestions we offer, theorists could use agent-based computational models to explore how higher power motives, influencing risk preferences, might play a role in the emergence of stable hierarchies (Przepiorka et al., 2020) and affect types of leaders who emerge to direct these hierarchies (Jiménez et al., 2021; Kakkar & Sivanathan, 2017). Such models could make testable predictions about the relative roles of power motives and risk preferences as well as link to the kind of causal and longitudinal data currently lacking.

Our work also suggests the possibility that dominance desires predict reduced sensitivity to some types of framing effects related to risk, compared to those with a weaker dominance motive. If strong dominance desires predict aberrant perception of both risks and rewards, then those with strong dominance motives may demonstrate a systematically different profile of choice behavior when confronted by typical manipulations designed to elicit loss aversion in risky decision making. Something similar might also happen in decision under uncertainty.

Conclusion

In our two studies, we investigated social power motives relationship with risk preferences, along with controlling for pathological narcissism (study two). In these two studies, we find robust evidence that dominance is a positive predictor of risk preference across every subdomain measured as well as for every sub-component of general risk preference. This remains true even when controlling for narcissism, which is a known predictor of these outcomes. There is some suggestive evidence that there may be a structured relationship between narcissism, dominance desires, and risk preference components, which merits further study. Understanding the complex relationship, with the addition of narcissism as a third variable, may indeed bridge the necessary gap in furthering our understanding of maladaptive risk-taking behaviors. Further studies may shed light on different aspects of risk-taking behaviors outside of the often-researched areas and look out more physical outcomes such as the sexual risk that is currently on the rise (Buelow & Brunell, 2014). Interventions may then be discovered that can possibly stunt the ever-increasing trend of maladaptive risk-taking behaviors.

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Ethical Considerations

Ethical approval was granted by the University of Edinburgh PPLS Ethics Committee, REF: 212-2021/1 and 212-2021/2 on 15 February 21 and 19 November 21. Respondents gave electronic consent before starting both experiments.

Author Contributions

Andrew Ithurburn and Adam Moore: co-conceptualization, writing, and analysis; Julie M. E. Pedersen: analysis, editing, and data collection.

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Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data Availability Statement

All anonymized data along with analysis code and Supplemental Materials are available at https://osf.io/a5nv4/?view_only=b9baba40070a4652870e0c7bbdb71428.

Supplemental Material

Supplemental material for this article is available online.

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Chapter 3: Social power motives and spiteful actions: Dominance motivation and spiteful justification

In Chapter Two, we connected the social power motives to risk preference, and to the components of such preferences, both generally and across multiple specific domains. Dominance motivation was the strongest predictor of risk preferences and components in all cases. Moreover, when introducing dominance into a mediation model with pathological narcissism and risk-benefit as predictors of risk-taking likelihood, dominance explained at least as much variance as the other variables. This suggests that dominance, if not the other social power motives, may be linked to Dark Triad traits, but importantly, is distinct from them. Like pathological narcissism, the other members of the dark triad group (DT group) are linked to similar negative behaviours such as risk-taking, unethical decision-making, impulsivity, and in some cases, negative well-being (Aghababaei & Błachnio, 2015; Crysel et al., 2013; Harrison et al., 2018). A disconnect can sometimes appear when the behaviours induce a direct physical, reputational, or emotional harm to the self, such as in spitefulness, a new possible addition to the DT group. Traditionally, research specified the dark triad as psychopathy, narcissism, and Machiavellianism, where spitefulness traits were included in all three categories (Furnham et al., 2013; Jonason et al., 2015). However, recent research has shown many distinctions between the dark triad and spitefulness (Marcus et al., 2014; Rogier et al., 2019). In previous research, we have touched on the lasting disposition of the social power

motives and their connection with risk-taking behaviours. While the DT group has shown efficacy in explaining variance in some important behaviours (i.e., riskiness or spiteful actions), we contend that they only meaningfully address and explain a smaller subset of the important behaviours at large. We further contend that to explore this and help explain variance in risky behaviours, social power motives, by and large, explain and predict more meaningful and specific variance in human decision-making, especially in risk-taking behaviours. Through the use of social power motives, we seek to further our understanding not just of spite and its prevalence but also of using experimental methods to go beyond the mere correlational understanding of social power motivations on risk, in this case, spiteful actions. To explore this, it is necessary to evaluate if dominance continues to explain additional, unique variance in outcomes linked with Dark Triad (and similar) constructs.

Spiteful individuals show some weak to moderate positive correlations with certain sub-categories of namely psychopathy, narcissism (exploitativeness), Machiavellianism, and highly with aggression (Marcus et al., 2014). Differentiating from the other dark traits is that spiteful behaviours often incur harm on oneself. In this case, in an effort to regain one's sense of power, the spiteful individual will act in such a way that even if they harm themselves, they need to get back at not necessarily the individual who "wronged" them, but anyone else. Spite or spitefulness is also sometimes misconstrued with similar yet distinct behaviours, such as vindictiveness or costly punishing behaviour (altruistic punishment) (for vindictiveness see: Ruggi et al., 2012; for altruistic punishment see:

Yamagishi et al., 2017). While spitefulness shares many characteristics in common with these, such as engaging in behaviours that harm oneself or others (Marcus et al., 2014), it diverges from them through the motivation, intent, and rationality of this costly behaviour. Individuals high in spitefulness tend to endorse more sadistic behaviours along with a belief that there is constant competition with others (Zeigler-Hill et al., 2020). Meaning, unlike narcissistic individuals, spiteful individuals see a sort of competition in the world where they are constantly pitted against one another. While narcissistic individuals do tend to see the world in a zero-sum competition, there are motivational differences stemming from the zero-sum competition. Spiteful individuals are often motivated by a desire to correct perceived injustices against them, while narcissistic individuals see the world as self-centred and feelings of superiority (Marcus et al., 2014).

Additionally, for the narcissistic individual, the zero-sum competition goal is to outshine others and place themselves as superior, while for the spiteful individual, there is no personal stated goal of being superior, just a goal of making sure that everyone else suffers. Spitefulness has also been correlated with impulsivity, aggression, along with a tendency towards prevention focus or a need to create safety by defending oneself against attacks or losses (Rodgers & Dahling, 2018; Zeigler-Hill et al., 2020). Motivationally, spiteful individuals are motivated to prevent losses and win back control when they perceive that they have been wronged, a key point within prevention focus approaches as opposed to a promotion focus

approach, where one controls the growth of oneself by advancing their own goals to develop into their desired self.

Spiteful behaviours also share similar characteristics with dominance motivation. Individuals high in dominance motivation tend to be more authoritarian, along with a higher likelihood of engaging in risk-taking behaviours, as evident in chapter two (Suessenbach et al., 2019). While dominance motivation and dominance display of social power are advantageous not just to humans but present in the animal kingdom as well, spiteful behaviours in some contexts are harmful and counterproductive for the spiteful actor. Harm in the context of spite is not just physical harm but can be more abstract, such as reputational harm from spreading rumours or damaging one's image to bring down others. While spitefulness does involve a sort of getting even, it does not necessarily have a specific individual in mind but a sort of generalised harm to others (Marcus et al., 2014). This getting even differs from other areas of retaliatory action in not involving reputational management considerations. The core concern in a spiteful action is to regain a semblance of control that the actor believes they have lost. An example might be someone who keys (defaces) cars in a parking lot after noticing that unidentified individuals have damaged their car. When faced with the opportunity of being able to spitefully punish others in a three-person prisoner's dilemma, some participants chose to reduce their payout to spitefully reduce the winnings of other players (Falk et al., 2005). Important to display spitefulness; participants would incur a financial penalty (harm to themselves) in an effort to then harm others. Additionally,

within a composite variable of dark factors of personality, a spiteful component appears to be highly correlated with generalised risk-taking behaviours(Tiwari et al., 2021).

Preschool-aged children, aged 3-4, when playing an offeror and recipient blind ultimatum game as adults displayed similar spiteful behaviours as their adult counterparts (Bauer et al., 2014). Half the time would reduce the amount of payoff of another child, even when there would be no reduction in their winnings (Bügelmayer & Spiess, 2014). On average, boys tended to choose the more spiteful choice over the non-spiteful, while girls did not show a significant propensity for spiteful behaviour. This propensity continues where younger men tend to score the highest on spitefulness than their non-male peers (Marcus et al., 2014). In the same sample, spitefulness is also negatively correlated with self-esteem. As people age, they tend to be less spiteful and egalitarian and altruistic behaviours increase(Bügelmayer & Spiess, 2014). Spiteful behaviour may persist into early and late adulthood. This male and female difference, along with age differences (diminishing with age), is seen with dominance motivation where males are more dominance motivated than female counterparts, along with diminishing with age where people become more egalitarian, itself a possible byproduct of becoming less dominance motivated (Bareket & Shnabel, 2020). In later romantic relationships, the spiteful individual may become spiteful because of perceived infidelity, resulting in lower sexual self-esteem and sexual jealousy, which may lead to spiteful retaliation (Marcus et al., 2014). The spiteful individual may use retaliatory tactics in an effort to regain and get

back at those they perceived of wronging them, such as in the case of divorce proceedings, the former spouse or partner (Johnston, 2003; Watson & Ancis, 2013). Interestingly and of note, there may be a bipolar aspect of spitefulness where participants either are not spiteful in their reactions or will impose the maximum “spiteful” harm on another person (Kimbrough & Reiss, 2012).

Anger emerges as a prominent theme throughout spitefulness and punishing behaviours, along with their co-occurring behaviours. In situations of perceived unfairness, anger is the strongest predictor of spiteful retaliation (Pillutla & Murnighan, 1996). Highly spiteful individuals tend to lash out or act, similarly to psychopathy, in callous, dysregulated ways, possibly due to impaired ability to monitor their emotions (Zeigler-Hill & Vonk, 2015). The dysregulated retaliation behaviours, perceived anger, can culminate in the co-occurring behaviours resulting in feelings of jealousy and power in the relationship. Spitefulness shares many similarities but also some key differences with not just the original dark triad but also with the social power motives. Spitefulness shows a moderate positive correlation with certain sub-aspects of narcissism, psychopathy, and Machiavellianism. However, spitefulness differentiates from them in their underlying motivations for seeking “justice” and methods of retaliation. Dominance motivation shares many similarities and overlaps with spitefulness, such as a proneness for anger and aggression, including seeking to control. Prestige and leadership motivations pose interesting similarities in that spitefulness could be displayed in individuals seeking to regain lost power that was either bestowed upon them (prestige) or earned

(leadership). There is a possible overlap as well with seeking fairness that is correlated with a prestige motivation and core to spitefulness; the method of achieving said fairness can remain drastically different (Körner et al., 2022; Marcus et al., 2014). When exploring the dynamics of human behaviour, especially risky human behaviour, it becomes evident that while there may be and are similarities and differences between social power motives and spitefulness. Social power motives offer a nuanced perspective that accounts for the intricacies of human behaviour not afforded by spite.

3.1 The present study

In the previous chapter (two studies), we found that dominance motivation was a consistent predictor of risk-taking preferences, judgements of the benefits of risk-taking, and perceptions of riskiness. Individuals high in spitefulness tend to endorse and engage in many negative behaviours such as active punishment of others, impulsivity, aggression, and guilt-free shame (Marcus et al., 2014). There are many similarities between spitefulness with the social power motives, specifically dominance, such as the aforementioned expression of aggression and punishing behaviours (Burke et al., 2021; Howard et al., 1986). Individuals high in spitefulness tend to engage in more risky behaviours, namely from their impulsive push to punish others and, in turn hurting themselves (Rogier et al., 2019). Previous research linking spitefulness and impulsivity is important, and we contend that spitefulness and spiteful acts only capture a certain aspect of the whole risk behaviour of spite. Moreover, we contend that social power motives can shed light on risky behaviours by

also tapping into the cooperation and helping behaviours inherent to prestige and leadership motivation.

Additionally, investigating spitefulness in connection with risk-taking behaviours and social power motives is interesting in that spitefulness originally had much overlap with narcissism and psychopathology. Additional research allowed for reclassification as a unique variable, along with the necessity to include it in the Big Three, similar to how leadership developed some interesting and necessary distinctions from dominance and prestige. Furthermore, spitefulness as a variable is interesting in that, along with some aspects of pathological narcissism, at its face, it seems counterintuitive to social creatures such as humans. Thus, investigating possible reasons as to why this behaviour, belief, or variable is interesting to conceptualise, and possible methods of curtailing these behaviours.

In the present study, we seek to establish that dominance predicts such choices in a particular context (i.e., risky sexual behaviours) and that it does so over and above other predictors specifically chosen to maximally predict those choices. In other words, we created vignettes that included systematically varying sexual and nonsexual spiteful actions that were inherently risky and sought to predict participants' choices using dominance, spitefulness, and a variety of covariates. In the latter case, we included sexual self-esteem, sexual jealousy, and relationship power to account for as much context-specific variance as possible, even at the expense of our core hypotheses. The behaviours in question in the present study are sexual, for the most part. Following this, we included the sexual specific covariates to draw out and specify the sexual context of the

behaviours where spitefulness does present itself in a diverse spectrum of human behaviour, but titular to the present study, remains largely sexual in nature. This provides an extremely conservative test of the predictive power of the DoPL motives. We predict that more dominant (~N(0.2, 0.125), individuals will rate sexually spiteful situations as more justified than those with lower levels of dominance motivation, given the theoretical overlap of aggression and impulsivity seen in both spitefulness and dominance. In addition, dominance-motivated individuals who may derive their sense of power through their sexual conquests may inherently see sexually spiteful situations as especially more justified than their counterparts. Prestige and leadership motivation are nomothetically different to spitefulness, with prestige and leadership motivation being positively correlated with directing cooperation between individuals and other prosocial behaviours (Suessenbach et al., 2019). Moreover, because spiteful actions may harm one's reputation, prestige and leadership, motivated individuals would be less likely to engage in behaviours that would therefore reduce their social standing in a group (Suessenbach et al., 2019). We predict that both prestige and leadership motivations will negatively predict justification of spiteful behaviours (~N (-0.2, 0.125) and ~N (-0.3, 0.125) respectively). Overall, we seek to understand how social power motives may predict spiteful justification of either sexual or nonsexual spiteful situations and what those differences may be.

3.2 Methods

3.2.1 Participants

Participants were a convenience sample of 95 (Mage = 26.14, SD = 8.6) individuals from the Prolific crowdsourcing platform (“www.prolific.co”). Requirements for participation were: (1) be 18 years of age or older, and (2) and as part of Prolifics policy, have a prolific rating of 90 or above. Participants received £4 as compensation for completion of the survey. Table 1 illustrates the demographic information for the present study.

3.2.2 Materials

Demographic Questionnaire Participants shared their demographic characteristics (e.g., age, gender, ethnicity, ethnic origin, and educational attainment).

*Social Power Motives***.** The 18-item Dominance, Prestige, and Leadership scale (DoPL; Suessenbach et al., 2019) was used to measure dominance, prestige, and leadership motives. Along with intimacy and affiliation sub-scales of the unified motives scale (UMS) were embedded to mask those specific domains within social power motives (UMS; Schönbrodt & Gerstenberg, 2012). Sub-scale internal consistencies in the current sample were dominance α = 0.84, prestige α = 0.75, leadership α = 0.85, UMS (total α = 0.83 and sub-scales for intimacy and affiliation (α = 0.63 and α = 0.81, respectively).

Spitefulness. The Spitefulness scale (Marcus et al., 2014) comprises sixteen one-sentence items designed to assess the spitefulness of participants. Example questions included, “It might be

worth risking my reputation in order to spread gossip about someone I did not like," and "Part of me enjoys seeing the people I do not like to fail even if their failure hurts me in some way". For the present study, however, four items were removed because they did not meet the parameters for the study, i.e., needed to be dyadic, interpersonal spitefulness. Instead, we replaced these four with three reverse-scored items from the original pool of items tested by Marcus et al.: "I would try to be quick if I was the last student taking an exam so that I would not inconvenience the instructor", "I would probably remove a humorous cartoon from my desk if one of my co-workers found it offensive", and a new item "I would try to be as fast as possible at an ATM if the person behind me looked as if he or she was in a hurry." Items are scored on a 5-point scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree"). Higher spitefulness scores represent higher endorsement of spiteful attitudes. Internal consistency for the current sample is $\alpha = 0.84$.

Sexuality Self-Esteem. The Sexuality Self-Esteem sub-scale (Snell & Papini, 1989) is a subset of the Sexuality scale that measures the self-esteem of participants. The 10 items assess the sexual self-esteem of participants on a 5-point scale of +2 (Agree) to -2 (Disagree). For ease of online use, the scale was changed to 1 ("Disagree") and 5 ("Agree"), and data analysis will follow the sexuality scale scoring procedure by summing the results. Example questions are, "I am a good sexual partner," and "I sometimes have doubts about my sexual competence." Higher scores indicate a higher acceptance of high self-esteem statements. Internal consistency reliability for the current sample is $\alpha = 0.95$.

Sexual Jealousy Sub-scale. The Sexual Jealousy subscale by Worley & Samp (2014) contains 3 items from the 12-item Jealousy scale. The overall jealousy scale measures jealousy in friendships ranging from sexual to companionship. The 3 items are “I would worry about my partner being sexually unfaithful to me.”, “I would suspect there is something going on sexually between my partner and their friend.”, and “I would suspect sexual attraction between my partner and their friend.” The items are scored on a 5-point scale ranging from 1 (“Strongly disagree”) to 5 (“Strongly agree”). Higher scores indicate a tendency to be more sexually jealous. Internal consistency for the current sample is α = 0.72.

Sexual Relationship Power. The Sexual Relationship Power Scale (Pulerwitz et al., 2000) is a 23-item scale that measures the overall power distribution in a sexually active relationship. The SRPS is split into the Relationship Control Factor/Subscale (RCF) and the Decision-Making Dominance Factor/Subscale (DMDF). The RCF measures the relationship between the partners on their agreement with statements such as, “If I asked my partner to use a condom, he[they] would get violent.”, and “I feel trapped or stuck in our relationship.” Items from the RCF are scored on a 4-point scale ranging from 1 (“Strongly agree”) to 4 (“Strongly disagree”). Lower scores indicate an imbalance in the relationship where the participant indicates they believe they have less control in the relationship. Internal consistency of total scale for the current sample is α = 0.86 and for subscales (RCF being α = 0.87 and DMDF α = 0.64).

Spiteful Vignettes. Ten vignettes were written to reflect a dyadic or triadic relationship, partially adapted scenarios from the sexual relationship

power scale and sexual jealousy scales, with androgynous names to control for gender. All vignettes reflect spiteful actions, with half having sexual content and half non-sexual. Each has an action that causes harm to one other person, with an implied harm to the actor. Additionally, in an unpublished pilot study, we assessed the sample vignettes to confirm the presence of spitefulness within them. An example sexual vignette is,

“Casey and Cole have been dating for 6 years. A year ago, they both moved into a new flat together just outside of the city. Casey found out that Cole cheated. To punish Cole, Casey had sex with another person and got gonorrhoea. Later that night, Casey made sure to deliberately expose Cole to gonorrhoea. Was Casey justified?”

An example of a non-sexual vignette is,

“Ryan and Kam have been best friends together for 10 years. They've shared all their secrets and experienced some hardships together. They recently became friends with Jo who was an exciting person that wasn't afraid of trying new things. Recently, Kam has been shutting Ryan out of the new friendship with Jo and spending less time together. Ryan was hurt by this and contacted Jo's boss and said that there was proof Jo was stealing from work, which was a lie. Was what Ryan did justified?”

For each vignette, the participant is asked to rate how justified they believe the primary individual’s action is. Scoring ranges from 1 (“Not justified at all”) to 5 (“Being very justified”). Higher scores overall indicate higher perceived justification of spiteful behaviours. See appendix B for the full list of vignettes.

Scenario Realism. Participants rated the believability/ realism of each vignette after responding to all other questions.

3.2.3 Procedure

Participants were recruited via Prolific's website or a direct e-mail to eligible participants (Prolific, 2018). The study landing page included a brief description of the study, including any risks and benefits, along with expected compensation for successful completion. Participants accepted participation in the study and were directed to the main survey (Qualtrics, Inc., Provo, UT), where they would be presented with a brief message on study consent. After giving informed consent, participants answered demographic questions followed by the DoPL, spitefulness, sexuality self-esteem, and sexual relationship power scales (order counterbalanced across participants). Following presentation of the counterbalanced scales, participants were asked if they wished to continue to the vignettes, which were presented as sexual and non-sexual in nature. Presentation followed a sexual and then non-sexual pattern, with a realism question following the presentation of each vignette. Upon completion, participants were debriefed, and compensation was deposited into their prolific account. The University of Edinburgh PPLS ethics committee REF approved all study procedures: 330-1920/4.

3.3 Results

Table 3.1: *Chapter 3 Demographic Table*

	N = 92

Age	
Mean (SD)	26.14 (8.69)
Median [Min, Max]	23 [18,60]
Gender	
Female	30 (32.6%)
Male	62 (67.4%)
Education	
A-Levels or Equivalent	32 (34.8%)
GCSes or Equivalent	8 (8.7%)
Prefer not to answer	1 (1.1%)
Primary School	3 (3.3%)
University Post-Graduate Program	17 (18.5%)
University Undergraduate Program	31 (33.7%)
Ethnic Origin	
Arab	1 (1.1%)
Asian	5 (5.4%)
English	10 (10.9%)
European	69 (75.0%)
Latin American	2 (2.2%)
Other	2 (2.2%)
Prefer not to answer	1 (1.1%)
Scottish	2 (2.2%)
Ethnicity	
Asian or Asian Scottish or Asian British	5 (5.4%)
Mixed or Multiple ethnic origins	4 (4.3%)
Other ethnic group	1 (1.1%)
White	82 (89.1%)

3.4 Data analysis

All analyses were implemented in the R statistical language (R. Core Team, 2021). We conducted Bayesian regression analyses using the brms package (Bürkner, 2018), cmdstanr (Gabry & Cesnovar, 2021), bayestestR(Makowski et al., 2019), rstan(Stan Development Team, 2020), and papaja/quarto packages (Allaire, 2022; Aust & Barth, 2020). All continuous variables were standardised prior to analyses. We present results as the median posterior density estimate of the standardised regression coefficient(s) (i.e., betas) with 95% highest density intervals (HDIs) around those estimates, unless otherwise noted. In addition to the aforementioned Bayesian regression analyses, we have included traditional null hypothesis testing to examine the effectiveness of dominance (and prestige and leadership) in explaining the justification of spiteful, sexual, or non-sexual behaviours. They are listed under additional analyses.

Ninety-five participants participated and fully completed the study. Of those 95 participants, 52 were male, with a large percentage being young, white, and European. Table 3.1 shows the full demographic characteristics of the present study. Table 3.2 displays the zero-order correlation matrix of all the measures after z-score standardisation. We estimated Bayesian correlations between 8 of the indices (e.g., Spite, Dominance, Prestige, Leadership, Sexual Jealousy, Sexual Self-Esteem, and Sexual Relationship Power Scale). Credible correlations were found

between Spite and Sexual Jealousy (ρ = 0.19, 95% HDI = [0.13, 0.25]), Spite and Dominance (ρ = 0.50, 95% HDI = [0.45, 0.55]), and Sexual Relationship Power and Dominance (ρ = 0.07, 95% HDI = [0.01, 0.13]).

Table 3.2: *Bayesian correlation of all measured variables*

Predictors	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Spite	22.92	9.32	-										
2. SRPS	3.06	0.34	-0.16***	-									
3. SSES	25.61	9.42	0.08	-0.4***	-								
4. SJS	5.77	2.44	0.19***	-0.27***	0.23***	-							
5. Justification	2.33	1.45	0.12***	-0.01	0.00395	0.05	-						
6. Dominance	12.17	5.72	0.5***	0.07	-0.2***	0.25***	0.08	-					
7. Prestige	18.29	4.55	-0.03	0.3***	-0.29***	-0.08	0.000447	0.3***	-				
8. Leadership	14.65	5.59	0.06	0.27***	-0.07	-0.01	0.04	0.19***	0.37***	-			
9. UMS	34.9	6.89	-0.26***	0.32***	-0.38***	-0.06	-0.03	0.00327	0.28***	0.33***	-		
10. UMS Intimacy	9.19	1.79	-0.31***	0.27***	-0.29***	-0.06	-0.02	-0.2***	0.08	0.25***	0.7***	-	
11. UMS Affiliation	25.71	5.77	-0.21***	0.3***	-0.36***	-0.06	-0.03	0.07	0.31***	0.31***	0.98	0.53***	-

Note: * 97.5% <= p(D), ** denotes 99.5% <= p(D), *** denotes 99.95+% <= p(D). M is mean of non-scaled data. SD is standard deviation of non-scaled data. UMS is Unified Motives Scale; SRPS is Sexual Relationship Power Scale; SSES is Sexual Self-Esteem Scale; SJS is Sexual Jealousy Scale.

Table 3.3: Bayesian linear regression of justification predicted by social power motives, sexual content, and spitefulness

Predictor	Estimate	95% HDI	ROPE
Intercept	0.1	[-0.76, 0.96]	21%
Dominance	0	[-0.07, 0.08]	100%
Sexual Content	-0.13	[-1.36, 1.1]	15%
Prestige	0.03	[-0.02, 0.08]	100%
Leadership	-0.03	[-0.09, 0.02]	100%
Gender	-0.01	[-0.12, 0.11]	96%
Age	0	[-0.01, 0.01]	100%
Spite	**0.09**	**[0.03, 0.15]**	**59%**
Sexual Content : Dominance	0.08	[-0.01, 0.17]	68%

Note: ROPE = percentage of the HDI overlapping the region of practical equivalence to zero. HDI = 95% highest density interval of the posterior distribution.

dsafds

We constructed a Bayesian multi-level multiple regression predicting justification ratings via social power motives, sexual self-esteem, sexual relationship power, and sexual jealousy, all with weakly informative priors (i.e., ~N (0,1)) and subject and vignette as random effects along with age and gender as control variables. This approach allowed us to assess the specific connections between DoPL motives while accounting for the relationships between these motives and other components of the spitefulness scale. An annotated R script file, including all necessary information, is available upon request. We constructed two Bayesian regression models and tested them against each other, varying only in their fixed effects specification. We then selected our best model using Bayes Factors and leave-one-out cross-validated expected log pointwise predictive density (elpd-loo). Bayes Factors evaluate the relative ability of models to maximise the likelihood of observed data, conditioned on the number of parameters. Elpd-loo evaluates the anticipated predictive success of the models in the face of new data drawn from the same sample population (loo package; v2.6.0; Vehtari et al., 2017). In a model comparison, we found mixed results as shown in Table 3.4. According to elpd-loo comparison, the models are only negligibly different; however, according to the Bayes Factor comparisons, Model 3 was statistically the best fitting model.

For model 3, where we dropped the non-significant content interactions of model 2, we found that spitefulness was a positive predictor of justification rating (β = 0.09, 95% HDI = [0.03, 0.15]). There were no credible effects of dominance, prestige, or leadership motivations. Before dropping non-significant content interactions as shown in model 2, there was a credible interaction between dominance motivation and sexual content of vignettes (β = 0.12, 95% HDI = [0.01, 0.23]). See Table 3.3 for total findings.

Table 3.4: *Model comparison*

Model Number	Model Comparison	elpd diff	se diff	BF
3	**Justification ~ Dominance * Content + Prestige + Leadership + Spite + Gender + Age**	**0**	**0**	**331,000**
2	Justification ~ Dominance * Content + Prestige * Content + Leadership * Content + Spite * Content + Gender + Age	-1.68	1.59	1943
1	Justification ~ Dominance + Prestige + Leadership + Spite + SESS + SJS + SRPS + Content + Gender + Age	-3.9	1.72	-

Note: Elpd-loo model comparisons and Bayes Factors (with model 1 as the denominator for the latter comparison). Elpd_diff = difference of the leave-one-out cross-validated expected log pointwise predictive density; se_diff = standard error of that difference. SSRPS is Sexual Relationship Power Scale, SSES is Sexual Self-Esteem Scale, SJS is Sexual Jealousy Scale, and UMS is Unified Motives Scale. Asterisks in model formulas indicate inclusion of interaction terms.

3.4.1 Additional Analyses

Following the Bayesian analyses and as a confirmation using standard statistical analysis methods, we first repeated the Bayesian correlation but using the frequentist Pearson method. Correlation followed mostly the Bayesian correlations. Correlations closely followed the Bayesian correlation matrix seen in Table 3.2. See Table 3.5 for Pearson correlation results. Following the correlation matrix, we converted the Bayesian regression with simultaneous justification, predicted by social power motives, Gender, and Age, with gender and age acting as control variables. Again, this approach allowed us to assess the specific connections between DoPL motives and perceptions of risk benefit while accounting for the relationships between these motives and other components of the social power motives on justification of spiteful actions. This same method was used to conduct a second regression model with gender interactions for each of the social power motives. We found, and notably the sole near-significant result, of dominance and sexually spiteful vignette predicting higher justification of spiteful vignettes, see Table 3.6 for full results of the model.

Table 3.5: *Standard Pearson correlation of all measured variables*

Predictors	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Spite	22.92	9.32	-										
2. SRPS	3.06	0.34	-0.17***	-									
3. SSES	25.61	9.42	0.08	-0.4***	-								
4. SJS	5.77	2.44	0.19***	-0.27***	0.23***	-							
5. Justification	2.33	1.45	0.12**	-0.01	0.00459	0.05	-						
6. Dominance	12.17	5.72	0.5***	0.07	-0.2***	0.25***	0.08	-					
7. Prestige	18.29	4.55	-0.03	0.3***	-0.29***	-0.08	0.000724	0.31***	-				
8. Leadership	14.65	5.59	0.06	0.27***	-0.07	-0.01	0.04	0.19***	0.37***	-			
9. UMS	34.9	6.89	-0.26***	0.32***	-0.38***	-0.06	-0.03	0.00291	0.29***	0.33***	-		
10. UMS Intimacy	9.19	1.79	-0.31***	0.27***	-0.29***	-0.06	-0.02	-0.21***	0.08	0.25***	0.7***	-	
11. UMS Affiliation	25.71	5.77	-0.22***	0.3***	-0.37***	-0.06	-0.02	0.07	0.31***	0.32***	0.98***	0.53***	-

Note: Correlation coefficients are Pearson's r. Values range from -1 to 1, where values closer to 1 indicate a strong positive correlation, values closer to -1 indicate a strong negative correlation, and values near 0 indicate no correlation. Statistical significance is indicated by asterisks: *p < .05, **p < .01, ***p < .001. UMS is Unified Motives Scale; SRPS is Sexual Relationship Power Scale; SSES is Sexual Self-Esteem Scale; SJS is Sexual Jealousy Scale.

Table 3.6: *Fixed effects of linear regression model of justification predicted by social* power motives and spitefulness

Predictor	Estimate (SE)
(Intercept)	0.094 (0.363)
Dominance	-0.053 (0.044)
Prestige	0.026 (0.038)
Leadership	0.010 (0.039)
Spite	0.146 (0.042)
Gender	-0.007 (0.058)
Age	-0.0011 (0.003)
Sexual Content	-0.128 (0.499)
Interactions	
Sexual Content X Dominance	0.149 (0.056)
Sexual Content × Prestige	0.025 (0.049)
Sexual Content × Leadership	-0.058 (0.052)
Sexual Content × Spite	-0.086 (0.0537)
Additional Model Information	
• **Number of Observations**: 920	
• **Groups**: SubjectID (92), Vignette (10)	

Note: Values outside of parentheses represent fixed effects. Values in parentheses represent standard errors. Asterisks indicate significance levels (*** = p < .001, ** = p < .01, * = p < .05, . = p < .10).

3.5 Discussion

In this study, we sought to investigate how individuals confronted with spiteful actions in an implied risky situation interpret and thus rate the action as justified or not. Our goal was to evaluate the unique predictive power of the DoPL motives in a risky sexual context while also trying to control for other predictors that previous research establishes as relevant to such decisions. We found that individuals who are more spiteful rated self and potentially other-harming actions as more justified than those who are lower in spitefulness. We did not find meaningful results with regard to social power motivations and ratings of spiteful vignettes.

Interestingly, in model 2, where we had each relevant measure have a sexual content interaction, we found that vignettes containing sexual content were rated as more justified by individuals higher in dominance motivation. There are several reasons why sexual spitefulness would be more justifiable to a highly dominant individual. Dominance-motivated individuals tend to be more sexually active than their counterparts, are more likely to have large numbers of sexual partners, and are more sexually violent (Rosenthal et al., 2012; Williams et al., 2017). This could be due to these sexual conquests increasing their relative sense of power, or possibly that they see/interpret such behaviours as normal and rewarding (in the context of a dominant individual exercising ‘normal’ power over a subordinate). Dominant individuals, like spiteful individuals, are more aggressive and likely to punish others (Howard et al., 1986; Marcus et al., 2014). Therefore, these individuals, given that for some sexual conquests are important, will seek to punish others in accordance with that sexual domain.

There are multiple reasons why we did not find credible DoPL motive effects on overall justifications. First, we employed individually crafted vignettes that posed a situation wherein an action was spiteful. Specific to our vignettes, the cost to the actor, the self-harm induced, may have been too vague in some of the vignettes and may have made it difficult to capture the specifics and nuance of dominance in connection to spitefulness (see further discussion below). Future research could investigate differences in implied vs explicit harm in relation to spite. Second, there are many inherent similarities between spitefulness and

dominance motivation. We found that spitefulness and dominance motivation were moderately positively correlated with one another. This follows the literature wherein highly dominant individuals tend to be more controlling or willing to assert power over others (Cheng et al., 2013; Maner & Mead, 2010). Spitefulness also involves a sort of desire to harm others when there is an implied or felt injustice (for spitefulness see: Marcus et al., 2014; For dominance see: Suessenbach et al., 2019). Dominance motivation is also associated with specific negative behaviours such as problematic pornography consumption, and sexual assault (Bareket & Shnabel, 2020; Rosenthal et al., 2012). This follows a similar trend with spitefulness, which is linked to psychopathy, with physical and verbal aggression towards others, along with exploitation of others that is also found in dominance motivation (Marcus et al., 2014; Mehraein et al., 2023).

Dominance motivation is also activated by others and social roles, while spitefulness does not seem to be as directly connected to the same social power dynamics. Dominance-motivated individuals may need a social setting to be inclined or push these motivated individuals to push for a sense of power, which could then be evidenced by the difference between online displays of power not being entirely active because of a lack of social influence (Suessenbach et al., 2019). In linking social power motivation with prosocial behaviour, social power motivation was only activated once the experimenter was present (Wang et al., 2022). This is contrasted with spitefulness that appears to be socially independent, wherein spitefulness can be brought on not just in response to an

individual, such as spitefulness brought on by envy of another, but by situations independent of an individual, such as receiving less money in a payout and then spitefully reacting (Wobker, 2015; Zeigler-Hill et al., 2015). While many similarities are shared between spitefulness and dominance, as evidenced from the above, social context may serve as a method of contextualising the differences and difficulties in measuring both of these constructs and seeing differences or similarities.

Limitations

There are, however, several limitations specific to the design of our study that need to be noted when interpreting these findings. Our relatively small sample size and the hypothetical nature of the stimuli both play a role. First, in the vignettes, the harm that would have been received by the "spiteful" individual was only in many cases implied rather than objectively stated (e.g., explicit mention of gonorrhoea vs implied reputational harms). Secondly, vignettes in and of themselves might also not have been the most advantageous of manipulations. While vignettes help allow more control over varying factors, they may also tap into multiple aspects of human decision-making outside of the expected or intended design.

Additionally, there is a possibility that using the vignettes may have backfired in our intention to create context and believability to a spiteful situation. Participants may have them place themselves into the perspective of either a real or fictionalised individual, shifting focus away from the intended target of the vignette (cf., O'Dell et al., 2012). The limitations notwithstanding, research on spiteful and maladaptive behaviours themselves is extremely important to conduct.

Conclusions

In chapter two, I laid the foundation for our efforts to understand how social power motives, in particular dominance, relate to risk preferences and risk-taking. Additionally, we investigated an often-researched third variable, narcissism. In that investigation, we found that dominance is the strongest predictor of risk-taking behaviours. Here, we continued in our effort to investigate the predictive ability of dominance motivation and, in this case, judgements around spiteful behaviours where damage is not only incurred on others but on oneself as well. However, due to issues with the design of our study, our results become somewhat limited in their interpretation. Even so, through the literature and one aspect of the results, that even in their ambiguity, the sexual aspect of the vignettes poses an interesting question on why this might be the case. What is it about the sexual act that makes it more likely to be justified by those higher in dominance? How might social power motives, such as dominance motivation, affect or interact with sexually risky or sexually laden situations (Rosenthal et al., 2012)? Would a similar finding be where individuals high in dominance are seen in exclusively sexual situations?

Vignettes

[1]	[2]	[3]	[4]	[5]
Not Justified at All	Somewhat Unjustified	Neither Justified nor Unjustified	Slightly Justified	Very Justified

1. Sam and Alex have been dating for 1 year. Three weeks ago, they both signed a one-year lease on a flat in the center of town. There was an instance where Sam had a one-night stand with Kyle, a patron at the local pub and got an STI. Sam apologized to Alex a week later, and Alex said they accepted the apology. However, Alex was still hurt and broke their part of the lease leaving the entirety of the rent to Kyle.
2. Reece and Gerry are both teenagers in sixth form. They recently started dating and have multiple courses together. Reece found out that Gerry had gotten an STI from their mutual best-friend. The three of them were about to present a project in their next class together. Reece decided to get back at Gerry by purposefully making both fail the presentation and telling everyone in the room about the infidelity.
3. Ryan and Kam have been best friends together for 10 years. They've shared all their secrets and experienced some hardships together. They recently became friends with Jo. Jo was an exciting person that wasn't afraid of experiencing new things. Recently, Kam has been shutting Ryan out of the new friendship with Jo and spending less time together. Ryan was hurt by this and contacted Jo's boss and said that they had proof Jo was stealing from their workplace.
4. Casey and Cole have been dating for 6 years. A year ago, they both moved into a new flat together just outside of the city. Casey had an affair with Cole's best-friend. Casey had recently found out that they had an STI that they had gotten from Cole's best-friend. Casey and Cole had sex and later Cole found out they had an STI.
5. Cameron was the new student at school. They came from a large city to live in a farming community. Lee was well known as the bully of the school. Lee took a liking to Cameron, but they had rebuffed their advances. Lee did not

like this and said that Cameron cheated off Lee on the math test and Lee let them. Both Lee and Cameron got in trouble with the instructor.

6. Adrian has two friends. Both have known Adrian for 10+ years. They both needed money from Adrian however, Jordan had recently told Adrian's crush an embarrassing secret. Adrian was furious and to make Jordan feel bad, Adrian gave the other friend Jordan's share as well as their own.
7. Kellan was dating Kari for 3-years. They had just rented a new house in the suburbs. They adopted a new dog and were thinking of marriage. Kari found out that Kellan had a yearlong affair with a coworker. Kari decided two punish both by sleeping with as many people as they could. One-month later Kari told Kellan what they had done that all three now had herpes.
8. Max and Rudy have been married for 12 years. They have two kids, a boy, and a girl. Both are under 10 years old. Recently Rudy had gambled most of their money away and cheated on Max. Max filed for divorce and was looking for full custody of the children. Both kids love Rudy, but Max was out to make sure that Rudy is punished even if the children retaliate against the divorce.
9. Taylor and Quinn are both criminals. They recently stole a large amount of money from the bank. A week after the heist, Quinn found out that Taylor had been hoarding more money than they originally said. This made Quinn so angry that they turned both into the police. In Quinn's mind, 'If we don't split it both ways equal, then no one does.'
10. Corey just turned sixteen. Corey's parents always insisted that Corey wait till marriage to have sex. Often telling stories of the danger of STDs and pregnancy. Corey's parents soon found out that they have already had sex. Their parents then grounded them for a month for defying them. Corey retaliated by going out and having risky sex with multiple people, often older than them.

Chapter 4: Relationship of Power Motives, Narcissism, and Actual Risky Sexual Behaviours

This chapter explores the likelihood of engaging in sexually risky behaviours and actual sexual risk-taking history. Our earlier studies investigated the predictive utility of power motivation, particularly dominance, and its influence on risk-taking behaviours. In a two-part study, dominance was the strongest and most reliable predictor of engaging in risk-taking behaviours. While each of the sub-components of risk-taking behaviours measured within the DOSPERT scale, the health and safety domain poses an interesting avenue of investigation. Within risk, there are many aspects where behaviours and beliefs function as a contagion that may spread through a community. In groups, unethical behaviours and conspiracy theories and beliefs spread easily because not just of groupthink but because of loss aversion, and the tendency to prefer quick and fast intuitive judgements that are more susceptible to conspiracies and unethical behaviours/beliefs (Anand et al., 2014; Darley, 2004; Van Prooijen & Douglas, 2018). Dominance orientation, like with sexual risk-taking, is linked directly with conspiracy theories (Suessenbach et al., 2019) , amongst other ethical risks such as physical and emotional abuse, revenge porn, and so on (Rosenthal & Hooley, 2010; Suessenbach et al., 2019; Williams et al., 2017). While conspiracy theories and ethical misbehaviour are contagious to the larger group, sexual riskiness reflects the same contagiousness and more. Sexual riskiness is unique because it combines the same contagiousness surrounding conspiracy theories (i.e., conspiracies surrounding HIV/AIDS) but also health and social risk factors.

While many of the effects of risk-taking behaviours, explored in DOSPERT, can have immediate lasting effects, health centred risk-taking such as sexual risk-taking can and does present itself sometimes later and can have debilitating and long-lasting side effects not directly seen in other domains of risk taking (Edemekong & Huang, 2024).

Data from the United Kingdom showed 2,582,683 cases of sexually transmitted infections (excluding HIV) in 2020 (Fu et al., 2022). An estimated 9,373 of 100,000 individuals tested positive for an STI, excluding Human Immunodeficiency Virus (HIV). Scotland alone has seen a steady increase in gonorrhoea cases year over year. Globally, antibiotic-resistant gonorrhoea has been on the rise ("Antibiotic-resistant gonorrhoea", 2023; Costa-Lourenço et al., 2017). While a new world-first vaccine against gonorrhoea is becoming more widely available in the UK, the increasing chance of contracting a strain resistant, which may not covered by this vaccine, to many common forms of treatment makes studying sexual risk-taking increasingly important(NHS England, 2025).

4.1.1 Understanding Sexual Risk

There are many ways to understand sexual risk-taking behaviours (Buzwell & Rosenthal, 1996; Cooper, 2010; Ferrer-Urbina et al., 2022; Kirby, 2001; Raffaelli & Crockett, 2003). Some investigate risk by investigating both sexual competency and understanding of risk, wherein sexual risk is a product of the person, situation, and relationship contexts, while others investigate through a strictly condom use paradigm. However, sexual risk is all and more such as not only having multiple active sexual partners but includes not inquiring about the sexual history of your partner,

not using a condom or other barrier methods, or using it incorrectly (Shrier et al., 1997). It may entail not getting tested for STIs regularly or not understanding the susceptibility to contracting an STI. Additionally, there is a possibility that there may be a disconnect between the belief in susceptibility and the reality of STIs, which in turn may cause individuals to become complacent in their sexual health behaviours. This is especially true in the case of HIV where individuals may believe that they are not at risk of contracting HIV because they are not part of a high-risk group (Gleason-Morgan et al., 1991; Smallwood & Parks, 2023). The United Kingdom, for example, has seen a rise of HIV amongst heterosexual individuals, while percentage of population of the given communities remain starkly different, the rise could point to a troubling trend around belief of susceptibility along with willingness to get tested (Reuters Fact, 2022; Shah et al., 2023).

Given the dangers of STIs being known for centuries with attempts at comprehensive education (a plausible reason for a disconnect between knowledge and behaviour), why are STIs still prevalent in the 21st century? To understand the prevalence of STIs, we must first understand the psychological precursors to STI contraction. Sexual risk-taking behaviours entail many different beliefs, attitudes, and behaviours of individuals. While for some, just knowing that engaging in risky behaviours greatly increases the chances of STIs and other unwanted consequences, these behaviours continue to rise along with new incidences of STIs contributing to a growing trend of general risk consequences (*Fact sheet: Sexually transmitted infections (stis)*, 2023). There are many individual

differences in how individuals see and interpret risk and the costs and benefits of engaging in those behaviours. For some, the cost is too high, and they err on the side of safe sex practices. To account for the individual differences in how individuals assess their engagement in sexually risky behaviours, one must investigate possible causes for these differences. Gaining, holding, and wielding power is often at the centre of behaviour (McClelland, 1961). Dominant individuals will often take more and more risks in an effort to gain and hold on to as much power as they can (Demaree et al., 2009; Chapter Two). Power influences how we think, behave, and interpret the world around us.

There are multiple psychological correlates to sexual risk-taking behaviours such as sensation seeking, alcohol use, impulsivity, and so on (Ferrer-Urbina et al., 2022; Johnson et al., 2016; Lawyer et al., 2010). Individuals who struggle to wait for a delayed reward are more likely to engage in risk-taking behaviours (Herrmann et al., 2015; Lawyer et al., 2010; Madden et al., 2003; Madden & Johnson, 2010; Richards et al., 1999). Additionally, impulsive individuals are more likely to opt for immediate sex rather than wait for a condom that will be guaranteed in the future. These impulsive individuals are thought to have difficulty in their ability to perceive the consequences of their actions, with a possible similarity found in Chapter Two, where more dominance-driven individuals perceive behaviours as less risky than those driven by other motives. However, impulsivity research has been criticised for its weaker explanation along with new controversy on it being considered as a construct at all (Strickland & Johnson, 2021). Impulsivity, as currently

understood, is too all-encompassing with varying too wildly from situation to situation. People will often interact and behave riskily in different circumstances. Understanding and focusing on specific behaviours is important to reflect this, some people may be financially risky but socially or ethically quite risk-averse. Additionally, impulsivity becomes difficult to summarise into a concise psychological construct like extraversion and the like. Given the difficulties surrounding impulsivity research as a method of understanding sexual risk, a better way may be to understand the motivations behind sexual risk-taking.

Sex to most is an inherently rewarding action that encourages continued activity in the future (Pfaus et al., 2012). Social norms and society often reward those who are sexually active (albeit to certain classes of individuals). In many instances, especially for younger men, having many sexual partners is often a mark of honour and pride (Byers, 1996). One of the many excuses men report using is that using loss of sensation as one of the most common excuses for not wanting to use a condom specifically (Calsyn et al., 2013; MacPhail & Campbell, 2001). While for women there is a tendency to be more sexually cautious given that in some cases being sexually risky holds more negative consequences for women (Maas et al., 2015; Seth et al., 2012). People across multiple cultures have different mating strategies, each with their own stated goal (Buss & Schmitt, 1993; Wlodarski, 2015). For some the goal is fast and immediate pleasure, while for others there is a future need for prolonged closeness and companionship (Penke & Asendorpf, 2008). The search for and attainment of more sexual partners or the highest

chance of more offspring contribute to the individuals' perceived sense of power and status (Buss, 1989). The reward of sex itself or the benefits afforded because of sex (i.e., social status or offspring) outweighs the negative risks incurred by sexual risk-taking for some (i.e., sexually transmitted infections, monetary, and negative social implications).

Understanding sexual risk-taking through a social power motives lens allows us not just to understand the sexual risk-taking outcomes, such as likelihood of engaging and frequency, but in understand why someone will engage in it; what is the motivation surrounding it. Risk-taking behaviours, and specifically sexual risk-taking, are best explained or understood by understanding the psychological precursors to those behaviours. While for some sexual pleasure is the cause for sexual risk while for some power is used to gain sex (Browne, 2006). While there is a case to be made of impulsive actions leading to risk-taking, especially sexual risk-taking behaviours, sexual risk as a function of power motivations addresses a missing component of a precursor to the behaviours. However, with an incomplete understanding of risk-taking and sexuality, we fail to account for the subtleties of human behaviour. While there are physical rewards of having sex, there are social implications that often can lead individuals to want more. Throughout history rulers, in an effort to gain more power and status, would intermarry and bear children with those that would lead to more power (Jallinoja, 2017). Power and dominance in particular become a central part in not just sexual behaviour, i.e., sexual partners and conquests, but a driving force outside of sexual behaviour, such as power struggles, forming alliances, and so on. This

becomes more important because societies often give more status to those young men who have more sexual conquests. In many cases, on average, a community will place a heavy positive premium on men having multiple sexual partners, including those culminating in offspring (Dyer et al., 2004; Macia et al., 2011). While men are often rewarded for this type of behaviour, women that behave contrary to stereotypical behaviour, often receive backlash from the community (Rudman et al., 2012). Often and for some, regarding sexual risk, it is not the sex that is the gratifying part, but could be some more subjective rewards beyond the physical aspect of sex (Anand et al., 2014; Davis et al., 2004), similarly, to the gains brought on by gambling and betting (i.e., power and status). A dominant individual will seek to have more sexual partners to show how strong and better they are than others (Bogaert & Fisher, 1995; Zurbriggen & Yost, 2004). This shows some similarity to narcissistic individuals that in their vain attempt to show how powerful or important they are will seek out the best and most sexual partners out there (Foster et al., 2006; Martin et al., 2013; Reise & Wright, 1996). Previous research linking narcissism and sexual risk-taking operationalised narcissism from a soft standard narcissism (Buelow & Brunell, 2014; Foster et al., 2006). As is the case in Chapter Two, we choose(chose) to investigate pathological narcissism to investigate the most problematic behaviours and beliefs, such as spiteful actions. We recognise that there is more soft-core narcissism, and that future research could be beneficial to investigate if there are differences or similarities in the type of narcissism (pathological or otherwise) and sexual risk-taking behaviours.

Current STI research has focused on methods changing how individuals respond when presented with a risky sexual situation (Kirby et al., 2007). Current methods have shown mixed results. In many countries, how people are taught about risk and sex can vary wildly (Unesco, 2015). For example, some countries may have one standard, which is a mix of religious and scientific ideas of STIs, while others may not even have a formal sexual education program. In countries like the United Kingdom or the United States, where general comprehensive sexual education is taught in most locations, STIs are still emerging and increasing in prevalence (Shah et al., 2023). While sexual education is extremely helpful in understanding the risks of STIs, sexual education is not the definitive answer to understanding STIs. In the United States, it is not just teaching about sexual health that is important, but also the quality and comprehensiveness of the education. Sexual stigma is one of the leading barriers to STI screening (Cunningham et al., 2009). While some might believe abstinence education to be effective in negating all sexual activity, this is assuredly not based in fact (Stanger-Hall & Hall, 2011). In states and countries where this is implemented, individuals will still readily engage in risky sexual behaviours, resulting ultimately in either unwanted pregnancies or STIs (Stanger-Hall & Hall, 2011). Additionally, in a review of 83 studies looking at the effectiveness of curriculum-based sex education, education alone appeared to show a wide variety in some aspects of curbing sexual risk-taking and ultimately the results of those behaviours, in particular STIs and pregnancies (Kirby, 2001). The truly effective curricula appear to show a mixed-method approach to sexual

health education. As discussed, there are multiple factors correlated with sexual risk-taking. From Chapter Two, we can see that there are multiple factors to risk-taking behaviours, namely, a psychological antecedent to the decision. While sexual health education does greatly impact sexual risk-taking behaviour and, in many cases, increases sex positive behaviours, in many areas around the world, there are steady increases in STIs. Sexual education alone is not the answer, but using a mixed method approach to not just increase awareness of the consequences of sexual risk-taking behaviours, but also understand the behaviours, beliefs, and attitudes that may contribute to sexual risk-taking behaviours.

4.2 The Present Study

This study aims to investigate the relationship between power motives and sexual risk-taking behaviours, specifically exploring how the DoPL motives, particularly dominance, interact with the SRTB scale and the likelihood of engaging in risky sexual behaviours. By employing an actual frequency-based questionnaire, we hope to obtain a more accurate metric of sexual risk outside of the hypothetical sexual risk paradigm. We predict that this study will replicate these findings and specifically demonstrate that high dominance predicts the actual frequency of risky sexual behaviours, rather than just the endorsement of high-risk behaviours. We further predict, given narcissistic individuals' efforts to further prop up their carefully crafted ego, that narcissism will positively predict sexually risky behaviours (likelihood, benefit, and frequency). Additionally, we chose to use the Brief Pathological Narcissism Inventory over a standard Narcissism inventory because we wanted to focus closely

on pathological behaviour, which we believe is of most interest, at least in our view, in a world of rampant sexual risk-taking behaviour, for investigation in the present study. Additional follow-up experiments could investigate these sexual risk-taking behaviours to standard social narcissism. Overall, we hope that the present study furthers our understanding of factors that may contribute to the literature of sexual risk-taking behaviour and investigations on STI incidence rates.

4.2.1 Hypotheses

Specific posteriors are adapted from Chapter 2. H1: We will replicate zero-order correlations between social power motives and narcissism using wide preset priors. H2: Dominance and narcissism will positively predict sexual risk-taking components (Likelihood ~N (0.34, 0.05), Benefit ~N (0.50, 0.05), and Frequency ~N (0.34, 0.05), same priors for both predictors). H3: Dominance will uniquely negatively predict perception of sexual riskiness (-0.50, 0.09). H4: Leadership will be weakly negatively associated with sexual risk-taking behaviours (Likelihood ~ N(-0.06, 0.05), Benefit ~N (0, 0.05), and Frequency ~N (-0.06, 0.05)).

4.3 Methods

Participants were a convenience sample of 194 adult English-speaking/reading individuals from Prolific Academic's crowdsourcing platform (www.prolific.io) who were paid £4 for participation. The Psychology Research Ethics Committee at the University of Edinburgh approved all study procedures [ref: 174-2122/5]. The present study was

pre-registered, along with a copy of anonymised data, a copy of the R code and supplemental materials are available at (https://osf.io/s4j7y).

Materials

4.3.1.1 *Demographic questionnaire*

Prior to the main survey, participants responded to a series of questions about age, gender, ethnicity, education, and ethnic origin.

4.3.1.2 Sexual Risk-taking Behaviour Scale

The 54-item Sexual Risk-taking Behaviour Scale (Spiegel & Pollak, 2019) measures risk-taking through a series of statements about various sexually risky behaviours. Respondents are then asked to rate their judgements of these statements from four different facets: Risk Perception, Risk Likelihood, Perceived Benefits, and Frequency. For example, items for the first three facets include “Sexual activity with multiple participants” and “Sex under the influence of substances (drugs/alcohol)”. Each sub-domain has the same sexual activity, but the statement before corresponds to the facet. For instance, the statement for oral sex is “**What is the likelihood of you having oral sex?**” In each facet, the field facet is replaced with the likelihood, benefit of, or perceived risk, followed by the specific sexual risk statement. For frequency, participants are asked to rate each sexual behaviour on a scale of never (1) to at least once a day (8). The internal reliabilities for the current sample are as follows: Likelihood α = 0.91, Risk Perception α = 0.89, Perceived Benefit α = 0.89, and Frequency α = 0.92.

4.3.1.3 Social Power Motives

Social power motives were measured with the 18-item Dominance, Prestige, and Leadership scale(DoPL; Suessenbach et al., 2019). Within this scale, 15 items from the intimacy and affiliation sub-scales of the unified motives scale (UMS; Schönbrodt & Gerstenberg, 2012) were embedded for masking purposes. Internal reliabilities per sub-scale for the current sample are dominance α = 0.83, prestige α = 0.75, leadership α = 0.77, UMS Affiliation α = 0.79, and UMS Intimacy α = 0.82.

4.3.1.4 Pathological Narcissism

The 28-item Brief Pathological Narcissism Inventory (B-PNI; Schoenleber et al., 2015) was used, like in Chapter Two, to assess an individual's level of pathological narcissism. B-PNI was internally reliable, α = 0.90, and had strong internal consistency within the facets of pathological narcissism, along with internal facet α's for Grandiosity (0.81) and Vulnerability (0.88).

4.3.1.5 Sociosexual Orientation

The Sociosexual Orientation Inventory (Penke & Asendorpf, 2008)is a 9-item scale asking how many times participants have engaged in specific sexual behaviours included for masking purposes. Example items are "With how many different partners have you had sex with in the past 12 months?" and "With how many different partners have you had sexual intercourse on one and only one occasion?" rated on a scale from 0 to 20 or more. The SOI is comprised of three themes of attitude, desire, and behaviour, which culminate in a sociosexual orientation score. The SOI

was internally consistent overall, a = 0.83, and similarly for the three sub-components of attitude, desire, and behaviour, with a's being 0.83, 0.90, and 0.79 respectively.

4.3.2 Procedure

In the present study, participants were recruited via a study landing page on Prolific's website or direct e-mail to eligible participants. The study landing page included a brief description of the study, including any risks and benefits, along with expected compensation for successful completion. Participants accepted participation in the experiment and were directed to the main survey (Pavlovia.org), where they were shown a brief message on study consent, after which they answered a series of demographic questions. Once completed, participants completed the Social Power Motives scale, SOI scale, Brief-Pathological Narcissism (B-PNI), and the Sexual Risk-taking Behaviour Scale (SRTB). The four scales were counterbalanced to account for order effects. After completion of the main survey, participants were shown a debriefing statement that briefly mentioned the purpose of the experiment along with the contact information of the main researcher (AI). Participants received £4 as compensation for completion of the survey. Table 4.1 illustrates the demographic information for the present study.

4.3.3 Data analysis

All analyses were implemented in the R statistical language (v.4.3.2; R Core Team, 2021). We conducted Bayesian regression analyses using the brms package, cmdstanr, bayestestR, rstan, and

papaja/quarto packages (v2.21.0 Bürkner, 2018; v0.7.1 Gabry & Cesnovar, 2021; v0.13.2 Makowski et al., 2019; v2.32.6 Stan Development Team, 2020; v 0.1.2 Aust & Barth, 2020; v1.4 Allaire, 2022). All continuous variables were standardised prior to analyses. We present results as the median posterior density estimate of the standardised regression coefficient(s) (i.e., betas) with 95% highest density intervals (HDIs) around those estimates, unless otherwise noted. In addition to the aforementioned Bayesian regression analyses, we have included traditional null hypothesis testing to examine the effectiveness of dominance (and prestige and leadership) in explaining sexual risk-taking behaviours. They are listed under additional analyses.

4.4 Results

Descriptive statistics are presented in Table 4.1. **Error! Reference source not found.** reports the zero-order correlations between the SRTB scale (sub-domains), social power motives, and pathological narcissism (including sub-facets in an exploratory analysis).

Table 4.1: Sexual Experiences Study Demographic Table

Age	N = 195
mean (sd)	28.7 (8.8)
Range	19.0~61.0
Gender	

Female	96 (49.2%)
Male	98 (50.3%)
Prefer not to respond	1 (0.5%)

Ethnicity

African	52 (26.7%)
Arab	1 (0.5%)
Asian or Asian Scottish or Asian British	7 (3.6%)
Caribbean or Black	1 (0.5%)
Mixed or Multi-ethnic	8 (4.1%)
Other ethnicity	5 (2.6%)
White	121 (62.1%)

Ethnic Origin

African	49 (25.1%)
Arab	1 (0.5%)
Asian	6 (3.1%)
English	21 (10.8%)
European	101 (51.8%)
Latin American	10 (5.1%)
Other	5 (2.6%)
Scottish	2 (1.0%)

Education	
A-Levels or Equivalent	41 (21.0%)
Doctoral Degree	2 (1.0%)
GCSEs or Equivalent	21 (10.8%)
Prefer not to respond	3 (1.5%)
Primary School	5 (2.6%)
University Post-Graduate Program	37 (19.0%)
University Undergraduate Program	86 (44.1%)

4.4.1 Primary hypotheses

Our hypotheses were targeted at the unique relationship between the DoPL motives and replicating our main findings of study 2, found in Chapter Two. Along with replicating the findings of DoPL and pathological narcissism, we sought to investigate the relationship between the DoPL motives and the SRTB scale's subcomponents (Risk Benefit, Risk Frequency, Risk Likelihood, and Risk Perception). To evaluate these hypotheses, we first conducted a Bayesian correlation using wide priors assigned from the correlation package. We found partial support for H1 with all social power motives being positively correlated with narcissism (see **Error! Reference source not found.** for full correlation results). In the analysis, we found a negative correlation with Dominance motivation and the SRTB scale (see further down for a note on intercorrelations and the possibility of a suppressor effect). Next, to evaluate the remaining

hypotheses, we conducted a multivariate Bayesian regression with risk benefit, risk perception, risk likelihood, and risk frequency as simultaneous criteria and social power
motives, pathological narcissism, age, and gender as predictors (age and gender being control variables). This approach allowed us to assess the specific connections between DoPL motives and perceptions of risk benefit while accounting for the relationships between these motives and other components of the SRTB scale, as well as the relationships among the SRTB components themselves.The results of the multivariate Bayesian multiple regression analysis are shown in Table 4. We found, interestingly, that when specifying the model with simultaneous outcome variables, the results are in the predicted directions. Therefore, there is a possibility of overlap between the SRTB component domains that act as hidden suppressor(s) variables in the raw correlations (Krus & Wilkinson, 1986). Once controlled for, the impact of the suppressor variables goes away.

Supporting H2, we found general overall support that individuals who indicated higher levels of dominance were more likely to engage in risky sexual behaviours β = 0.27, 95% HDI = [0.18, 0.35]. This finding is consistent with previous research that has found that individuals high in dominance are more likely to engage in risky behaviours(Demaree et al., 2009). Additionally, we found that individuals higher in dominance motives tended to see risky-sexual behaviours as less risky than their counterparts, β = -0.35, 95% HDI = [-0.47, -0.23]. Higher dominance motive positively predicts past actual sexual risk-taking behaviours, β =

0.28, 95% DI = [0.20, 0.37]. Interestingly and of note, individuals high in leadership were marginally less likely to see benefits in sexual risk-taking along with a less actual engagement in sexually risky behaviours, β = -0.09, 95% HDI = [-0.17, -0.00] and β = -0.08, 95% HDI = [-0.16, -0.00] respectively. See Figure 4.1 for posterior effect sizes of the main model.

Table 4.2: *Bayesian correlation of all measured variables*

Parameters	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Dominance	15.82	5.68	-													
2. Prestige	20.93	3.18	0.27***	-												
3. Leadership	19.93	4.54	0.42***	0.55***	-											
4. BPNI	93.53	21.5	0.42***	0.49***	0.35***	-										
5. BPNI Grandiosity	43.53	9.94	0.4***	0.58***	0.48***	0.8***	-									
6. BPNI Vulnerability	50	14.7	0.34***	0.33***	0.2**	0.91***	0.49***	-								
7. SOI	3.49	0.42	0.2**	-0.02	0.07	0.35***	0.52***	0.06	-							
8. UMS	56.56	10.91	0.18**	0.6***	0.41***	0.06	0.06	0.16*	0.06	-						
9. UMS Intimacy	21.26	4.82	-0.00156	0.42***	0.26***	0.23**	0.4***	0.07	0.02	0.81***	-					
10. UMS Affiliation	27.84	5.95	0.26***	0.54***	0.41***	0.32***	0.47***	0.15*	0.09	0.91***	0.54***	-				
11. SRTB Benefit	76.31	11.93	-0.19**	-0.06	-0.1	-0.07	-0.06	-0.07	-0.44***	-0.09	-0.02	-0.11	-			
12. SRTB Perception	45.25	15.17	0.13	0.09	-0.04	0.03	-0.01	0.05	0.25***	0.08	0.03	0.08	-0.52***	-		
13. SRTB Likelihood	85.6	18.24	-0.2**	-0.14	-0.02	-0.18**	-0.18**	-0.15*	-0.44***	-0.1	-0.06	-0.1	0.42***	-0.32***	-	
14. SRTB Frequency	115.68	12.66	-0.15*	-0.05	-0.04	-0.15*	-0.13	-0.13	-0.37***	-0.12	-0.00716	-0.16*	0.43***	-0.3***	0.4***	-

Note: * Asterisks denote probability of direction, * denotes 97.5%, ** denotes 99.5%, *** denotes 99.95+%. SRTB is Sexual Risk-taking Behavior Scale, SOI is Sociosexual Orientation Inventory, B PNI/PNI is (Brief) Pathological Narcissism Inventory, and UMS is Unified Motives Scale.

Table 4.3: Bayesian regression of individual SRTB domains as response and dominance, prestige, leadership, and pathological narcissism as predictors.

	SRTB Benefit			SRTB Frequency			SRTB Likelihood			SRTB Perception		
Predictor	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**
Intercept	0.51	[0.28, 0.75]	0%	0.18	[-0.11, 0.48]	27%	0.23	[-0.06, 0.52]	17%	-0.2	[-0.48, 0.08]	23%
Dominance	**0.39**	**[0.3, 0.47]**	**0%**	**0.28**	**[0.2, 0.37]**	**0%**	**0.27**	**[0.18, 0.35]**	**0%**	**-0.35**	**[-0.47, -0.23]**	**0%**
Prestige	-0.01	[-0.09, 0.07]	100%	0.07	[-0.01, 0.15]	78%	0.03	[-0.05, 0.11]	98%	0.06	[-0.03, 0.15]	84%
Leadership	**-0.09**	**[-0.17, 0]**	**64%**	**-0.08**	**[-0.16, 0]**	**67%**	-0.06	[-0.14, 0.02]	86%	0.05	[-0.03, 0.13]	91%
B-PNI	-0.04	[-0.14, 0.05]	88%	-0.03	[-0.11, 0.05]	97%	-0.04	[-0.12, 0.04]	95%	0.06	[-0.04, 0.16]	78%
Gender	0.02	[-0.12, 0.17]	84%	**0.15**	**[0, 0.3]**	**23%**	0.1	[-0.05, 0.24]	53%	0.02	[-0.07, 0.11]	98%
Age	**-0.02**	**[-0.02, -0.01]**	**100%**	**-0.01**	**[-0.02, 0]**	**100%**	**-0.01**	**[-0.02, 0]**	**100%**	**0.01**	**[0, 0.01]**	**100%**

Note: ROPE equates to percentage in region of practical equivalence. HDI equates to high density interval of the posterior distribution.

Table 4.4: Bayesian regression with gender interaction of individual SRTB domains as response and dominance, prestige, leadership, and pathological narcissism as predictors.

	SRTB Risk Benefit			SRTB Risk Frequency			SRTB Risk Likelihood			SRTB Risk Perception		
Predictor	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**
Intercept	0.47	[0.22, 0.72]	0%	0.16	[-0.13, 0.46]	31%	0.21	[-0.09, 0.5]	23%	-0.17	[-0.47, 0.12]	30%
Dominance	**0.38**	**[0.3, 0.47]**	**0%**	**0.3**	**[0.22, 0.39]**	**0%**	**0.27**	**[0.19, 0.36]**	**0%**	**-0.32**	**[-0.45, -0.2]**	**0%**
Prestige	-0.01	[-0.09, 0.08]	100%	0.06	[-0.03, 0.15]	84%	0.06	[-0.03, 0.14]	85%	0.04	[-0.06, 0.14]	88%
Leadership	-0.06	[-0.15, 0.02]	81%	-0.06	[-0.14, 0.03]	85%	-0.06	[-0.15, 0.02]	82%	0.06	[-0.02, 0.15]	83%
B-PNI	-0.05	[-0.16, 0.06]	81%	0	[-0.09, 0.08]	100%	0	[-0.09, 0.09]	100%	0.04	[-0.07, 0.16]	86%
Gender	0.04	[-0.11, 0.19]	80%	**0.16**	**[0.01, 0.3]**	**21%**	0.1	[-0.05, 0.24]	53%	0.02	[-0.08, 0.11]	99%
Age	-0.02	[-0.02, -0.01]	100%	-0.01	[-0.02, 0]	100%	-0.01	[-0.02, 0]	100%	0.01	[0, 0.02]	100%
Gender Interaction												
Dominance : Gender	**0.49**	**[0.45, 0.53]**	**0%**	**0.29**	**[0.18, 0.39]**	**0%**	**0.31**	**[0.2, 0.42]**	**0%**	**-0.49**	**[-0.53, -0.45]**	**0%**
Prestige : Gender	0.08	[-0.25, 0.41]	43%	0.23	[-0.07, 0.53]	18%	-0.05	[-0.36, 0.26]	48%	-0.01	[-0.33, 0.31]	48%
Leadership : Gender	-0.27	[-0.62, 0.09]	16%	-0.3	[-0.64, 0.02]	9%	0	[-0.33, 0.33]	47%	0	[-0.35, 0.34]	46%
Gender : B-PNI	**-0.34**	**[-0.65, -0.01]**	**5%**	**-0.45**	**[-0.74, -0.17]**	**0%**	**-0.49**	**[-0.79, -0.2]**	**0%**	**0.41**	**[0.1, 0.72]**	**0%**

Note: ROPE equates to percentage in region of practical equivalence. HDI equates to high density interval of the posterior distribution.

Table 4.5: Model comparison

Number	Model	elpd_diff	se_diff	BF
1	**Individual SRTB ~ Dominance + Prestige + Leadership + B-PNI + Age + Gender**	**0**	**0**	**-**
2	Individual SRTB~Dominance*Gender+Prestige*Gender+Leadership*Gender+B-PNI*Gender+Age	-28.8	5.6	1.60E-19

Note: Elpd-loo model comparisons and Bayes Factors (with model1 as the denominator for the latter comparison).Elpd_diff = difference of the leave-one-out cross-validated expected log point wise predictive density; se_diff = standard error of that difference. B-PN Iist brief pathological narcissism. Asterisk indicates gender interaction.

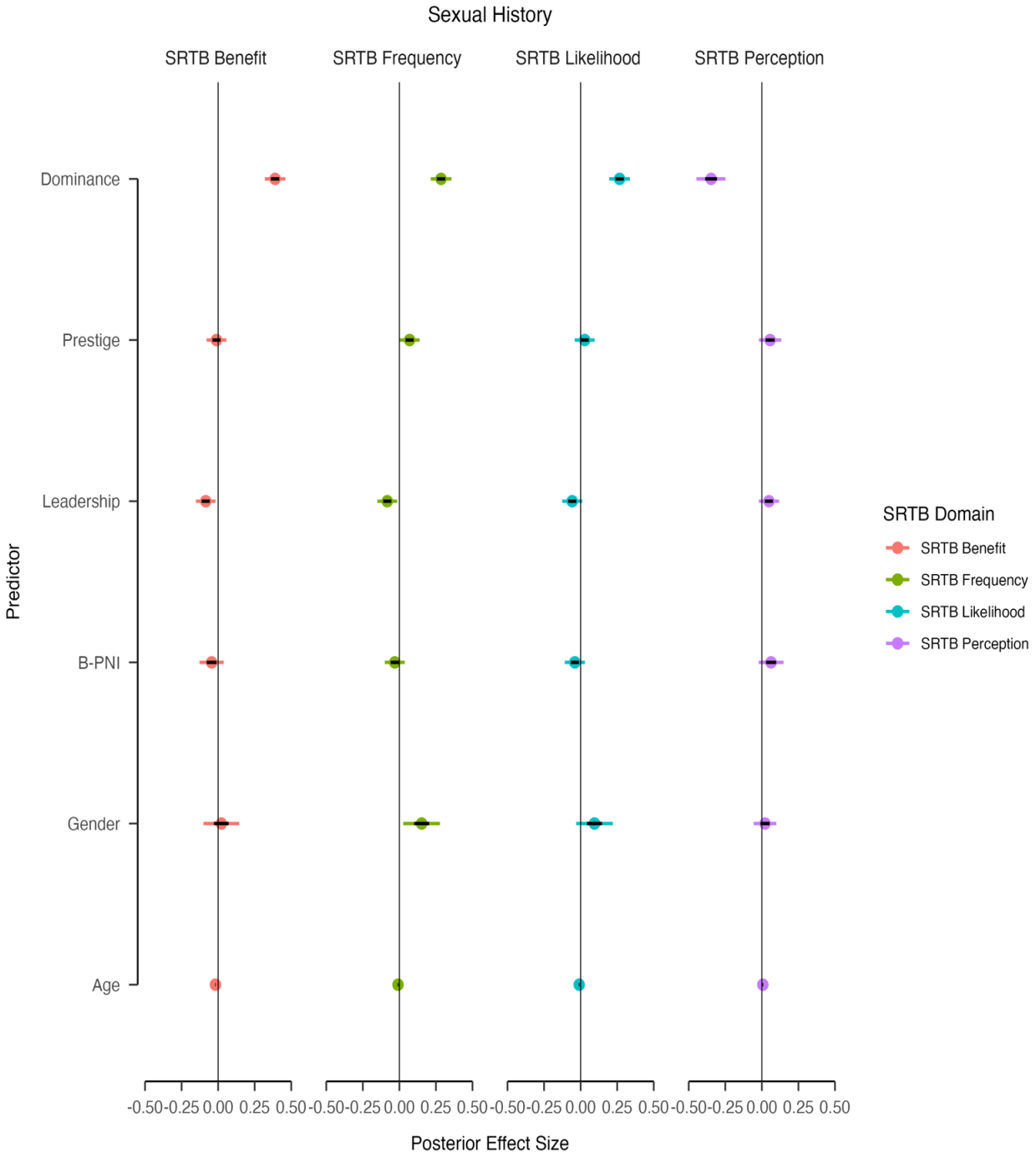

Figure 4.1: Depicted is a figure for the posterior effect size for Sexual Risk Taking-Behaviour Scale (SRTB) as predicted by Social Power Motives and Brief Pathological Narcissism (B-PNI)

Unfortunately, we found no credible relationship between B-PNI and the SRTB scale. However, this finding is similar to findings in previous research using the Domain Specific Risk-taking scale (see Chapter Two).

4.4.2 Exploratory Analyses

We have two specific exploratory analyses of note. In previous chapters, the literature notes that males tend to be riskier in their behaviours, especially in financial, recreational, and social domains. Males tend to be riskier in sexual behaviours as well. In the first of the two exploratory analyses we analysed an interaction model with gender as the interaction with social power motives and pathological narcissism. Of note, males higher in dominance tended to endorse riskier behaviours (see more benefits, increased likelihood, and frequency along with reduced perception of risk) in all domains of the sexual risk-taking behaviour scale (see Table 4.3 for full results). Also of note, men high in leadership motivation were almost less likely to engage in actual risky sexual behaviour (β = -0.30, 95% HDI = [-0.64, 0.02]). We then selected our best model using Bayes Factors and leave-one-out cross-validated expected log pointwise predictive density (elpd-loo). Bayes Factors evaluate the relative ability of models to maximise the likelihood of observed data, conditioned on the number of parameters. Elpd-loo evaluates the anticipated predictive success of the models in the face of new data drawn from the same sample population (loo package; V2.6.0; Vehtari et al., 2017). In a model comparison, we found that the non-interaction model was statistically the best-fitting model (see Table 4.5 for model comparison results). Following this analysis, we analysed a second exploratory model investigating the two sub-components of pathological

narcissism, grandiosity and vulnerability, given the foundational differences between vulnerable and grandiose narcissism, see Table 4.6 for full results of this model.

Additional Analyses

In addition to the aforementioned Bayesian regressions, we analysed the main analyses with standard multivariate multiple regressions along with standard Pearson correlations. For the analysis, we converted the Bayesian regression, with simultaneous dependent variables of SRTB regression (Perception, Likelihood, Benefit, and Frequency) to a multivariate multiple regression. Additionally, we have social power motives as independent variables along with B-PNI and gender and age as control variables. This approach allowed us to assess the specific connections between DoPL motives and perceptions of risk benefit while accounting for the relationships between these motives and other components of the SRTB scale, as well as the relationships among the SRTB components themselves. We found select significant results for Dominance and Gender appeared to be the two most significant positive predictors of Risk Likelihood. The results of the multiple regressions indicated that the predictors explained 7.9%-11% of the variance (For Risk Likelihood) $R = 0.08$, $F(6, 194) = 3.79$, $p < 0.01$, 10% for Risk Perception $R = 0.10$, $F(6, 194) = 4.72$, $p < 0.01$, and 11% for Risk Benefit $R = 0.10$, $F(6, 194) = 4.89$, $p < 0.01$ and no significance for Risk Frequency. Notable β's are $\beta = -0.164,\ p < 0.05$. The full results for this analysis and the full model can be seen in Table 4.7. We conducted the same analyses with gender as an interaction with the independent variables, see Table 4.8 for full results. Finally, we conducted our final exploratory analyses mirroring the

final Bayesian regression, where we parsed out the two individual main components of the Brief Pathological Narcissism Inventory, Grandiosity and Vulnerability, see table 4.9 for full results. Of note, for this model the predictors explained 5% of the variance for Risk Likelihood, $R = 0.04$, $F(6, 194) = 2.64$, $p < 0.05$ with risk perceptions, benefit, and frequency not having significant values. Additionally, note that there could be an impact of suppression variables seen in these additional results seen in the Bayesian Regressions and correlations seen in the above.

Table 4.6: Exploratory Bayesian regression of individual SRTB domains as response and dominance, prestige, leadership, and pathological narcissism (sub-components) as predictors.

	SRTB Benefit			SRTB Likelihood			SRTB Frequency			SRTB Perception		
Predictor	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**	**Estimate**	**HDI (95%)**	**ROPE**
Intercept	0.52	[0.29, 0.76]	0%	0.2	[-0.1, 0.49]	25%	0.34	[0.05, 0.63]	3%	-0.21	[-0.49, 0.08]	22%
Dominance	**0.39**	**[0.31, 0.47]**	**0%**	**0.28**	**[0.2, 0.37]**	**0%**	**0.26**	**[0.18, 0.35]**	**0%**	**-0.35**	**[-0.47, -0.23]**	**0%**
Prestige	-0.01	[-0.09, 0.07]	100%	0.07	[-0.01, 0.15]	77%	0.03	[-0.05, 0.11]	98%	0.06	[-0.04, 0.15]	84%
Leadership	**-0.08**	**[-0.17, 0]**	**66%**	**-0.08**	**[-0.16, 0]**	**68%**	-0.06	[-0.14, 0.03]	87%	0.05	[-0.03, 0.13]	91%
PNI Grandiosity	-0.03	[-0.13, 0.07]	93%	-0.03	[-0.11, 0.05]	97%	-0.04	[-0.12, 0.04]	94%	0.03	[-0.08, 0.13]	94%
PNI Vulnerability	-0.04	[-0.14, 0.05]	89%	-0.03	[-0.11, 0.05]	97%	-0.04	[-0.12, 0.04]	94%	0.03	[-0.08, 0.13]	94%
Age	**-0.02**	**[-0.02, -0.01]**	**100%**	-0.01	[-0.02, 0]	100%	**-0.01**	**[-0.02, 0]**	**100%**	**0.01**	**[0, 0.02]**	**100%**
Gender	0	[-0.14, 0.15]	86%	0.13	[-0.02, 0.28]	33%	-0.12	[-0.27, 0.03]	40%	0.03	[-0.07, 0.12]	96%

Note: ROPE equates to percentage in region of practical equivalence. HDI equates to high density interval of the posterior distribution.

Table 4.7: Standard Pearson correlation of all measured variables.

Parameters	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Dominance	15.82	5.68	-													
2. Prestige	20.93	3.18	0.28**	-												
3. Leadership	19.93	4.54	0.43***	0.57***	-											
4. BPNI	93.53	21.5	0.43***	0.51***	0.36***	-										
5. BPNI Grandiosity	43.53	9.94	0.41***	0.59***	0.49***	0.81***	-									
6. BPNI Vulnerability	50	14.7	0.35***	0.34***	0.2	0.92***	0.5***	-								
7. SOI	3.49	0.42	0.21	-0.02	0.07	0.07	0.07	0.05	-							
8. UMS	56.56	10.91	0.18	0.61***	0.43***	0.35***	0.53***	0.16	0.07	-						
9. UMS Intimacy	21.26	4.82	-0.00378	0.43***	0.26*	0.24*	0.41***	0.07	0.82***	0.02	-					
10. UMS Affiliation	27.84	5.95	0.27**	0.55***	0.42***	0.33***	0.48***	0.15	0.92***	0.09	0.55***	-				
11. SRTB Benefit	76.31	11.93	-0.2	-0.06	-0.1	-0.08	-0.06	-0.08	-0.09	-0.45***	-0.02	-0.11	-			
12. SRTB Perception	45.25	15.17	0.14	0.08	-0.04	0.03	-0.01	0.05	0.09	0.26*	0.03	0.09	-0.54***	-		
13. SRTB Likelihood	85.6	18.24	-0.2	-0.14	-0.02	-0.19	-0.18	-0.15	-0.1	-0.45***	-0.06	-0.11	0.43***	-0.33***	-	
14. SRTB Frequency	115.68	12.66	-0.15	-0.05	-0.04	-0.15	-0.14	-0.13	-0.12	-0.38***	-0.00846	-0.16	0.44***	-0.31***	0.41***	-

Note: * Asterisks denote probability of direction, * denotes 97.5%, ** denotes 99.5%, *** denotes 99.95+%. SRTB is Sexual Risk-taking Behavior Scale, SOI is Sociosexual Orientation Inventory, B PNI/PNI is (Brief) Pathological Narcissism Inventory, and UMS is Unified Motives Scale.

Table 4.8: Standard regression with simultaneous outcome variables of SRTB predicted by social power motives, and pathological narcissism.

Predictor	**SRTB Risk Likelihood** Estimate (SE)	**SRTB Risk Perception** Estimate (SE)	**SRTB Risk Benefit** Estimate (SE)	**SRTB Risk Frequency** Estimate (SE)
(Intercept)	0.376 (0.261)	-0.073 (0.257)	0.410 (0.256)	0.212 (0.270)
Dominance	-0.164 (0.082) *	0.148 (0.081) .	-0.132 (0.081)	-0.104 (0.085)
Prestige	-0.137 (0.092)	0.168 (0.090) .	0.007 (0.090)	0.024 (0.095)
Leadership	0.178 (0.090) *	-0.177 (0.088) *	-0.041 (0.088)	0.041 (0.092)
B_PNI	-0.134 (0.087)	-0.051 (0.086)	-0.033 (0.085)	-0.147 (0.090)
Gender1	-0.368 (0.141) **	0.558 (0.139) ***	-0.631 (0.138) ***	-0.229 (0.145)
Age	-0.007 (0.008)	-0.007 (0.008)	-0.003 (0.008)	-0.003 (0.008)
Residual Std. Err.	0.962	0.947	0.943	0.992
R^2	0.1084	0.1314	0.1357	0.0487
Adjusted R^2	0.0798	0.1035	0.1079	0.0182
F-statistic	3.79 (p = 0.0014)	4.72 (p = 0.0002)	4.89 (p = 0.0001)	1.60 (p = 0.1501)

Note: Values outside of parentheses represent fixed effects. Values in parentheses represent standard errors. Asterisks indicate significance levels (*** = p < .001, ** = p < .01, * = p < .05, . = p < .10).

Table 4.9: Standard regression with simultaneous outcome variables of SRTB predicted by social power motives, and pathological narcissism (sub-components).

Predictor	**SRTB Risk Likelihood**	**SRTB Risk Perception**	**SRTB Risk Benefit**	**SRTB Risk Frequency**
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
(Intercept)	0.118 (0.247)	0.303 (0.248)	-0.019 (0.251)	0.051 (0.252)
Dominance	-0.196 (0.083) *	0.203 (0.083) *	-0.192 (0.084) *	-0.124 (0.084)
Prestige	-0.125 (0.096)	0.196 (0.096) *	-0.011 (0.097)	0.031 (0.098)
Leadership	0.197 (0.093) *	-0.166 (0.093) .	-0.041 (0.094)	0.053 (0.095)
PNI Grandiosity	-0.109 (0.100)	-0.146 (0.100)	0.065 (0.101)	-0.098 (0.102)
PNI Vulnerability	-0.035 (0.084)	0.004 (0.085)	-0.029 (0.086)	-0.065 (0.086)
Age	-0.004 (0.008)	-0.010 (0.008)	0.000 (0.008)	-0.002 (0.008)
Residual Std. Err.	0.978	0.984	0.993	0.998
R^2	0.078	0.0628	0.0415	0.037
Adjusted R^2	0.0484	0.0327	0.0108	0.0061
F-statistic	2.64 (p = 0.0177)	2.09 (p = 0.0567)	1.35 (p = 0.2371)	1.20 (p = 0.3102)

Note: Values outside of parentheses represent fixed effects. Values in parentheses represent standard errors. Asterisks indicate significance levels (*** = p < .001, ** = p < .01, * = p < .05, . = p < .10).

4.5 Discussion

In the present study, we sought to bridge the gap in our understanding of sexual risk-taking behaviours and social power motives. Social power motives can help explain the differences between individuals and their behaviour. As was the case in the previous chapter, we further established a relationship between dominance and risk-taking, specifically in this case, sexual risk-taking. We found that individuals high in dominance were more likely to engage in risky sexual behaviours and were more likely to see those behaviours as less risky. This finding is consistent with previous research that has found that individuals high in dominance are more likely to engage in risky behaviours (Chapter Two, Demaree et al., 2009). It is important to draw this connection from general domain risk-taking behaviours to include sexual risk-taking because this shows the multifaceted nature of risk-taking behaviours. Along with the dominance finding that shows a general replication of previous results in a specific domain, individuals high in leadership orientation were less likely to see the benefit in sexual risk-taking. There are multiple interesting possibilities as to why this is the case, in particular with the leadership motive. First, leadership motivation is nomothetically distinct from both dominance and prestige motivations. Dominance and prestige motivations are associated with negative self-serving behaviours such as gaining power for personal gain, seen in both dominance and prestige. Whereas leadership motivation is more well-calibrated to positive and prosocial behaviours such as communal support and public/personal uplifting behaviours. Further, risky sexual behaviours and in and of themselves

may be inherently different to the motivations and prosocial behaviours inherent to leadership motivation. Leadership-motivated individuals tend to be emotionally stable and exhibit helping behaviours. These types of behaviours run opposite to behaviours predicting or highly correlated with risk-taking and in particular sexual riskiness. Specifically related to the taking of risks, leadership-motivated individuals tend to be afraid of losing their position; thus, taking risks, such as sexual risks, may harm their status and position eventually. In some respects, sexual risks may be riskier than, say, ethical or financial risk-taking.

An interesting aspect that differentiates these findings from our previous understanding of risk-taking is the novel aspect of actual risk-taking behaviours. While research has shown that hypothetical risk-taking, specifically sexual risk-taking, is just as a good indicator of actual sexual risk-taking, inquiring about actual frequency can provide more accurate understanding on the part of the researcher but also act as a verification of intent and behaviour (Lawyer & Schoepflin, 2013; Lawyer et al., 2010; Madden et al., 2003). As found in **Chapter Two**, we found that individuals high in dominance were less likely to perceive risk in health and safety-related risks. The present study furthers this finding by focusing on certain aspects of health and safety-related risk-taking. Chapter Two helped lay the foundation of understanding risk through a health and safety lens. However, the broad aspect of what constitutes health and safety does not account for the more nuanced sexual riskiness. From this study, we bridge intention, through risk likelihood, to actual behaviour, risk frequency. Sexual risk behaviours comprise different behaviours and beliefs

surrounding sex and sexual intimacy. In many ways, the consequences of sexual riskiness, unexpected pregnancies, or STIs, pose long-term consequences that may not be completely present in a general health and safety composite variable. While someone might be more likely to engage in health-related riskiness, such as not wearing a mask during a global pandemic, they may view wearing a condom during sex as completely necessary to avoid pregnancy or STIs.

Education and socio-cultural factors greatly impact the likelihood and perceptions surrounding risk-taking behaviours (Kirby, 2001; Kirby et al., 2007; MacKenzie et al., 2017; Stanger-Hall & Hall, 2011). Such as religion and beliefs around condoms or sex outside or before marriage (Strayhorn & Strayhorn, 2009). While education and socio-cultural factors do indeed play a large role in risk-taking behaviours and likelihood of engaging in them, we contend that our results suggest that dominance motivation in particular, and possibly leadership motivation in the opposite direction to some extent, on its/their own due to the way it is influencing likelihood, perceptions and perceived benefits of risk. This, in particular is important in multiple ways. First, dominance is seen in many cultures, which makes it a possible point or avenue to address risk-taking behaviours (Fischer et al., 2012; Pratto et al., 2000). Previous attempts at addressing risk-taking behaviours, in particular sexual risk-taking behaviours, through educational means do work to some extent but does not necessarily work in all cases. This could be due to several factors such as educational inconsistencies, inadequate teaching methods, inconsistent teaching, and so on (MacKenzie et al., 2017). There is much variation in

how sexual health is taught in schools, or even if it is taught in schools, that for some it might have the opposite effect, where individuals may overestimate their leading them to not engage in safe sex. Additionally, miseducation could impact the individual's perception of the threat of a STIs which then may impact their likelihood of engaging in, for example, condomed sex (Sheeran et al., 1999). This trend has continued with a larger majority of heterosexual people continuously believing that they are excluded from contracting HIV, which has seen a marked increase in contraction rates (Littleton et al., 2020). In recent years the number new incidences of HIV amongst GBMSM (Gay and Bisexual men who have sex with men) has decreased while has been increasing amongst heterosexuals in the United Kingdom (Shah et al., 2023). While the present study itself did not investigate knowledge of STIs such as HIV, it is important to note that the perception of risk is an important factor in sexual risk-taking. We contend that while education on the consequences of sexual risk-taking is important and has shown strong results and benefits, targeting power motives may be a strong intervention strategy.

Secondly, power motivations as method of intervention is especially important given the troubling rise in Andrew Tate hyper-misogyny amongst teenage boys and young men (Haslop et al., 2024; Wescott et al., 2024). Tate-ism especially targets and amplifies dominance motivations and dominance tropes such as toxic masculinity and female subservience (Haslop et al., 2024). This poses not just a physical and psychological danger but can also increase risk-taking, especially sexual risk-taking. While Tate-ism targets dominance motivation, thus promoting the

subjective benefits of a dominance motivation, it is ever more important that we use intervention strategies that counteract and target these power motivations. For example, promoting unsafe sex as “weak” or promoting how safe sex practices may constitute a taking back of power and increase self-esteem and sexual efficacy. By emphasising and an early age communal behaviours and prosocial attitudes, it may be possible to curb the chances of another Andrew Tate-like figure gaining hold in the future. Additionally, these interventions might also influence the growth of a leadership motive, which we believe our results suggest a possible negative effect on risk-taking .

4.5.1 Limitations and future directions

As is the case in most experiments, there could be difficulty in sexual risk-taking questionnaires that may be difficult for individuals to answer truthfully. Because of some of the social stigma surrounding sexual risks, individuals may be reluctant to always answer truthfully (Barth et al., 2002; Morris et al., 2014; Rao et al., 2017). Research has shown, however, that the sexual risk-taking trend has been seen cross-culturally (Thomas et al., 2015). As noted, with the advent of Tate-ism globally, future research should focus on the impact that it is having on sexual risk-taking behaviours and beliefs surrounding risk.

4.5.2 Conclusion

Sexual risk-taking behaviour is strongly affected by the strong motivations and perceptions surrounding people’s everyday decisions. We believe that dominance is the stronger predictor compared to pathological

narcissism (B-PNI). Continued research on the topic, including investigating with standard non-clinical narcissism, becomes extremely important with the recent advent of anti-science beliefs in current political administrations. Sexual risk-taking behaviour research helps elucidate why individuals may behave riskily, in the next chapter we expand and verify this finding.

Chapter 5: Dominance, Prestige, and Leadership Affecting Sexual Risk-taking

Based on our previous understanding of risk-taking behaviours, as seen in chapters 2-4, dominance motivation was a strong overall predictor of risk-taking behaviours. We have examined risk through a general lens in Chapter Two, focusing on the justification of spiteful actions and social power motives in the context of pathological narcissism. This chapter seeks to confirm and extend our understanding of an important aspect of risk-taking behaviours that we explored tangentially (NHS, 2017, 2025) in previous chapters (chapters two and three) and more directly in chapter four. In recent years, viruses, illnesses, and sexually transmitted infections (STIs) have become increasingly more dangerous (Cullinan, 2025). While, as noted, investigating through an impulsivity and the like lens may seem advantageous, we contend that the most informative method of understanding sexual risk-taking behaviours and the rise of STIs is through a social power motives framework.

5.1 Understanding sexual risk

Sexually transmitted infections are continuing to rise across demographics. While some STIs are curable or treatable, some STIs can have harmful effects on the individual. As noted in previous chapters, STIs can have a negative impact on sexual, social, and financial aspects (especially in countries without socialised medicine). Research in sexual risk-taking behaviours becomes extremely important when trying to

understand why we see increases in STIs. While tracking incidence rates and educating the population on the consequences of sexual risk-taking seems and is in some cases effective (CDC, 2024; NHS, 2017, 2025), researching the psychological precursors can help elucidate why the behaviours occur and could point to possible methods of curtailing those behaviours and ultimately reducing the rates of STIs. Understanding sexual risk-taking behaviours through social power motives is crucial for several reasons, such as understanding the motivation outside of sexual gratification. Secondly, the recent press releases, executive orders, and other actions of the Trump administration highlight the interplay of power, motivation, and misinformation in this context (Kupferschmidt, 2025).

There is often a dichotomy where information availability is at its highest, with facts being available within seconds, but this spells trouble with the inevitable rise of misinformation (Borges do Nascimento et al., 2022; Brainard & Hunter, 2020; DeVerna et al., 2025; Rodrigues et al., 2024). In the late 1990s, misinformation spread about a possible cause of autism being from vaccines or more prevalent of HIV/AIDs was only a gay disease. In 2023, new cases of HIV increased by 15%, with 7% among gay and bisexual men, but 32% in heterosexual men and women (Terrence Higgins Trust, 2025). Misinformation on the susceptibility causes people to misattribute their susceptibility to the disease. While combating the misinformation by promoting facts is intuitive and easy, understanding why people may believe in the inaccurate information is more lasting and effective, yet can be harder. As shown throughout this thesis, dominance-motivated individuals gravitate to certain types of wording, imagery, and so

on (Guinote et al., 2025). Risk-taking behaviours allow for dominance-motivated individuals to play out their wants, needs, and fantasies, often at the detriment of others around them. Additionally, being sexually risky allows the dominant individual to be seen as stronger, faster, and more desirable, along with increasing their likelihood of procreation (Zurbriggen & Yost, 2004). However, the dominant individual will often put themselves or others in danger of contracting sexually or non-sexually transmitted infections. An important aspect of risk-taking is the perception of risky situations as risky. In chapters two and four, we see that dominance motivation appears to negatively predict risk perceptions. Importantly, this would make an individual discount the negative consequences of sexual riskiness and focus on the benefits of sexual riskiness.

In previous studies, we investigated to see if dominance motivation was a stronger predictor than pathological narcissism, which has been seen as predicting increased sexual riskiness (Chapter Four; Demaree et al., 2009). In chapter two, we found that dominance motivation appeared to be the stronger predictor of pathological narcissism on generalised risk-taking and in chapter four, we found the same regarding sexual risk-taking behaviours. This would follow generalised evidence that dominance by and large is a strong predictor of risk-taking behaviours and further evidence of actual engagement in risky behaviour, sexual risk-taking in Chapter Four. Dominance-motivated individuals are often guided by a need to appear and feel as powerful as they can (Gilad & Maniaci, 2022; Goodboy et al., 2016). They often are prone to financial risk-taking, gambling, holding seats of power or authority, and financial risk-taking

(Demaree et al., 2009; Johnson et al., 2007; Kim et al., 2020; Ronay et al., 2023). As noted in Chapter Four, we believe that dominance-motivated individuals act in the way that they do, riskily, because in doing so, they can display their strength to others. Dominant individuals will seek to have as many sexual partners as they can, even increasing their chance of contracting an STI (Bogaert & Fisher, 1995). Additionally, as a note, sex resulting in a pregnancy, wanted or otherwise, could be a sign of virility. An interesting finding from Chapter Four concerns leadership motivation. We found, while weakly, a negative relationship to some aspects of leadership on sexual risk-taking. We noted that, while weakly, certain aspects of leadership motivation would influence the risk-taking behaviours negatively of leadership-motivated individuals. Leadership motivation, unlike dominance or prestige, is centred around prosocial activities and behaviours such as working towards a common goal, uplifting of ideas, and so on. Chapter Four somewhat confirmed this, further fuelling the contention that leadership motivation is a unique aspect of social power motives, distinct from dominance and prestige (See previous chapter for specific findings). Social power motives offer a unique opportunity to investigate sexual risk-taking behaviour and risk-taking at large, because they allow one not just the opportunity to investigate a complex and ever-important topic such as sexual risk-taking, but also create a possible framework for changing human behaviour by looking at the antecedents to the behaviour and perceptions. We touch upon this curbing of sexual risk-taking behaviour further in the discussion of this chapter and at large in the General Discussion. Additionally, understanding sexual risk-taking in

different contexts allows us to understand and demonstrate the pervasive and influential power of social power motives on risk-taking, specifically sexual risk-taking.

5.1.1 The present study

The present study seeks to confirm and extend our previous findings on how social power motives and pathological narcissism affect sexual risk-taking behaviour using the Sexual Risk-taking Behaviour Scale (SRTB) as a framework to understand sexual risk-taking behaviours. As previously researched, the SRTB scale uses not just likelihood, perception, and benefits to understand risk, just as in Chapter Four, it employs actual frequency as a method of understanding risk. This creates a more direct avenue of intention and action, which is important to understand, not the reason for risk behaviours, but hints at possible methods of controlling or changing behaviours. We predict that dominance motivation will be strongly positively associated with risk likelihood and frequency. Additionally, we predict that dominance motivation will be negatively predictive of risk perceptions.

Hypotheses

Specific posteriors have been adapted from Chapter four: H1: Dominance motivation will be positively associated with overall increased likelihood, benefit, and actual frequency of sexual risk-taking behaviours (Likelihood: $\beta = 0.27$, 95% HDI = [0.18, 0.35]; Benefits: $\beta = 0.39$, 95% HDI = [0.30, 0.47]; Frequency: $\beta = 0.27$, 95% HDI = [0.18, 0.35]). H2: Dominance motivation will be negatively associated with risk perceptions

of sexually risky behaviours (β = -0.35, 95% HDI = [-0.47, -0.23]). H3: Leadership motivation will be (weakly) negatively associated with frequency of sexually risky behaviours (β = -0.08, 95% HDI = [-0.16, 0.00]). H4: General zero-order positive correlations between dominance motivation and sexual risk-taking (likelihood, benefits, and frequency) using semi-wide Bayesian correlation priors. H5: Males will be (weakly) positively associated with the likelihood/frequency of sexual risk-taking behaviours (Likelihood: β = 0.1, 95% HDI = [-0.05, 0.24]; Frequency: β = 0.15, 95% HDI = [0, 0.3]). There are no prescribed hypotheses for prestige motivations on sexual risk-taking behaviours.

Participants were a convenience sample of 294 adult English-speaking/reading individuals from Prolific Academic's crowdsourcing platform (www.prolific.io) who were paid £2 for participation. The Psychology Research Ethics Committee at the University of Edinburgh approved all study procedures [ref: 272-2425/1]. The present study was pre-registered along with a copy of anonymised data upon request, along with a copy of the R code and supplemental materials are available at (https://osf.io/s4j7y).

5.2 Methods

5.2.1 Materials

5.2.1.1 Demographic Questionnaire

Prior to the main survey, participants responded to a series of questions about age, gender, ethnicity, education, and ethnic origin.

5.2.1.2 Sexual Risk-taking Behaviour Scale

The Sexual Risk-taking Behaviour Scale (SRTB; Spiegel & Pollak, 2019) consists of 54 items designed to measure risk-taking through a series of statements about various sexually risky behaviours. In the current sample, the internal reliability coefficients were high for each facet: Likelihood (α = 0.93), Risk Perception (α = 0.91), Perceived Benefit (α = 0.94), and Frequency (α = 0.95).

5.2.1.3 Social Power Motives

Social power motives were measured with the 18-item Dominance, Prestige, and Leadership scale (DoPL; Suessenbach et al., 2019). Within this scale, 15 items from the intimacy and affiliation of the unified motives scale (UMS; Schönbrodt and Gerstenberg, 2012) were embedded for masking purposes. Internal reliabilities per sub-scale for the current sample are dominance a = 0.90, prestige a = 0.85, leadership a = 0.83, UMS Affiliation a = 0.84, and UMS Intimacy a = 0.83.

5.2.2 Procedure

In the present study, participants were recruited via a study landing page on Prolific's website or direct e-mail to eligible participants. The study landing page included a brief description of the study including any risks and benefits, along with expected compensation for successful completion. Participants accepted participation in the experiment and were directed to the main survey (Qualtrics, Inc.), where they were shown a brief message on study consent, after which they answered a series of demographic questions. Once completed, participants completed the

Social Power Motives scale (with unified motives scale components) and the Sexual Risk-taking Behaviour Scale (SRTB). The scales were counterbalanced to account for order effects. After completion of the main survey, participants were shown a debriefing statement that briefly mentioned the purpose of the experiment, along with the contact information of the main researcher (AI) and principal investigator (AM). Participants received £2 as compensation for completion of the survey. Table 5.1 illustrates the demographic information for the present study.

5.2.3 Data analysis

All analyses were implemented in the R statistical language(R. Core Team, 2021). We conducted Bayesian regression analyses using the brms package (Bürkner, 2018), cmdstanr (Gabry & Cesnovar, 2021), bayestestR (Makowski et al., 2019), rstan (Stan Development Team, 2020), and papaja/quarto packages (Allaire, 2022; Aust & Barth, 2020). All continuous variables were standardised prior to analyses. We present results as the median posterior density estimate of the standardised regression coefficient(s) (i.e., betas) with 95% highest density intervals (HDIs) around those estimates, unless otherwise noted. In addition to the aforementioned Bayesian regression analyses, we have included a traditional null hypothesis, regression, to test the effectiveness of dominance (and prestige and leadership) in explaining sexual risk-taking behaviours. They are listed under additional analyses.

5.3 Results

Descriptive statistics are presented in Table 5.1. Table 5.2 reports the zero-order correlations between the SRTB scale (sub-domains), and social power motives.

Table 5.1: Sexual Experiences Study Demographic Table

Age	N = 283
mean (sd)	40.5 (11.84)
Range	19.0 - 69.0
Gender	
Female	128 (45.2%)
Male	153 (54.0%)

5.3.1 Primary hypotheses

Our hypotheses were targeted at the unique relationship between the DoPL motives and replicating our main findings found in Chapter Four. Along with replicating the findings of DoPL, we sought to investigate the relationship between the DoPL motives and the SRTB scale's subcomponents (Risk Benefit, Risk Frequency, Risk Likelihood, and Risk Perception) in a larger sample. To evaluate these hypotheses, we first conducted a Bayesian correlation using wide priors assigned from the correlation package. In the analysis, we found a negative correlation with Dominance motivation and the SRTB scale (See further down for a note on intercorrelations and the possibility of a suppressor effect). For hypotheses 1-3, we conducted a multivariate Bayesian regression with risk

benefit, risk perception, risk likelihood, and risk frequency as simultaneous criteria and social power motives (age and gender being control variables). This approach, with age and gender being controlled variables, allowed us to assess the specific connections between DoPL motives and perceptions of risk benefit while accounting for the relationships between these motives and other components of the SRTB scale, as well as the relationships among the SRTB components themselves. The results of the multivariate Bayesian multiple regression analysis are shown in Table 5.3. We found that when specifying the model with simultaneous outcome variables, the results are in the predicted directions. Therefore, there is a possibility of overlap between the SRTB component domains that act as hidden suppressor(s) variables in the raw correlations (Krus & Wilkinson, 1986). Once controlled for, the impact of the suppressor variables goes away.

Supporting H1, we found general overall support that individuals who indicated higher levels of dominance were more likely to engage in risky sexual behaviours β = 0.29, 95% HDI = [0.23, 0.35]. This finding is consistent with previous research that has found that individuals high in dominance are more likely to engage in risky behaviours (Chapter Four; Demaree et al., 2009). Additionally, and in support of H2, we found that individuals higher in dominance motives tended to see risky-sexual behaviours as less risky than their counterparts, β = -0.26, 95% HDI = [-0.24, -0.17]. Higher dominance motive positively predicts past actual sexual risk-taking behaviours, β = 0.29, 95% HDI = [0.23, 0.36]. Interestingly and in weak support of H3, individuals high in leadership

were marginally less likely to see benefits in sexual risk-taking, along with being more likely to see risky sexual behaviours as risky β = -0.09, 95% HDI = [-0.15, -0.03] and β = 0.07, 95% HDI = [0.00, 0.13] respectively. See Figure 5.1, for posterior effect sizes of the main model. In support of H5, we found males tended to be strongly positively associated with both risk likelihood β = 0.23, 95% HDI = [0.12, 0.33].

We additionally conducted one type of exploratory model. We constructed alternative regression models that included interactions between the DoPL motives and gender and compared these to the primary model that lacked such interactions. This was to evaluate if there was evidence for motive by gender interactions for subcomponents of risk orientation, since there is some evidence that, particularly for dominance, males and females differ. Model comparison was via comparison of leave-one-out cross-validated expected log point-wise posterior density estimates. Overall, we found that the non-interaction model was favoured over gender interactions, so we do not report those interaction models completely. Notably, the pattern of results for risk perception being uniquely predicted (unexpectedly) by dominance was also present for the benefit of risk taking, (β = -0.45, 95% HDI = [-0.49, -0.41]), but in the opposite direction - stronger dominance motive predicted less benefit of risk taking. This was also seen with frequency. See Table 5.5 for full results.

Table 5.2: Bayesian correlation matrix of all measured variables

Parameter	M	SD	1	2	3	4	5	6	7	8	9	10
1. Dominance	2.58	0.48	-									
2. Prestige	3.77	0.49	0.48***	-								
3. Leadership	3.84	0.43	0.4***	0.43***	-							
4. UMS	3.85	0.42	0.28***	0.59***	0.41***	-						
5. UMS Intimacy	4.04	0.49	0.17***	0.51***	0.26***	0.93***	-					
6. UMS Affiliation	3.69	0.47	0.35***	0.59***	0.5***	0.94***	0.74***	-				
7. SRTB Risk Benefit	2.29	0.54	0.34***	0.2***	0.11*	0.14**	0.14*	0.13*	-			
8. SRTB Risk Perception	5.03	0.5	-0.15**	-0.04	-0.00716	0.02	-0.02	0.05	-0.57***	-		
9. SRTB Risk Likelihood	2.53	0.66	0.3***	0.17**	0.12*	0.14**	0.12*	0.14**	0.73***	-0.55***	-	
10. SRTB Risk Frequency	1.75	0.59	0.35***	0.27***	0.19***	0.25***	0.2***	0.27***	0.62***	-0.35***	0.69***	-

Note: * 97.5% <= p(D), ** denotes 99.5% <= p(D), *** denotes 99.95+% <= p(D). *M is mean of non-scaled data. SD is standard deviation of non-scaled data.*

Table 5.3: Bayesian regression of individual SRTB domains as response and dominance, prestige, and leadership as predictors.

	SRTB Risk Benefit			SRTB Risk Frequency			SRTB Risk Likelihood			SRTB Risk Perception		
Predictor	Estimate	HDI (95%)	ROPE	Estimate	HDI (95%)	ROPE	Estimate	HDI (95%)	ROPE	Estimate	HDI (95%)	ROPE
Intercept	0.31	[0.09, 0.53]	1%	0.34	[0.08, 0.6]	1%	0.35	[0.1, 0.6]	0%	-0.13	[-0.41, 0.14]	37%
Dominance	**0.36**	**[0.3, 0.43]**	**0%**	**0.29**	**[0.23, 0.36]**	**0%**	**0.29**	**[0.23, 0.35]**	**0%**	**-0.26**	**[-0.34, -0.17]**	**0%**
Prestige	0.01	[-0.05, 0.07]	100%	**0.09**	**[0.03, 0.15]**	**66%**	0.01	[-0.05, 0.07]	100%	**0.07**	**[0, 0.14]**	**81%**
Leadership	**-0.09**	**[-0.15, -0.03]**	**67%**	-0.04	[-0.1, 0.02]	99%	-0.06	[-0.12, 0]	92%	**0.07**	**[0, 0.13]**	**85%**
Age	**-0.01**	**[-0.02, -0.01]**	**100%**	-0.01	[-0.02, 0]	100%	**-0.01**	**[-0.02, -0.01]**	**100%**	**0.01**	**[0, 0.01]**	**100%**
Gender	**0.24**	**[0.13, 0.35]**	**0%**	0.07	[-0.04, 0.19]	70%	**0.23**	**[0.12, 0.33]**	**0%**	**-0.12**	**[-0.21, -0.04]**	**29%**

Note: ROPE equates to percentage in region of practical equivalence. HDI equates to high density interval of the posterior distribution.

Table 5.4: Bayesian gender interaction regression of individual SRTB domains as response and dominance, prestige, leadership, as predictors.

	SRTB Risk Benefit			**SRTB Risk Frequency**			**SRTB Risk Likelihood**			**SRTB Risk Perception**		
Predictor	Estimate	HDI (95%)	ROPE	Estimate	HDI (95%)	ROPE	Estimate	HDI (95%)	ROPE	Estimate	HDI (95%)	ROPE
Intercept	0.32	[0.1, 0.55]	0%	0.37	[0.1, 0.64]	0%	0.32	[0.06, 0.58]	3%	-0.1	[-0.38, 0.18]	43%
Dominance	**0.46**	**[0.39, 0.53]**	**0%**	**0.38**	**[0.31, 0.45]**	**0%**	**0.15**	**[0.09, 0.22]**	**4%**	**-0.21**	**[-0.3, -0.12]**	**0%**
Prestige	-0.01	[-0.08, 0.06]	100%	**0.08**	**[0.01, 0.16]**	**67%**	0.06	[-0.01, 0.13]	89%	0.07	[-0.01, 0.16]	75%
Leadership	**-0.09**	**[-0.16, -0.02]**	**62%**	-0.05	[-0.12, 0.02]	94%	-0.05	[-0.12, 0.02]	95%	0.07	[-0.01, 0.14]	83%
Age	**-0.01**	**[-0.02, -0.01]**	**100%**	-0.01	[-0.02, 0]	100%	**-0.01**	**[-0.02, -0.01]**	**100%**	**0**	**[0, 0.01]**	**100%**
Gender	**0.26**	**[0.15, 0.37]**	**0%**	0.09	[-0.03, 0.21]	58%	**0.21**	**[0.1, 0.33]**	**0%**	**-0.11**	**[-0.2, -0.03]**	**37%**
Gender Interaction												
Dominance : Gender	**-0.45**	**[-0.49, -0.41]**	**0%**	**-0.46**	**[-0.5, -0.43]**	**0%**	**0.45**	**[0.42, 0.49]**	**0%**	**-0.47**	**[-0.51, -0.43]**	**0%**
Prestige : Gender	0.13	[-0.02, 0.29]	33%	0.05	[-0.11, 0.2]	74%	**-0.19**	**[-0.34, -0.04]**	**10%**	0.09	[-0.07, 0.26]	53%
Leadership : Gender	**0.16**	**[0, 0.32]**	**21%**	**0.26**	**[0.1, 0.42]**	**0%**	0.03	[-0.12, 0.18]	81%	0.14	[-0.02, 0.3]	30%

Note: ROPE equates to percentage in region of practical equivalence. HDI equates to high density interval of the posterior distribution.

Table 5.5: Model comparison

ModelNumber	Model	elpd_diff	se_diff	BF
1	**Individual SRTB ~ Dominance + Prestige + Leadership + Age + Gender**	**0**	**0**	**-**
2	Individual SRTB ~ Dominance*Gender + Prestige*Gender + Leadership*Gender + Age	-74.1	14	4.00E-43

Note: Elpd-loo model comparisons and Bayes Factors (with model1 as the denominator for the latter comparison).Elpd_diff = difference of the leave-one-out cross-validated expected log point wise predictive density; se_diff = standard error of that difference. Asterisk indicates gender interaction.

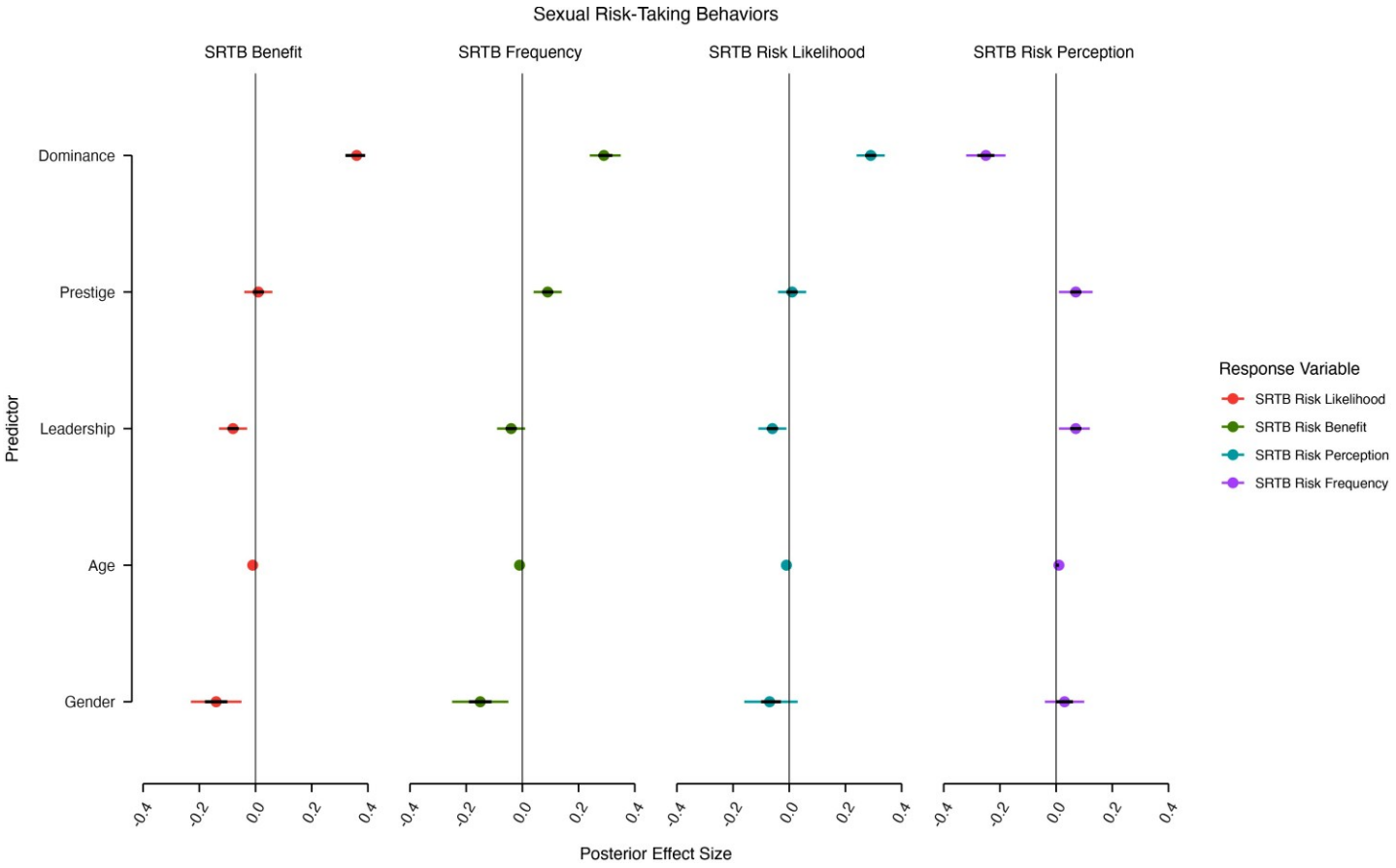

Figure 5.1: Depicted is a figure for the posterior effect size for Sexual Risk Taking-Behaviour Scale (SRTB) as predicted by Social Power Motives.

5.3.2 Additional Analyses

Following the Bayesian analyses and as confirmation and better clarity of results, we also use standard statistical analysis methods. We first repeated the Bayesian correlation but using the frequentist Pearson method. Correlation followed mostly the Bayesian correlations. Correlations closely followed the Bayesian correlation matrix seen in Table 5.3. See Table 5.5 for Pearson correlation results. Following the correlation matrix, we converted the Bayesian regression with simultaneous SRTB dependent variables (Benefit, Frequency, Likelihood, and Perception), predicted by social power motives, Gender, and Age, with gender and age acting as control variables to a multivariate multiple regression. Again, this approach allowed us to assess the specific connections between DoPL motives and perceptions of risk benefit while accounting for the relationships between these motives and other components of the SRTB scale, as well as the relationships among the SRTB components themselves. This same method was used to conduct a second regression model with gender interactions for each of the social power motives. For the non-interaction model and of note for risk likelihood, the model explained 12% of the variance $R = .12$, $F(5, 282) = 9.40$, $p < 0.001$, 8% for risk perception $R = .8$, $F(5, 282) = 6.14$, $p < 0.001$, 17% for risk benefit, $R = .17$, $F(5, 282) = 12.27$, $p < 0.001$, and 13% for risk frequency, $R = .13$, $F(5, 282) = 9.28$, $p < 0.001$. Notable βs results for dominance range from 0.287 to 0.324 with p's < 0.001. We found notable meaningful results for Dominance and Gender, see Table 5.7 for full

results of the non-interaction model. For the gender interaction model, we found similar but weaker results than for the non-interaction model. The models explain 13% of the variance for risk likelihood, $R = .13$, $F(5, 282) = 6.17$, $p < 0.001$, 9% for risk perception, $R = .09$, $F(5, 282) = 4.31$, $p < 0.001$, 16% for risk benefit, $R = .16$, $F(5, 282) = 7.83$, $p < 0.001$, and 12% for risk frequency, $R = .12$, $F(5, 282) = 5.87$, $p < 0.001$. See Table 5.8 for full results of the gender interaction model.

Table 5.6: Standard Pearson Correlation Table of Measured Variables

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Parameter	M	SD	1	2	3	4	5	6	7	8	9	10
1. Dominance	2.58	0.48	-									
2. Prestige	3.77	0.49	0.49***	-								
3. Leadership	3.84	0.43	0.41***	0.44***	-							
4. UMS	3.85	0.42	0.29***	0.6***	0.42***	-						
5. UMS Intimacy	4.04	0.49	0.17	0.52***	0.27***	0.93***	-					
6. UMS Affiliation	3.69	0.47	0.36***	0.6***	0.51***	0.94***	0.75***	-				
7. SRTB Risk Benefit	2.29	0.54	0.34***	0.21**	0.11	0.15	0.14	0.13	-			
8. SRTB Risk Perception	5.03	0.5	-0.15	-0.04	-0.00754	0.01	-0.03	0.05	-0.57***	-		
9. SRTB Risk Likelihood	2.53	0.66	0.31***	0.17	0.12	0.14	0.12	0.15	0.74***	-0.56***	-	
10. SRTB Risk Frequency	1.75	0.59	0.35***	0.27***	0.19*	0.26***	0.2*	0.28***	0.63***	-0.36***	0.7***	-

*Note: Correlation coefficients are Pearson's r. Values range from -1 to 1, where values closer to 1 indicate a strong positive correlation, values closer to -1 indicate a strong negative correlation, and values near 0 indicate no correlation. Statistical significance is indicated by asterisks: *p < .05, **p < .01, ***p < .001. UMS is Unified Motives Scale; SRTB is Sexual Risk-Taking Behaviour Scale*

Table 5.7: Standard regression with simultaneous SRTB predicted by social power motives

Predictor	**SRTB Risk Likelihood**	**SRTB Risk Perception**	**SRTB Risk Benefit**	**SRTB Risk Frequency**
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
(Intercept)	-0.352 (0.209)	0.597 (0.215) **	-0.699 (0.205) ***	-0.204 (0.209)
Dominance	0.287 (0.066) ***	-0.175 (0.068) *	0.324 (0.065) ***	0.283 (0.066) ***
Prestige	0.050 (0.068)	0.001 (0.070)	0.106 (0.066)	0.133 (0.068) .
Leadership	-0.066 (0.065)	0.114 (0.067) .	-0.102 (0.063)	0.004 (0.065)
Age	0.003 (0.005)	-0.008 (0.005)	0.012 (0.005) *	0.003 (0.005)
Gender	0.440 (0.114) ***	-0.512 (0.117) ***	0.401 (0.112) ***	0.132 (0.114)
Residual Std. Err.	0.933	0.957	0.993	0.934
R^2	0.1450	0.0998	0.1813	0.1435
Adjusted R^2	0.1296	0.0835	0.1666	0.1280
F-statistic	9.40 (p = 2.76e-08)	6.14 (p = 2.05e-05)	12.27 (p = 9.29e-11)	9.28 (p = 3.48e-08)
p	< .001	< .001	< .001	< .001

Note: Values outside of parentheses represent fixed effects. Values in parentheses represent standard errors. Asterisks indicate significance levels (*** = p < .001, ** = p < .01, * = p < .05, . = p < .10).

Table 5.8: Multivariate Multiple Regression Results Predicting SRTB Outcomes with Interaction Terms

Predictor	**SRTB Risk Likelihood**	**SRTB Risk Perception**	**SRTB Risk Benefit**	**SRTB Risk Frequency**
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
(Intercept)	-0.344 (0.210)	0.573 (0.215) **	-0.692 (0.206) ***	-0.201 (0.211)
Dominance	0.184 (0.102) .	-0.025 (0.104)	0.244 (0.100) *	0.227 (0.102) *
Prestige	0.096 (0.094)	-0.036 (0.097)	0.105 (0.092)	0.156 (0.095) .
Leadership	-0.085 (0.092)	0.050 (0.095)	-0.092 (0.090)	-0.015 (0.093)
Age	0.002 (0.005)	-0.007 (0.005)	0.011 (0.005) *	0.003 (0.005)
Gender	0.442 (0.114) ***	-0.515 (0.117) ***	0.402 (0.112) ***	0.134 (0.115)
Gender Interaction				
Dominance : Gender	0.182 (0.134)	-0.259 (0.137) .	0.139 (0.131)	0.099 (0.135)
Prestige : Gender	-0.088 (0.134)	0.066 (0.137)	0.009 (0.131)	-0.045 (0.134)
Leadership : Gender	0.055 (0.130)	0.107 (0.133)	-0.006 (0.127)	0.048 (0.130)
Residual Std. Err.	0.934	0.956	0.915	0.937
R^2	0.1526	0.1118	0.1861	0.1463
Adjusted R^2	0.1279	0.0859	0.1624	0.1214
F-statistic	6.17 (p = 2.51e-07)	4.31 (p = 6.61e-05)	7.83 (p = 1.77e-09)	5.87 (p = 6.18e-07)

Note: Values outside of parentheses represent fixed effects. Values in parentheses represent standard errors. Asterisks indicate significance levels (*** = p < .001, ** = p < .01, * = p < .05, . = p < .10).

5.4 Discussion

In the present study, we sought to continue, further and confirm our findings (from Chapter Four) of social power motives on sexual risk-taking behaviours. Since we found, in the previous chapter, that dominance motivation was the stronger predictor, as compared to pathological narcissism, we focused on social power motives on sexual risk-taking. We found that social power motives can help explain the differences between individuals and their behaviour. As was the case in the previous chapter, we further established a relationship between, in particular, dominance and sexual risk-taking. We confirmed our finding that dominance motivation positively predicted the likelihood of engaging in sexual risk-taking behaviours. This finding is consistent with previous research that has found that individuals high in dominance are more likely to engage in risky behaviours (Chapter Two, Chapter Four; Demaree et al., 2009). It is crucial to draw a connection between general domain risk-taking behaviours and sexual risk-taking to demonstrate the multifaceted nature of risk-taking. Alongside the dominance finding, which replicated previous results in a specific domain, individuals high in leadership orientation were less likely to perceive the benefits of sexual risk-taking. This tacitly or weakly supports our belief that leadership motivation is uniquely and nomothetically different from dominance and prestige motivations. Furthermore, risky sexual behaviours may be inherently distinct from the motivations and prosocial behaviours inherent in leadership motivation. Leadership-motivated individuals tend to be emotionally stable and

engaged in helping behaviours. These types of behaviours are counterproductive to behaviours that predict or highly correlate with risk-taking, particularly sexual riskiness. Specifically related to risk-taking, leadership-motivated individuals could often fear losing their position, which may lead them to take risks, such as sexual risks, which could harm their status and position overall. In some respects, sexual risks may be even riskier than ethical or financial risk-taking.

An important aspect of the findings in the present study is the further connection of likelihood to engage in risk-taking behaviours and actual engagement in those behaviours. This further confirms that from previous understandings on hypothetical risk-taking, specifically sexual risk-taking, is just as good an indicator of actual sexual risk-taking, inquiring about actual frequency can provide a more accurate knowledge on the part of the researcher, but also act as a verification of intent and behaviour (Lawyer & Schoepflin, 2013; Lawyer et al., 2010; Madden et al., 2003). As found in Chapter Four, we found that individuals high in dominance were less likely to perceive risk in these health and safety-related risks. From this study and the previous study, we again bridge intention, through risk likelihood, to actual behaviour, risk frequency. Sexual risk behaviours include different behaviours and beliefs surrounding sex and sexual intimacy. In many ways, the consequences of sexual riskiness, unexpected pregnancies or STIs pose long-term consequences that may not be completely present in a general health and safety composite variable. While someone might be more likely to engage in health-related riskiness, such as not wearing a mask during a global

pandemic, they may view wearing a condom during sex as completely necessary to avoid pregnancy or STIs.

The importance of studies such as the present study becomes ever more important with the continued vilification by some political administrations, such as the current Trump administration, attacks on education, intellectualism, and cultural shifts (Brangham & Hudgins, 2025; Halpert, 2025; Lakhani, 2025; Milman, 2025; Stein, 2025; Webb & Kurtz, 2022). Education and socio-cultural factors impact the likelihood and perceptions surrounding risk-taking behaviours (Kirby, 2001; Kirby et al., 2007; MacKenzie et al., 2017; Webb & Kurtz, 2022). Such as religion and beliefs around condoms or sex outside of or before marriage (Strayhorn & Strayhorn, 2009). While education and socio-cultural factors do indeed play a large role in risk-taking behaviours and likelihood of engaging in them, we contend that our results suggest that dominance motivation in particular, and possibly leadership motivation in the opposite direction to some extent, on its/their own, due to the way it is influencing likelihood, perceptions and perceived benefits of risk. This, in particular, is important in such as how dominance is seen in many cultures, which makes it a possible point or avenue to address risk-taking behaviours (Fischer et al., 2012; Pratto et al., 2000).

Power motivations are particularly important as a method of intervention, given the concerning rise in Andrew Tate's hyper-misogyny among teenage boys and young men (Haslop et al., 2024; Wescott et al., 2024). Tate-ism particularly targets and amplifies dominance motivations and dominance tropes, such as toxic masculinity and female subservience

(Haslop et al., 2024). This poses not only a physical and psychological danger but also increases the risk of taking risks, particularly sexual risks. While Tate-ism promotes dominance motivations, it is crucial to counteract and target these power motivations through intervention strategies. For instance, promoting unsafe sex as “weak” or emphasising how safe sex practices can be a reclaiming of power and boost self-esteem and sexual efficacy. By highlighting and promoting communal behaviours and prosocial attitudes from an early age, we may be able to prevent another Andrew Tate-like figure from gaining influence in the future. Additionally, these interventions could also influence the development of a leadership motive, which our results suggest may have a negative impact on risk-taking behaviours. To help combat the rise of Tateism and the like in schools across the United Kingdom and France, Netflix and the UK Government have made a popular miniseries, Adolescence, which showcases the dangers of dominance-based influences on young teens (Abebreseh, 2025; Mouriquand, 2025; Ritman, 2025).

5.4.1 Limitations and future directions

As is the case in most studies/experiments, there could be difficulty in sexual risk-taking questionnaires that may be difficult for individuals to answer truthfully. Because of some of the social stigma surrounding sexual risks, individuals may be reluctant to always answer truthfully (Barth et al., 2002; Morris et al., 2014; Rao et al., 2017). Research has shown, however, that the sexual risk-taking trend has been seen cross-culturally (Thomas et al., 2015). As noted, with the advent of Tate-ism globally,

future research should focus on the impact that it is having on sexual risk-taking behaviours and beliefs surrounding risk.

5.4.2 Conclusion

At the intersection of sexual risk-taking and social power motives, research reveals how social power motives can bring out the darker side of human sexual behaviour. Outside of investigating the outcomes of social power motivation on sexual risk-taking, another avenue of research could be the more real-world effects of norm formation, such as rape myths. While this is not directly related to sexual risk-taking behaviours, rape myths as a whole are often formed at the interplay between power, sex, and sexual norms. Rape myths are present cross-culturally and present in all sexual orientations and social classes. Tantamount to research on sexual risk-taking behaviours is how power influences the individual to reach, in some circumstances, as many sexual conquests to display their sexual prowess and further gain more power. There can and is sometimes a darker side to this story, where this can then skew and morph how individuals see themselves, others, and sex in general.

Chapter 6: General Discussion

Throughout this thesis, we have sought to understand the role that social power motives (Dominance, Prestige, and Leadership) have on risk-based decision-making. We have demonstrated, as previous research in power motives has alluded to, that power has an important influence on decision-making in one's life. From an early age, we develop an understanding of our environment and how to interact with it to reach our goals and aspirations. Often, to reach these goals, wants, and needs, we must make some risky decisions where we could speculate on the outcomes but not truly know them. Taking risks in the end is a part of life that many will gladly and readily engage in when presented with them, especially in the pursuit of power and control. However, some people are risk-averse and tend to avoid risky situations when presented with them. While power has been studied in relation to business, aggressive behaviour, and personal achievement, to mention a few, social power motives as a way to understand risky decisions is currently understudied in the field of power motivations (Fodor & Farrow, 1979; Li et al., 2024; Suessenbach et al., 2019). Throughout each chapter and study, we demonstrated that while risk is inherent in nearly all aspects of life, the way people respond to these risks is quite different. Across all five studies spanning four chapters, we examine how social power motives, dominance in particular and to a lesser extent leadership, influence how people respond and perceive risks, whether the risks are general (Chapter Two), spiteful (Chapter Three), or sexual (Chapter Four and Five). Risk helps bridge the gaps between the chapters, while social power

motivations help us understand why people may engage in risk in the first place. While risk is indeed inherent to life, so is the striving for connection, power, and social status. Even though each person is different in what they want, we see throughout the following studies and chapters a common thread: social power motives and dominance change and influence the decisions we make and how we see the world.

Summary of Findings

In chapter two, we laid the foundation for this thesis by looking at the predictive ability of social power motives in the domain-specific risk-taking scale (DOSPERT). In a two-part study, we found that dominance is the strongest predictor that we tested of general and domain-specific risk-taking preferences (ethical, financial, social, health and safety, and recreational). We also found that when introducing pathological narcissism (study 2) as a possible confounding variable, the predictive utility of dominance was not diminished (For pathological narcissism on risk-taking see: Foster et al., 2009). Additionally, from structural equation modelling, we found that dominance motivation appears to mediate the effect that pathological narcissism has on the likelihood of engaging in risky behaviours, preferences, and perceptions. We further argue that dominance motivation serves as a psychological precursor, due to the mediation, for the likelihood of engaging in risk behaviours and points to a similar possibility for general behaviour at large.

Following the two-part study of social power motives and DOSPERT, we looked to investigate a different type of risky decision-making, the judgement of spiteful decisions. Specifically, we looked to

investigate how individuals, when faced with spiteful actions, which are inherently risky situations, will interpret and rate the actions as justified or not. We ultimately wanted to evaluate the unique predictive ability of social power motives in an implied risky context, spiteful events, while also trying to control for other predictors that are relevant to such situations. The benefit of investigating the justification of spiteful actions is that we can understand not just the correlation between spitefulness and dominance, but understand the underlying motivations behind a justification of the spiteful actions, while also having more control over the spiteful variables (the vignettes). We further separated these spitefully laden vignettes to be either sexually explicit or not, e.g., purposefully exposing a cheating partner to an STI vs getting back at a friend who has been ignoring you. These results were more nuanced, with spitefulness explaining more of the justification than dominance motivation. However, we found tacit support for increased justification for the sexually spiteful actions for those who are high in dominance motivation.

In chapter four and stemming from our findings of tacit support for the justification of sexually spiteful actions, we investigated sexual risk-taking and individuals' perceptions. In contrast to skydiving or other behaviours that have immediate risks, the consequences of sexual risk-taking can be more subtle, delayed or not obvious (Tariq & Gupta, 2024). Additionally, we not only investigated the likelihood and expectation of benefits of being sexually risky but also inquired about the actual frequency of the sexual behaviours. By inquiring about the actual frequency of the sexual behaviours, we bridged likelihood and perceptions

of risk with the engagement of the actual behaviour. We found that, as was the case in our earlier studies, dominance-motivated individuals not only had a higher likelihood of sexual risk behaviours (likelihood of risk) but also appeared to actually engage (actual frequency) in those behaviours as well. Most notably and in line with two important objectives of this thesis, these high dominance-motivated individuals are less likely to perceive sexual risks as risky, but also appear to exhibit hypersensitivity to the expected benefits of sexual risk-taking. We discuss the implications for decision-making more in depth in the next section.

In chapter five, we further investigated and focused exclusively on social power motives, in particular dominance, on sexual risk-taking behaviours. In chapter four, we found that dominance motivation, specifically over pathological narcissism, was the strongest predictor of sexual risk-taking behaviour. In chapter five, we removed pathological narcissism and streamlined the study to focus exclusively on social power motives on sexual risk-taking behaviours (SRTB) while also increasing sample size. Similarly, and following chapter four, we found that dominance motivation was strongly and positively associated with risk benefit, risk likelihood, and risk frequency. Additionally, dominance is negatively associated with risk perception, which we discuss in the confirmatory impact of this and other findings in the next section.

These five studies across four chapters generate broad support for dominance motivation, predicting a higher likelihood of engaging in risky situations, especially in sexual risk-taking. While previous literature has attempted to investigate similar risky behaviours such as problematic

pornography consumption, sexual assault, or violence, the studies presented in this thesis further the findings by investigating power through a motivational lens on domains of risk and actual engagement of risk, specifically sexual risk (Bareket & Shnabel, 2020; Rosenthal et al., 2012; Williams et al., 2017). By expanding risk to these four areas (general, spiteful, sexual (with pathological narcissism), and just sexual risk-taking), we suggest that each area is influenced by social power motives and, in particular, dominance motivation.

An important aspect of risk-taking is the perception of risk or the perceived susceptibility or sensitivity to a threat (Ferrer & Klein, 2015). Being able to perceive something as a threat increases the likelihood of fear of that threat and, in turn, decreases the likelihood of engaging in the behaviour that may trigger that feared end. Depression, ADHD, impulsivity, and similar afflictions each cause deficits in one's ability to gauge and infer negative risk likelihood (Ding et al., 2020; Shoham et al., 2016; Megías-Robles et al., 2022). Additionally, narcissists and dominance-motivated individuals are more likely to engage in risk-taking behaviours (see Chapters Two, Four, and Five, Foster et al., 2009). While dominant individuals tended to see more benefits to risk-taking behaviours, they also perceived less of a risk in engaging in the behaviour. We further confirmed this outside of the domain-specific risk-taking scale, with sexual risk-taking, where dominant individuals are less likely to perceive the risks of sexual risk-taking (see Chapter Four). This further confirms the current understanding of how risk perceptions greatly influence certain health behaviours, be they positive (upwards) or negative (downwards) (Ferrer &

Klein, 2015). Additionally, there could be a bidirectional effect where the less likely to perceive the risks as negative feeds the perceived benefits of engaging in the behaviour, thus increasing the likelihood of engaging in said behaviour. Research also demonstrates that increased likelihood also reflects actual engagement in those risk-taking behaviours (Ventsislavova et al., 2021). We confirmed this in Chapter Four, where we found a link between the likelihood to engage in sexual risk-taking with two key factors: greater expectation of benefits and a lower perception of risks (specifically for dominance). Greater expectations of benefits and lower perception of risks result in both increased likelihood and actual engagement in the behaviours (sexual riskiness).

Additionally, we further our understanding of power motivations by including unique leadership motivation as a third power motive, distinct from dominance and prestige (Suessenbach et al., 2019). Previous research on leadership motivation has been linked to prosocial cooperative behaviours and beliefs, such as the importance of communication and the support and uplifting of ideas, which could pose interesting implications on risk-taking and perceptions. The research that spans the four empirical chapters, five studies, also has multiple interesting implications on social power motives as a possible psychological precursor to risk-taking. Furthermore, there are important implications for understanding perceptions of risk, developing strategies to prevent or reduce negative behaviours, and addressing problematic beliefs. While certain negative behaviours show links to genetic predispositions that may make behaviour and belief change difficult, we

suggest from our findings of fruitful avenues towards behaviour/belief change and potential future directions.

6.1 Implications

The previous four chapters and five studies point not just to the effectiveness of power motivations as a method of understanding decision-making, but also why some of these risk behaviours occur with such great regularity. Additionally, our research has some important implications for how power motivations impact perceptions of risk, likelihood to engage in risky behaviours, and belief formations. Our findings point to some interesting implications for how dominance, in particular, appears to influence and corrupt this decision-making process, along with how this corruption may influence social norm formation.

6.1.1 Decision-making process

Dominance motivation, we contend, is associated with a systemic shift in both the perceptions of risk (downward) and expectation of benefits (upwards). We see this shift occurring in chapters two, three (possible), four, and five, with high dominance being associated with and possibly engaging in dangerous and risky behaviours that have negative side effects for both the self and others. We believe, then, that dominance motivation corrupts the judgment and decision-making process. In the decision-making process, people will often use an availability heuristic wherein they will formulate a sense of what they should be paying attention to by thinking of possible examples of outcomes of the risk behaviour (Sunstein, 2006). In most cases, if the individual cannot retrieve

enough information or examples of a negative outcome, they will judge that outcome as not worth considering. Because we believe that high dominance motivation is associated with a shift in both perception and the expectation of benefits of the risky behaviour, there is a possibility that dominance may corrupt this availability heuristic by shifting how one may sample information from memory. In the corruption of this process, we believe dominance influences the examples of positive outcomes of their actions, thus increasing the overall expected benefits of that behaviour, which we found in chapters two and four. This then points to our contention that dominance motivation is associated with a hypersensitivity to the expectation of benefits from the risk behaviours, resulting in an outweighing of the costs of the behaviour.

Through this shift in perception of risk and expectations of benefits, high dominance individuals tend to be riskier overall (chapters two, four, and five). When they do fail during risky situations, they may retaliate in an effort to regain their sense of power through bullying, aggression, and sexual violence (Rosenthal et al., 2012; Goodboy et al., 2016; R. T. Johnson et al., 2007; Williams et al., 2017). We see this retaliation occurring in times of economic hardships or simply experiencing disappointment in your favourite sports team losing, shown by dramatic increases in domestic violence cases (Breiding et al., 2017; Ivandić et al., 2024). Sexual violence as a response to feeling denied power is also seen in those when power is new (Williams et al., 2017). When formerly powerless individuals are given acute high power, they can tend to inappropriately pursue unrequited love if they feel they are being

romantically denied or ignored. Additionally, when dominance-motivated people lash out and it becomes more commonplace, new anti-social and oppressive social norms may form.

The significance of dominance motivation corrupting the decision-making process extends beyond the self-centred quality of affecting the individual, negatively impacting society to change social norms, and further influencing further actions of sexually risky behaviours. We contend that through this same process, dominance motivation can shift what society sees as normal and allowed (Gross & Vostroknutov, 2022). Dominance motivation can and does affect this process as well, often accelerating what normally takes years to decades, to can appear to occur overnight. Former President Donald Trump exemplifies this with a forceful and quick shift of political and social norms (Crandall et al., 2018; Schedler, 2019). Amongst journalists and historians, Former President Barack Obama's public roast of Donald Trump at the 2011 White House Correspondents' Dinner functioned as one of the main triggers of his run for the presidency (Ross, 2018). Trump's 2016 campaign and future run for the presidency (2020 and 2024) have been seen by some as attempts to regain a sense of power after public ridicule, and thus target his political opponents (Haberman, 2024; Hutzler, 2024). During the three campaigns, Trump publicly exhibited authoritarian, dominance-oriented, and white nationalistic ideologies, ultimately displaying the payoff with his win in 2016 (Crandall et al., 2018). Because he demonstrated the overall payoff of xenophobia, authoritarianism, and violence, Trump shifted social and political norms in the direction of antisociality and violence as acceptable

forms of social interaction. Dominance-motivated individuals would then gravitate to these dominance-oriented behaviours and beliefs and further influence and affirm them as social norm change (Petersen & Laustsen, 2020). In addition to this causes the norm shift where when individuals sample possible consequences to their behaviours, and because of the norm shift, whatever is most available (right-wing authoritarianism from Donald Trump to perceived sexual riskiness from individuals such as Andrew Tate) shifts the availability.

6.1.2 The leadership motive

Dominance motivation is not the only aspect of social power motives, nor are our findings limited to it; we uncovered some interesting implications regarding leadership motivation as well. Similar to dominance motivation, we argue that leadership motivation has comparable overall effects on decision-making by influencing the availability heuristic. Unlike dominance, leadership involves power that is willingly conferred by the group to individuals who demonstrate skills and leaderlike qualities, which they then use to serve the community(Suessenbach et al., 2019)er. Leadership is also rooted in prosocial and cooperative behaviours, along with a desire to assist others and the community as a whole. Over four chapters, we generally observed that individuals motivated by leadership tended to be less risky than those dominance or prestige. While we did not find a clear effect of leadership motivation on risk perception, in chapter four, we discovered that leadership motivation negatively predicted expectations of benefits. The prosocial and cooperative behaviours inherent to leadership may influence the availability heuristic. We believe

that, like dominance, the leadership motive affects how information is sampled from memory, thereby shaping the decision-making process. In this way, the leadership motive influences the selection of information or samples to determine if the outcome of taking a risk is worthwhile. Additionally, we think that the prosocial and communal aspects of leadership shift attention away from personal gains towards benefits for the group rather than the individual. The leadership motive is also linked to helping behaviours and empathy, which are in opposition to the more antisocial traits of spitefulness, dominance, or aggression (Zeigler-Hill et al., 2015; Marcus et al., 2014; Patterson et al., 2022).

6.2 Possible strategies for addressing problematic behaviours and beliefs

The present thesis should also be seen as an addition to our understanding of curbing harmful risk-taking behaviours and beliefs. Often, when clinicians, parents, policymakers, or friends are attempting to address problematic behaviours, the target behaviours are often misunderstood, or they are addressed at the incorrect time (Bouton, 2014; Caprara et al., 2014; Ma et al., 2021; Mesurado et al., 2019). Early childhood experiences often guide and impact later life behaviours either positively or negatively (Bethell et al., 2019; Campbell et al., 2016). Early childhood experiences, such as parenting styles along with possible genetic influences, may influence dominance motivation later in life (Johnson et al., 2007; Kerpen et al., 2024). Free access to information on sexually transmitted infections, for example, appears to greatly help

increase safer sex practices (Eisenberg et al., 2013). Despite the availability of information not only on sexually transmitted infections (STIs) and their potential risks but general availability of negative consequences to taking risks, risk-taking remains exceedingly prevalent (The World Bank, 2013; Lu He et al., 2021; World Health Organization, 2018). One method of curtailing these later in life risk-taking behaviours is possibly looking at these early life experiences that might develop into a dominance power motivation. For example, instilling at an early age the importance of communalist or positive behaviours and opinions around the self and others and discouraging self-centred and personalised motivations (Caprara et al., 2014; Mesurado et al., 2019). While education on the dangers of risk-taking behaviours generally appears helpful and effective, the effect may be either temporary or ineffective for certain individuals. When confronted with information that may harm one's status and individual self-esteem, people may become entrenched in their own beliefs (Ahluwalia, 2000; Kaplan et al., 2016; Pomerantz et al., 1995). In turn, if managed incorrectly, the individual may either ignore the challenge, staying "safe" in their own beliefs, or they may seek out information that supports their viewpoints and further validates, props up, and supports their current beliefs and status (Swann & Read, 1981). Changing behaviours then becomes a delicate balancing act.

Targeting at a larger scale, curbing problematic behaviours can and is very difficult with regard to the promotion of health-related behaviours (Dempsey et al., 2018). While changing people's preferences and, to a larger extent, groups' social norms can and are difficult and may take

years to decades to occur, by leveraging our findings and others of dominance motivation, we believe this process can be truncated (i.e., Donald Trump in politics see Crandall et al., 2018; Schedler, 2019). A common and important method of changing behaviours and preferences is through targeted public service announcements (PSA) that highlight certain problematic behaviours (Ma et al., 2021). Framing the PSAs negatively can have unforeseen consequences and may sometimes backfire and cause the individual to double down on the behaviour and beliefs. For a PSA to be effective, the PSA should self-affirm to increase message acceptance without turning the targeted people against the message. For instance, PSAs could use dominance-motivated arguments to imply that engaging in sexually risky behaviours reflects weakness, indicating a lack of control over one's primal urges.

With the research presented in this thesis, we believe that it furthers our understanding of risk behaviours, addresses gaps in our understanding of social power motives, especially with the leadership motivation, and expands our understanding of addressing problematic risky behaviours. Risk is an inherent part of the human social experience. Power dynamics and people's efforts to hold onto and gain more power influence how we interact with our environment. By understanding this interplay, we believe that we can make effective change in curbing problematic risk behaviours such as sexual risk-taking, spiteful interactions, and attempting to understand methods of curbing these negative behaviours. Leveraging our understanding of social power

motives, we believe can help develop and promote new ways to make positive and effective change.

6.3 Limitations and Future Directions

While great care was taken to mitigate any possible limitations throughout the studies presented in this thesis, there are a few notable ones. We believe these limitations can serve as potential starting points for future research in this field. Directly asking individuals about their preferences and likelihoods of engaging in risky behaviours using a scale like DOSPERT may be limited by social desirability biases in some participants' responses. For example, behaviours that may be objectively risky or, in some instances, legally questionable, could influence participants to respond in a way they perceive the researcher wants. However, anonymous surveys, such as those used throughout this thesis, generally allow for honest responses, especially in sexual health-related studies (Rao et al., 2017).

In the studies presented in this thesis, we did not attempt to manipulate or target the participants' personal sense of power. Using cognitive risk behaviour tasks, such as a sequential choice or hypothetical sexual decision-making tasks, where the participants are tasked with making active choices, could help integrate the personal sense of power with risk behaviours (Guan et al., 2020; Strickland et al., 2020). Utilising a cognitive risk behaviour task would target not just the risk behaviour therein but also allow us, in a controlled setting, to manipulate the power that a participant would feel they have. Additionally, this would allow for more nuanced protocols and behavioural change programs that use these

techniques to administer effective behaviour change in these problematic behaviours.

One area that is often overlooked, and is overlooked for a few reasons in this thesis, is sexual and gender minorities in research, namely members of the LGBTQIA+ community (Barnett et al., 2019; Junkins et al., 2024). While it may be difficult to recruit a large enough sample size of members of that community, research in marginalised communities is important not just for scientific curiosity but also to see the differences and similarities between the communities outside and within the group. Following a similar vein, it would be worthwhile to also investigate dominance-related motivation and sexual risk-specific decision-making, especially with an interaction between social stigma, down-low culture, and the like influencing the likelihood of engaging in sexual risk-taking behaviours (Barnshaw & Letukas, 2010; Barth et al., 2002). While it is important to investigate such behaviours, it is important to note that there should be exceptional care when researching and interpreting behaviours and decisions of those who are impacted by already prevalent misconceptions, misattributions, and discrimination (Crown Prosecution, 2024).

The limitations notwithstanding, the studies presented in this thesis do pose some fundamental questions on the importance and influence that power motivations and, in particular, dominance motivation have on individuals' decision-making. Each chapter illustrates the strong predictive ability of dominance-based motivation not just in generalised risk-taking behaviours but also in perceptions of risk and sexual risk-taking. While

using hypothetical situations such as the ones used throughout this thesis is nearly as effective as using an experimental model inquiring about actual behaviour, and direct manipulation of individuals' decisions could be advantageous in learning about the direct effect that dominance can have on individuals. Future research, with more time and resources, should investigate the connections between the motivation for power and its influence on risk-taking behaviours at a larger scale. This could help not just scientific curiosity, but also help develop programs, strategies, and cultural shifts to address the ever-growing issue of problematic risk-taking. This is especially important given the current political, economic, social, and health-related crises the world is facing as of the writing of this thesis.

6.4 Conclusion

Humanity has often struggled to understand why some behave recklessly in the face of great uncertainty. For centuries, humans have fought wars, gambled millions, drank themselves into stupors, and spread life-threatening diseases to the far reaches of the world. What motivates people to engage in these aforementioned behaviours? Why, in cases when risk can be extremely damaging and harmful, seen especially during the COVID-19 global pandemic? We contend that power motivations are an integral part in understanding why these behaviours and beliefs, despite the preponderance of evidence and objectivity, still occur in every society and culture. From this thesis, we hope to have illustrated not just the seriousness of risk-taking behaviours but also shown how power motivations have a connection with not just the engagement of risk-behaviours but also in just the mere perception of something being risky.

Hopefully, this can lead to future studies and experiments investigating tangential behaviours and beliefs strongly tied to power and dominance.

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