No Risk, No Reward: Does Shame Impact Youth Risk-Taking Behaviours and its Outcomes?

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Abstract

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Risk-taking (e.g., dangerous driving, substance use) rises during adolescence and can result in both adaptive consequences (e.g., social acceptance) and maladaptive consequences (e.g., alcohol poisoning, premature death). Adolescents also experience an increase in self-conscious emotions, including shame. Shame-prone adolescents may engage in risk-taking to cope with negative self-perceptions. Previous research is contradictory, however, finding shame and risk-taking to be positively correlated, negatively correlated, or not related at all. One reason for this may be that shame was assessed as an overall construct. Some conceptualizations of shame dictate that people can experience several types of shame, including body (e.g., shame about physical appearance), character (e.g., shame of personal habits), and behavioural (e.g., shame about doing something wrong). Our study fills this gap by examining how different types of shame are related to different types of risk-taking behaviours and subsequent outcomes. Practical implications and directions for future research are discussed.

Keywords: risk-taking, character shame, behaviour shame, body shame, adolescence, emerging adulthood

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Overview

Adolescence is a critical period for developing behaviours relevant to one's health (Bem & Small, 2020; Insel & Roth, 2022). Risk-taking, for instance, (e.g., substance use, dangerous driving) rises during adolescence (Korucuoglu et al., 2020) and can result in both adaptive consequences (e.g., social acceptance) and maladaptive consequences (e.g., alcohol poisoning, premature death). Adolescents may also experience a significant increase in self-conscious emotions, including shame. Shame involves a painful focus on the self and is characterized by feelings of shrinking, worthlessness, and exposure (Andrews et al., 2002; Tangey et al., 1992). It has been suggested that shame-prone adolescents may engage in risk-taking to cope with their own negative self-perceptions (Stuweig et al., 2015). Previous research in this area is contradictory, however, finding shame and risk-taking to be positively correlated (Gilliland et al., 2011; Rahim & Patton, 2015; Tangney et al., 1992); negatively correlated (Kernan & Sullins, 2022), or not correlated at all (Tangey et al., 2006). One possible reason for this may be that shame was assessed as an overall construct. Current conceptualizations of shame dictate that people can experience several types of shame, including body (e.g., shame about your physical appearance), character (e.g., shame of personal habits), and behavioural (e.g., shame about doing something wrong; Andrews et al., 2002). Previous research suggests that specific self-perceptions may predict emotional and behavioural outcomes more accurately than generalized ones (Albert & Steinberg, 2011). For instance, research on self-esteem has shown that specific self-perceptions more accurately predict emotional and behavioural outcomes compared to one's general sense of self-worth (Crocker & Wolfe, 2001).

Thus, the goal of the current research is to examine the relationships between all three

types of shame (i.e., body, character, and behaviour) and various forms of risk-taking behaviours in late adolescence and emerging adults. In particular, the aim is to explore whether certain types of shame (e.g., body shame vs. character shame) are related to certain types of risk-taking behaviours (e.g., sexual risk-taking). The outcomes of adaptive versus maladaptive risk-taking behaviours will also be examined in the context of shame. It may be that adolescents more at risk of negative outcomes (e.g., physical harm, incarceration) are those with higher levels of shame.

Risk-Taking in Adolescents and Emerging Adults

Adolescence is a period of development ranging from approximately 10 to 17 years of age and is characterized by several biological, cognitive, and social changes (Arnett, 2000). For instance, adolescents may be entering their last year of high school, exploring romantic relationships, striving for greater independence, and experiencing significant physical changes with the onset of puberty (Richter, 2006). Historically, adolescence was considered a period of inevitable turmoil filled with recurrent mood swings and intense conflict (Hall, 1904). Contemporary perspectives, however, dictate that adolescence may be troublesome for some, but not all youth, and that changes are instrumental for the process of identity development and gaining a sense of self (Arnett, 2000). A more recently proposed phase of development is emerging adulthood, which includes individuals 18 to 25 years and is characterized by continued identity exploration, as well as instability across various aspects of life (e.g., financial, residential; Arnett, 2000). Emerging adults are typically experimenting with different roles, such as moving away from home, attending a post-secondary institution, and becoming financially independent (Arnett, 2000). While there are several differences between late adolescence and emerging adulthood, there are also several commonalities that are thought to lead to an increase in risk-taking behaviours.

During both developmental periods, the opinions of same-age peers become increasingly important (Scott-Parker et al., 2012). Therefore, individuals in these age brackets may engage in risky behaviours to gain peer approval. For instance, engagement in risk-taking can lead to significant social rewards, such as group membership and friendship formation (Cooper, 1994). Likewise, adolescents and emerging adults may also be more likely to conform to peer pressure to avoid isolation and bullying from peers (Prinstein & Giletta, 2016).

In addition to changes in their social lives, adolescents and emerging adults also experience significant biological and cognitive changes that are thought to be related to risk-taking. For instance, the prefrontal cortex, the part of the brain responsible for decision-making and self-control, matures much later than the limbic system which is the part of the brain responsible for emotion (Andrews et al., 2021; Cohen & Casey, 2017). Youth may therefore make more emotionally based decisions as opposed to pre-planned logical decisions (Nelson, 2003). From a cognitive perspective, many adolescents and emerging adults may feel as if they are being judged by others, which may increase their desire to take risks. For instance, someone may think that their peers view them as “losers” for not using recreational drugs and then decide to engage in this behaviour to change their peers' perceptions. Taken together, the social, biological, and cognitive changes that occur during adolescence and emerging adulthood are important contributing factors to increased risk-taking behaviours. Being able and willing to take risks is important, as it can improve interpersonal skills, help with self-discovery, and ultimately, support the successful transition into adulthood (Cooper, 1994). Thus, some degree of risk-taking is normal, driven by maturational changes. However, for some youth, risk-taking can have unfortunate consequences, including morbidity and mortality (Kann et al., 2014).

The Duality of Risk-taking: Adaptive and Maladaptive Consequences

Risk-taking involves engaging in behaviours that involve a degree of uncertainty, as well as some chance of loss (Beyth-Marom et al., 1993); thus requiring the individual to calculate the potential costs and benefits of their decision (Fryt et al., 2022). The most common forms of risk-taking in adolescence and emerging adulthood include sexual risk-taking, dangerous driving, and substance use (Willoughby et al., 2021). Each of these risky behaviours can lead to more than one outcome, some desirable (e.g., making new friends) and some undesirable (e.g., getting into a car accident). Risk-taking can therefore be conceptualized as adaptive or maladaptive, depending on whether the activity will likely result in benefits or potential hazards (Byrnes et al., 1999).

Several studies have found that adults often characterize young people as rebellious and impulsive, leading to negative stereotypes surrounding the dangers of risk-taking (Gross & Hardin, 2007; Hines & Paulson, 2006; Telzer et al., 2022). From a normative developmental perspective, however, risk-taking can be thought of as an important contributor to a successful transition into adulthood. For instance, taking risks can lead to personal growth as adolescents and emerging adults learn to handle tough situations which in turn builds resilience for future problems (Ravert et al., 2015). Furthermore, risk-taking is an opportunity for adolescents and emerging adults to simply have fun (Ravert et al., 2015). Taking a risk can provide youth with feelings of excitement and satisfaction (Ravert et al., 2015). For instance, some opportunities may only occur occasionally; if the individual does not take the risk they may be left with feelings of regret (Ravert et al., 2015). Risk-taking also provides adolescents and emerging adults with learning opportunities they may not otherwise experience. For instance, discovering what activities they like and dislike and how to avoid placing themselves in situations that are

uncomfortable or dangerous (Ravert et al., 2015). These types of learning opportunities are essential for the successful transition into adulthood (Ravert et al., 2015). For instance, past research has found that risk-taking behaviours, such as substance use, are related to identity exploration. Identity exploration is adaptive in that it assists young people in experimenting with different identities and finding their sense of self (Ritchie et al., 2013). Risk-taking during these developmental periods can therefore be quite beneficial. For some youth however, these types of behaviours lead to negative consequences, including the possibility of significant harm and criminal justice contact.

One of the leading causes of death during adolescence and emerging adulthood is accidents; almost half of deaths from 15 to 24 years are due to unintentional accidents, most involving motor vehicles (National Center for Health Statistics, 2020; White et al., 2018). As a result of risk-taking individuals can also experience legal troubles (e.g., fines) as well as other long-term consequences (e.g., trouble finding employment, relationship difficulties; Ravert et al., 2015). Risk-taking occurs at all ages, however; adolescents and emerging adults engage in health and safety risk-taking (e.g., unprotected sex, driving without a seatbelt, unsafe use of drugs and alcohol) more often than adults (Willoughby et al., 2021).

Risk-Taking Behaviours: Sexual Risk-Taking, Dangerous Driving, and Substance Use

The changes during adolescence and emerging adulthood, such as increased independence from parents and new living arrangements (e.g., college dorms), create opportunities for individuals to take new risks (Arnett, 2000; Bowers et al., 2016). Alongside these environmental changes, many individuals are exploring romantic relationships for the first time, which often involve sexual encounters (Bowers et al., 2016). These sexual encounters may be considered “casual”, more commonly referred to as “hookups”, meaning that when the sexual

encounter occurs there is not an expectation of a romantic relationship (Heldman & Wade, 2010). “Hookup culture” has become a normative part of emerging adulthood; however, this can also encourage more sexual risk-taking (Dai, 2003).

Risky sexual behaviours include the number of sexual partners one has had, having unprotected sex (e.g., no protection against pregnancy or sexually transmitted infections [STI]), using drugs or alcohol before sex (Turchik & Garske, 2009), and sending explicit images or “sexting” others (Rhyner et al., 2018). Past research has found that over half of emerging adults have participated in at least one risky sexual behaviour (Anders et al., 2020; Grello et al., 2006). Sexual risk-taking can result in various maladaptive consequences, such as damage to romantic relationships, damage to social reputations, health problems, and legal disputes (e.g., sexual assault; Turchik & Garske, 2009). While sexual risk-taking may result in maladaptive outcomes (e.g., personal injury, fines, criminal justice contact), the risk-taking behaviour that has been found to contribute to the most negative outcomes, including death, is dangerous driving (Mothers Against Drunk Driving, 2023; World Health Organization, 2023).

An important milestone that occurs for most adolescents and emerging adults is getting their driver’s license. Although this milestone provides young people with more independence, it also provides the opportunity for risks to occur, as a result of dangerous driving, for instance. Dangerous driving behaviours include speeding, driving under the influence of drugs and/or alcohol, distracted driving (e.g., texting), and disobeying traffic signs (e.g., running a red light; Hill et al., 2015; Simons-Morton et al., 2012; Watters & Beck, 2016). Research has found that most individuals from ages 16 to 25 have partaken in some form of dangerous driving (Beck & Watters, 2016; Hill et al., 2015; Tontodonato & Drinkard, 2020). For instance, approximately 52% to 86% of adolescents and emerging adults use their cell phones in some way when they are

driving (Beck & Watters, 2016; Hill et al., 2015; Tontodonato & Drinkard, 2020). Between 2017 and 2021, 45% of drivers between the ages of 16 and 19 who were fatally injured in a car accident tested positive for substances in their system (Mothers Against Drunk Driving, 2023). Furthermore, an adolescent's risk of death while driving increases by 44% with one adolescent passenger in the car, then quadruples with three or more adolescent passengers (Tefft et al., 2012).

Another risky behaviour that often co-occurs with sexual risk-taking and dangerous driving is substance use. Many adolescents and emerging adults begin to experiment with substances including alcohol, tobacco, marijuana, heroin, inhalants, or other drugs (Bowers et al., 2016). Approximately 55% to 65% of adolescents and emerging adults engage in some form of substance use, with alcohol and marijuana being the most common (Phillips et al., 2017; Saint-Eloi Cadely et al., 2024; Substance Abuse and Mental Health Services Administration, 2013). Binge drinking in particular (having four or five drinks in a 2-hour timespan), is a concern as it can result in health problems, such as alcohol poisoning (Saint-Eloi Cadely et al., 2024). Binge drinking occurs most among emerging adults and is an epidemic on college campuses (Saint-Eloi Cadely et al., 2024; Substance Abuse and Mental Health Services Administration, 2013). Substance use often results in several negative consequences, such as health concerns (e.g., illness or death), driving under the influence (Pearson et al., 2017), poor academic performance (Arria et al., 2015), missed work, and getting arrested (Fromme & Quinn, 2012; Johnston et al., 2013).

Due to the frequency of sexual risk-taking, dangerous driving, and substance use among youth and the potentially harmful outcomes, it is important to understand the underlying mechanisms of these risk behaviours. Furthermore, it is important to identify when a risk

behavior may be associated with adaptive versus maladaptive consequences (Dworkin, 2005). One potential variable that might increase the possibility of maladaptive consequences due to risk-taking, is shame.

Risk-Taking and Shame

Adolescents and emerging adults often experience an increase in self-conscious emotions, including shame (Andrews et al., 2002; Reimer, 1996; Simonds et al., 2016). Shame involves a painful focus on the self and is characterized by feelings of shrinking, worthlessness, and exposure (Andrews et al., 2002; Tangey et al., 1992). During adolescence and young adulthood, individuals gain the ability to engage in self-evaluation which may lead to social comparisons (Reimer, 1996; Simonds et al., 2016). Young people also can better understand the perspectives of others, which may make them more vulnerable to negative evaluations (Reimer, 1996). In addition to this, adolescents and emerging adults become concerned with not only meeting the expectations of others, but also fitting in with peers (Simonds et al., 2016). Due to increased self-evaluation and concern with the opinions of others, many young people become more self-conscious, which can lead to shame if they feel they are not meeting perceived expectations of others or fitting in (Reimer, 1996; Simonds et al., 2016). Experiencing an increase in shame may lead young people to feel the need to cope with their negative self-perceptions. This in turn, may increase engagement in externalizing behaviours, such as risk-taking (Stuewig et al., 2015).

Past research on shame has primarily examined its relationship to internalizing behaviours, such as depression, finding a positive relationship between the two (e.g., Andrews et al., 2002; Gambin & Sharp, 2018; Li & Craig, 2020). Of the research that has examined the relationship between shame and externalizing behaviours (e.g., risk-taking), results have been

inconsistent. For instance, previous research has found shame and risk-taking to be positively correlated (Gilliland et al., 2011; Rahim & Patton, 2015; Tangney et al., 1992; Tracy et al., 2007); negatively correlated (Kernan & Sullins, 2022), or not correlated at all (Stuewig & McCloskey, 2005; Tangney et al., 2006; Tracy et al., 2007). For risk behaviours such as aggression and substance use, Tracy et al. (2007) found that there was a positive correlation between these behaviours and shame; however, for delinquency and criminal behaviours, they found no correlation with shame. Additionally, when examining risk-taking overall (e.g., average frequency of engaging in several high-risk behaviours), Kernan and Sullins (2022) found a negative correlation between shame and risk-taking behaviours. One possible reason for this unexpected result, according to the authors, was the fact that they assessed risk-taking as an overall construct rather than specific risk-taking behaviors, such as sexual risk-taking (Gilliland et al., 2011), delinquency (Stuewig & McClosky, 2005), aggression, and drug use (Tracy et al., 2007). Another possible reason for the contradictory results in the above-mentioned studies may be the assessment of shame.

Most studies examining shame and risk-taking have used the Test of Self-Conscious Affect (TOSCA; Tangney et al., 1989) that measures shame as an overall construct (e.g., a person's level of shame-proneness). The TOSCA measures shame by providing participants with scenario-based situations that they may encounter in their daily lives and asking them to rate how they would likely respond in that scenario on a scale of 1 to 5 (Tangney et al., 1989). The five responses assess a separate self-conscious emotion that participants might attribute to that given situation: guilt, shame, externalization, detachment, and pride. The higher the participants rank themselves on each response means they are most likely to respond that way in the scenario. For instance, an item on the TOSCA states "While out with a group of friends, you make fun of a

friend who's not there". Participants are provided with five responses, with the response representing shame indicating: "You would feel small… like a rat." If the participant rated this response as 5 it would suggest they are shame-prone, while if they select 1 it would indicate they were less shame-prone (Tangney et al., 1989).

As mentioned, the TOSCA measures shame as a one-dimensional emotion (e.g., overall shame); however, some conceptualizations of shame indicate that people can experience several types of shame including body (e.g., shame about your physical appearance), character (e.g., shame of personal habits), and behavioural (e.g., shame about doing something wrong; Andrews et al., 2002). The inconsistent findings in previous research may therefore be due to the way shame was assessed. For instance, in their work examining shame and depression, Andrews et al. (2002) found that some individuals scored high on certain areas of shame but low on others. Each type of shame also had a differential relationship with depression; body and character shame were stronger predictors of current depressive symptoms compared to behaviour shame (Andrews et al., 2002). Thus, examining all three types of shame separately may provide a more nuanced understanding of the role it plays in risk-taking. In what follows, we will examine all three types of shame (body, character, and behavioural) in relation to the most common forms of risk-taking behaviours during adolescence and emerging adulthood (sexual risk-taking, dangerous driving, and substance use).

Body Shame and Risk-Taking

All types of shame increase during adolescence, however, body shame in particular increases as young people experience significant bodily changes due to puberty (Reimer, 1996). Moreover, as previously mentioned, many young people explore romantic relationships for the first time which may amplify negative self-evaluations of their physical appearance (Bowers et

al., 2016; Jones & Crawford, 2006; Littleton et al., 2005). Research examining specific types of shame (body, character, and behaviour) is limited across all ages; however, there is some research examining body shame in adolescence and emerging adulthood due to its significant increase during these developmental periods. For instance, research has found that individuals with increased body shame engage in more sexual risk-taking (Littleton et al., 2005; Manago et al., 2015; Schooler & Ward, 2006; Schooler et al., 2005). Specifically, young people who experience more body shame are less likely to use contraceptives during sexual encounters (Littleton et al., 2005; Manago et al., 2015; Schooler et al., 2005). Young people who experience body shame may view sexual encounters as an opportunity to receive positive feedback about their physical appearance. Therefore, they may be unwilling to engage in condom negotiation out of fear that their partner will stop the sexual encounter (Jones & Crawford, 2006). Alternatively, young people with higher body shame may lack the confidence needed to engage in condom negotiation, which can put the individual at a higher risk for STIs and unwanted pregnancy (Schooler et al., 2005; Swan & Connell, 2012). There is other research, not specific to body shame (e.g., body image) that also supports a relationship to sexual risk-taking (Jones & Crawford, 2006; Littleton et al., 2005; Walsh et al., 2022; Wingood et al., 2002). For instance, in a series of studies Overstreet (2012), concluded that negative body image was related to sexual risks via body image self-consciousness. Though body shame and body image are most associated with sexual risk-taking, negative perceptions of one's body can contribute to other risk behaviours, such as substance use (Bornioli et al., 2019; da Silva et al., 2022; Jones et al., 2018).

Substance use increases for most young people, however, past research suggests that those who struggle with body image may partake in more substance use than young people who

do not (Bornioli et al., 2019; da Silva et al., 2022; Jones et al., 2018). One possible reason for this is that adolescents and emerging adults who perceive themselves to be overweight may smoke cigarettes or take other drugs as a way to lose weight (da Silva et al., 2022; Jones et al., 2018). Similarly, youth who perceive themselves to be overweight may restrict their calorie intake throughout the day and then engage in binge drinking at night to make up for the lost calories (Thompson-Memmer et al., 2019). Adolescents and emerging adults with poor body image may also consume excess amounts of alcohol to make themselves sick and help purge excess calories consumed throughout the day (Thompson-Memmer et al., 2019). Additionally, individuals who have a negative body image tend to have lower self-esteem (Ramseyer Winter et al., 2019). Therefore, these youth may engage in binge drinking as a coping mechanism to reduce the negative effects experienced because of poor body image (Littleton et al., 2005). Binge drinking may also assist those with poor body image in feeling more comfortable in situations where they feel like their body may be exposed, which bring on feelings of anxiety and discomfort (da Silva et al., 2022; Littleton et al., 2005; Palmqvist & Santavirta, 2006). Although body shame and image are relevant to some risk-taking behaviours, this type of shame may not be as relevant to other risk-taking behaviours, such as dangerous driving. In addition to body shame, other forms of shame, such as character shame, should be examined to determine how they contribute to different risk-taking behaviours.

Character Shame and Risk-Taking

Character shame is shame about who you are as a person, including personal habits, mannerisms, and personal ability (Andrews et al., 2002). To the best of our knowledge, there are no studies that examine character shame specifically, however, some studies have looked at generalized shame and made connections to aspects of shame related to one's character. For

instance, research has found that traditional, socially-based gender scripts (which dictate many aspects related to character shame, such as a person's habits and mannerisms) impact sexual risk-taking (Impett et al., 2006; Graham, 2016; Miller et al., 2005; Potard et al., 2019; Widman et al., 2016). In other words, research suggests that a person's habits and mannerisms related to stereotypical gender scripts may be associated with shame. Specifically, according to traditional gender scripts, women are expected to be feminine, which typically includes avoiding conflict and being pleasant to others (Impett et al., 2006). When young girls internalize these societal messages, they may be embarrassed to stand up for themselves, afraid they will not be viewed as appropriately feminine. Therefore, when in a sexual encounter young girls may not engage in condom negotiation out of belief that they will be seen as too aggressive, and lacking femininity (Graham, 2016; Impett et al., 2006). Furthermore, according to traditional gender scripts, women are expected to refrain from sex until they are married and it is generally frowned upon when women have multiple sexual encounters (Gunning et al., 2020; Impett et al., 2006; Seabrook et al., 2017). An unfortunate consequence of this, is lack of comprehensive sex education for girls; too often these conversations center around abstinence (Gunning et al., 2020; Leath et al., 2020). These societal expectations cause many young girls to feel ashamed of their sexual desires, which in turn makes them feel uncomfortable talking to others about sex. The shame that young girls feel about their sexual desires (e.g., shame related to who they are as a person) can lead to an increase in sexual risk-taking as they do not prioritize safe sex and perhaps do not fully recognize the consequences that may occur as a result (Gunning et al., 2020; Leath et al., 2020). Despite traditional gender scripts that typically shame women for participating in sex, these same scripts often reward men for participating and initiating sex (Widman et al., 2016).

Sex is also typically associated with higher social status and a "jock-identity" in men;

which is linked with popularity and masculinity (Miller et al., 2005; Widman et al., 2016). Therefore, young boys who receive these societal messages may engage in more sexual risk-taking, such as having multiple partners, as a way to advance their social status and to "prove" their masculinity to others (Crawford & Popp, 2003; Miller et al., 2005; Potard et al., 2019). Young boys may also fail to engage in condom negotiation out of fear that it would be contradictory to the assertiveness and expertise that as males they feel expected to demonstrate in sexual encounters (Limmer, 2014). Therefore, young boys might partake in sexual risk behaviours out of fear that their social status and masculinity might be compromised. These fears related to character shame (e.g., not acting in accord to gender expectations) may be relevant to other risk-taking behaviours, such as dangerous driving.

Dangerous driving behaviours, such as speeding, have been found to be common among young men (Fleiter et al., 2010; Krahé & Fenske, 2002; Lemarié et al., 2018; Lewis et al., 2013). One proposed reason for this is the relationship between cars and masculinity. For instance, Balkmar (2008) examined overall shame and dangerous driving and found that young boys who refused to participate in dangerous driving experienced higher levels of shame and were worried about losing the respect of their peers (Balkmar, 2008). Furthermore, young men may not want to be seen as a "granny" driver by their peers (Fleiter et al., 2010) and instead believe that "real men" should be risky drivers (Granié & Papafava, 2011; Özkan & Lajunen, 2006; Williams, 2007). These concerns are all intricately related to character shame (e.g., concern about who you are as a person and how others perceive you) and may also explain increased substance use.

Substance use is often used to cope with feelings of inadequacy. Past research has found that increased generalized shame is related to increased substance use (Bilevicius et al., 2020; Dearing et al., 2005; Stuewig et al., 2015; Winkeljohn Black et al., 2016), possibly due to the

fear of not meeting societal expectations. Adolescence and emerging adulthood are periods of life that come with many new expectations (e.g., achieving good grades, getting accepted to university or college, living alone, getting a job; Arnett, 2000). Pressure to meet these expectations and failure to do so can cause generalized shame (Bilevicius et al., 2020; Simons et al., 2018; Stuewig et al., 2015; Uscola, 2023). For instance, Uscola (2023) found that youth who did not receive support or positive feedback from their family during major life transitions (e.g., entering post-secondary school) had lower self-esteem and higher generalized shame. Substances were then used as a means to escape these negative emotions (Uscola, 2023). Though failing to meet family expectations can be a common source of shame for young people, peers can also initiate feelings of character shame. For instance, past research has found a primary factor for substance use in young people was the desire to avoid ridicule and isolation from their peers (Lashbrook, 2000; Patrick et al., 2018; Villarosa-Hurlocker et al., 2019). Young people who do not participate in substance use are often ostracized, as many young people, especially on college campuses, partake in substance use (Herman-Kinney & Kinney, 2013). For instance, Herman-Kinney and Kinney (2013) found that young people who abstained from drinking were perceived as self-righteous (e.g., a flaw in their character), which in turn caused isolation and ridicule from peers. Feelings of shame regarding one's character (e.g., being perceived as a “buzzkill”) may then follow. To avoid these unpleasant feelings, young people may compensate by engaging in risky use of substances. While these studies do not explicitly examine character shame, they do examine how risk-taking behaviours can emerge due to shame and embarrassment regarding one’s personal habits, mannerisms, and personal abilities. Similarly, behaviour shame, which is also not well researched, may be important in understanding how risk behaviours develop in young people.

Behaviour Shame and Risk-Taking

Behaviour shame is the shame of doing something wrong, saying something inappropriate, or failing in competitive situations (Andrews et al., 2002). Therefore, behaviour shame may initiate risk-taking in youth as a way to overcompensate for the specific behaviours. Although there appear to be no studies that specifically examine this type of shame in relation to risk-taking; there are studies that have examined related emotions, such as embarrassment and connected them to specific behaviours related to risk-taking. For instance, young people often feel embarrassed when purchasing contraception or visiting healthcare centers to explore birth control options (Govender et al., 2020; Kamke et al., 2022; Naidoo & Kasiram, 2006) as this action demonstrates that they are preparing to have sex. Sexual activity is typically considered inappropriate for youth to engage in (Govender et al., 2020; Naidoo & Kasiram, 2006). As a result, young people may avoid buying contraception (e.g., a specific behaviour) leaving themselves vulnerable to STIs and unwanted pregnancy (Bauman et al., 2007; Govender et al., 2020; Kamke et al., 2022; Naidoo & Kasiram, 2006).

Even if young people overcome the embarrassment of purchasing contraception, they still might be embarrassed when the time comes to use it. Young people often lack knowledge on how to use contraception properly, worried that it may reduce the spontaneity of the sexual encounter by creating an awkward moment (e.g., putting a condom on the wrong way; Bauman et al., 2007; Bender et al., 2024). As a result, young people may avoid using contraception to avoid the risk that their actions will be wrong, ruining the sexual encounter and leading to feelings of embarrassment (Bauman et al., 2007; Bender et al., 2024; Limmer et al., 2014). Furthermore, boys often discuss sex using competitive language, such as “scoring” or “adding a notch to the bedpost”, which may result in young boys participating in risky sexual behaviours,

such as having multiple sex partners (Knox, 2001; Weatherall & Walton, 1999). Young boys may compare themselves to peers and feel as if they are "competing" with their peers regarding sexual experience. Having limited sexual experience and partners may be viewed by young boys as "failing" in a competitive situation, especially if they think their peers have accumulated more. Thus, to avoid shame related to these specific behaviours (e.g., sexual encounters), young males may engage in risky sexual experiences (e.g., lack of contraception and multiple sexual partners).

Another behaviour that young people often lack experience in is driving, which in turn, may increase the likelihood of dangerous driving. As mentioned above, character shame may be related to risky driving due to societal expectations related to one's character (e.g., who you are as a person). Behaviour shame on the other hand, may be related to risky driving because of something you did or did not do (e.g., a specific behaviour).Young people often feel tremendous pressure to fit in and their behaviours are largely driven by what is deemed appropriate by their peer group (Scott-Parker et al., 2012). As a result, young people may feel embarrassed regarding their driving if they think their abilities are in question. For instance, if other drivers are tailgating or overtaking them, the young person may interpret this as a sign they are going too slow and are subsequently, an inadequate driver in the eyes of their peers (Day et al., 2018; Love et al., 2023). To "fit in" on the roads and to "prove" to other drivers that they deserve their license, young drivers may choose to speed or engage in reckless behaviours to demonstrate their driving expertise (Lewis et al., 2013). Furthermore, if peers are present in the car they may encourage the driver to make reckless choices, such as to ignore traffic signs (Day et al., 2018). Young people who refuse to participate in these behaviours in front of their peers are often subject to ridicule. For instance, driving recklessly (e.g., speeding) without getting into an

accident is often a “skill” that is praised by adolescents and young adults, resulting in respect and higher social status (Glendon, 2013). If a young person refuses to partake in these behaviours, peers may interpret it as the young person lacking the skill to engage in reckless behaviours “safely” (Day et al., 2018; Glendon, 2013). Thus, to avoid shame regarding their driving young drivers may engage in dangerous driving because they want to fit in, be liked, or avoid being made fun of.

Similar to driving, peer pressure can influence young people to behave in certain ways at parties, including engaging in various forms of substance use. Young people often view these events as an opportunity to make friends and bond with one another; however, this cohesiveness can be interrupted if not everyone is participating in group activities (Jacobs et al., 2018; Kahsay et al., 2019). For instance, substances typically loosen inhibitions and make people more outgoing (e.g., more talkative), so individuals who are not partaking in substance use may appear more reserved (Morris et al., 2020; Wamboldt et al., 2019). Individuals under the influence of substance may perceive these reserved behaviours as awkward and antisocial, causing them to isolate the person not engaging in substance use (Wamboldt et al., 2019). To avoid being isolated and feeling shame regarding their behaviour (e.g., being quiet at parties), young people may tend to overcompensate by engaging in substance use (Jacobs et al., 2018; Willis et al., 2019).

Based on the above review of relevant literature, body shame, character shame, and behavioural shame all appear to have differing effects on risk-taking behaviours. As adolescents and emerging adults undergo physical changes as a result of puberty and begin to explore potential romantic relationships, they become preoccupied with their physical appearance (Reimer, 1996). These feelings of body shame may lead to an increase in risk-taking (e.g., having unprotected sex, using substances) as an attempt to gain confidence over one’s physical

appearance (Graham, 2016; Thompson-Memmer et al., 2019). A central aspect of character shame among youth centers around concepts of masculinity and femininity (Impett et al., 2006). In order to meet expectations set by traditional gender scripts, youth may participate in risky activities (e.g., dangerous driving) to prove to others that they can meet these expectations (Balkmar, 2008; Impett et al., 2006). Youth might also take part in risk-taking to prevent character attacks (e.g., being told they are self-righteous) that may occur if they are opposed to risk-taking (Herman-Kinney & Kinney, 2013). Additionally, behaviour shame may influence youth to participate in risk-taking to avoid judgement from others for acting in ways that their peers perceive as inappropriate (e.g., purchasing contraception, being antisocial). Therefore, each kind of shame may have a different relationship with different forms of risk-taking (e.g., sexual risk-taking, dangerous driving, substance use). Youth who experience increased shame may not only participate in more risk-taking behaviours to cope with their negative self-perceptions (Stuweig et al., 2015) but also experience more maladaptive outcomes.

Shame and Risk-taking Outcomes

There is always a chance that risk-taking will result in undesirable consequences (e.g., STIs, alcohol poisoning); however, specific factors, such as shame, might increase the chances of a maladaptive outcome. Shame typically drives people to want to hide their flaws and decreases help-seeking behaviours (Scheinfeld, 2021; Taylor, 2022). Youth who feel ashamed are less likely to discuss their feelings, fearing judgement and ridicule (Scheinfeld, 2021; Taylor, 2022). This in turn may make it less likely that the youth will seek support when needed (Douglass et al., 2024; Fallon, 2013; Taylor, 2022; Waling et al., 2023). Rather, “support” may come in the form of risk-taking (e.g., substance use) and as the risk-taking behaviours increase, so do the chances of a maladaptive outcome. For instance, Scheinfeld (2021) found that emerging adults

who experienced shame regarding their sexuality avoided seeking help from parents when considering getting tested for STIs, even when in need of social support (e.g., finding information on where to get tested). This perceived lack of social support led to less STI testing among emerging adults, thus increasing the probability of undetected STIs and subsequent health risks (Scheinfeld, 2021).

Furthermore, past research has found that when looking for support (e.g., emotional, financial), confidentiality is a primary concern for young people (Douglass et al., 2024; Taylor, 2022; Waling et al., 2023). For instance, Waling et al. (2023) found that when it comes to personal topics, such as sexual activity, many young people are hesitant to seek help from people close to them (e.g., parents) out of fear that they might share this information with their friends or other family members. Moreover, many youth fear that if others are aware of their feelings of shame, they will be the target of gossip (Douglass et al., 2024; Taylor, 2022; Waling et al., 2023). Youth also fear that other sources of help, such as guidance counsellors and healthcare providers, will disclose information regarding risk behaviour to their parents (Berridge et al., 2018). Therefore, this makes the option for youth to receive help from individuals close to them less likely, again increasing the chances of a maladaptive outcome. Thus, shame might make youth reluctant to reach out for social support. As a result, youth who experience high levels of shame may also experience more maladaptive outcomes due to risk-taking, as they are reluctant to access support which might prevent the continuation or escalation of risk-taking behaviours.

The Current Study

The current study addresses gaps in the literature by examining three types of shame (body, character, behaviour) in relation to three types of risk-taking behaviours (sexual risk-taking, dangerous driving, and substance use), and subsequent outcomes. Current programs

that focus on preventing risk-taking in adolescents oversimplify the reasoning behind the risk behaviour, without considering the complexity of emotions, such as shame (Wolfe et al., 2006). Each type of shame may have different origins, be related to different self-constructs, and therefore have differential relationships with various forms of risk-taking. Understanding how different types of shame relate to different forms of risk-taking behaviours and whether the behaviour will result in adaptive or maladaptive outcomes will allow prevention or intervention programs to be tailored to the adolescents who need them the most. The following predictions were made regarding adolescents and emerging adults:

1. Consistent with past research, it is predicted that all three types of shame will predict a higher frequency of sexual risk-taking (Leath et al., 2020; Manago et al., 2015) and substance use (Bilevicius et al., 2020; Uscola, 2023).
2. It is also predicted that character and behaviour shame, but not body shame, will predict a higher frequency of dangerous driving (Balkmar, 2008; Day et al., 2018; Love et al., 2023)
3. It is hypothesized that body shame will predict greater maladaptive outcomes associated with sexual risk-taking (Jones & Crawford, 2006; Schooler et al., 2005) and substance use (Ali et al., 2022; Douglass et al., 2024).
4. Lastly, we hypothesize that character and behavioural shame will predict greater maladaptive outcomes associated with all three risk-taking behaviours (Ali et al., 2022; Douglass et al., 2024; Tadege, 2020; Waling et al., 2023).

Method

Participants

The current study consisted of an undergraduate student sample recruited from Trent

University. Recruitment took place through the online research portal SONA and posters were placed around the Durham GTA campus. Students recruited through the online portal received course credit in exchange for their participation. Students recruited through posters placed around the Durham GTA campus were offered the opportunity to provide their email for an opportunity to win one of two $50 Amazon gift cards. To qualify for the study, participants had to meet two criteria: 1) they had to be a student at Trent University and 2) they had to be between the ages of 17 and 25 (see Appendix A).

Procedure

After providing written informed consent (see Appendix B), participants were asked to complete a demographic questionnaire, followed by measures of risk-taking and shame. Two questionnaires measuring symptoms of depression and social anxiety were then completed in a randomized order in Qualtrics. The online questionnaires took approximately 30 minutes to complete on average, with participants taking approximately 6 minutes to 90 minutes to complete all measures.

Measures

Demographic Questionnaire

Information about the participant's age, gender identity, ethnicity, and year of study was collected. The question on the participant's age was an open question, while questions regarding the participants' gender identity, ethnicity, and year of study were closed with the option for them to self-identify or choose not to answer (see Appendix C).

Risk Taking Behaviour

The Risky, Impulsive, and Self-Destructive Behaviour Questionnaire (RISQ; Sadeh & Baskin-Sommers, 2017) was used to measure risk-taking behaviour. It is a 38-item questionnaire

that assesses the frequency, perceived consequences, and reasoning for eight domains of risk-taking: drug use (8-items; e.g., “used marijuana”), aggression (5-items; e.g., “gotten in a physical fight), self-harm (4-items; e.g., “cut, burned, or hurt yourself on purpose without trying to die”), gambling (4-items; e.g., “bet on sports, horses, or other animals”), risky sexual behaviour (4-items; e.g., “had unprotected sex with someone you just met or didn’t know well”), heavy alcohol use (2-items; e.g., “drank alcohol until you blacked or passed out”), impulsive eating (2-items; e.g., “ate a lot of food when not hungry”), and reckless behaviours (4-items; e.g., “drove 30 km or faster over the speed limit”). While data was collected for all risk-taking domains, for the purposes of this study only data relating to sexual risk-taking, substance use, and dangerous driving were assessed. To assess the frequency of the risk-taking behaviours, participants are asked to report the number of times they have engaged in each behaviour within their life and how many times they have engaged in each behaviour in the past month. Participants then are asked to write down the age they were the first time they ever engaged in their reported behaviours.

To assess the perceived consequences of the risk-taking behaviours, participants were then asked whether these risk-taking behaviours ever caused them any problems (e.g., going to the hospital, legal trouble) and asked to either click the “Yes” or “No” box. To assess the reasoning behind the risk-taking behaviours participants are then provided with the statements “I do this behavior to stop feeling upset, distressed, or overwhelmed” and “I do this behavior to feel excitement, to get a thrill, or to feel pleasure.” Participants rated each statement on a 5-point Likert scale ranging from 0 (strongly disagree) to 4 (strongly agree). The RISQ has been shown to have reliable scales and high convergent validity (Sadeh & Baskin-Sommers, 2017; see Appendix D). The RISQ only has two questions related to dangerous driving and as this is a key

variable of interest, six items (items 10, 11, 15, 21, 26, 28) from the risky driving subscale of the Dula Dangerous Driving Index (DDDI; Dula & Ballard, 2003) were incorporated. The full DDDI is a 31-item measure that assesses dangerous driving including aggressive driving, negative emotions while driving, and risky driving. The DDDI has been found to have high internal consistency and test-retest reliability (Willemsen et al., 2008; see Appendix E).

Shame

The Experience of Shame Scale (ESS; Andrews et al., 2002) was used to assess participant feelings of shame. It consists of 25 questions, with four questions that assess body shame (feeling ashamed of your body or any part of it), 12 questions that measure characterological shame (the shame of personal habits, manner with others, sort of person you are, and personal ability), and nine questions that measure behavioural shame (shame about doing something wrong, saying something inappropriate, and failing within competitive situations). The questions assess experiences, cognition, and behaviours regarding each type of shame. For instance, for character shame, participants are asked “have you ever felt ashamed of personal habits?” which would assess an experiential aspect of character shame. They would then be asked “have you worried about what other people think about your personal habits?” which assesses the cognitive aspect of character shame. Lastly, they would be asked “have you tried to cover up or conceal any of your personal habits?” which assesses a behavioural aspect of character shame. Participants respond according to how they have felt in the past year and each item is rated on a 4-point Likert scale, ranging from 1 (not at all) to 4 (very much). Scores for body shame range from 4-16, scores for characterological shame range from 12-48, and scores for behavioural shame range from 9-36. Therefore, the total shame score can range from 25-100, with higher scores indicating higher levels of shame. The ESS has been shown to have high

internal consistency and test-retest reliability (Andrews et al., 2002; see Appendix F).

Symptoms of Depression

The Beck Depression Inventory (BDI; Beck et al., 1996) was used to assess participant feelings of depression. It is a 21-item self-report measure that is based on DSM-IV criteria for depression. In the present study one question on suicide was removed. Each item is rated on a Likert scale (0 = I do not feel this way to 3 = I often feel this way) and total scores range from 0 to 60. A higher score on the Beck Depression Inventory indicates more severe depressive symptoms. The Beck Depression Inventory demonstrates good reliability and internal consistency among adolescents (Gambin & Sharp, 2018; see Appendix G). It was collected as a possible co-variate for the proposed analyses, due to past research finding that depressive symptoms have a positive relationship with general shame (Andrews et al., 2002; Gambin & Sharp, 2018; Li & Craig, 2020) and risk-taking (Cobb-Clark et al., 2022).

Social Anxiety

The Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998), a 20-item self-report questionnaire, was used to assess the distress one experiences during a social interaction. Each item presents a social situation and the participant is asked to rate how often they experience social anxiety as a result of the interaction (e.g., “I feel tense if I am alone with just one other person”) on a 5-point Likert scale with 0 indicating “not at all characteristic or true of me” to 4 meaning “extremely characteristic or true of me.” Three of the items are reversed scores (5, 9, and 11). Higher scores on this scale indicate higher levels of social anxiety. The Social Interaction Anxiety Scale demonstrates good internal consistency, test-retest reliability, and concurrent validity (Heimberg et al., 1992; Osman et al., 1998; see Appendix H). Social anxiety was also collected as a possible covariate, due to past research finding a significant positive

relationship with generalized shame (Cheok & Proeve, 2019; Lazarus & Shahar, 2018) as well as risk-taking (Reynolds et al., 2013).

Results

Data Screening

Statistical analyses were conducted using JASP Version 0.19.2 for Windows. The original sample consisted of 321 participants. Data screening was performed to assess out of range scores and missing data. There were 40 participants who were missing more than 5% of data on at least one questionnaire and were removed from the final sample. There were 15 participants who had less than 5% missing data. To replace those items, mean imputation was used and each missing value was replaced with the mean of the observed values of that item (Kwak & Kim, 2017). This was not done for the binary response items (missing binary responses were left).

As a next step, univariate outliers were examined. The univariate outliers were determined by converting raw scores to standardized z scores. Z-scores, with an absolute value over 3, were considered univariate outliers. There were two outliers found for the depression variable. We used truncation for these outliers by converting the raw score to correspond to a Z score of 3. This new score was then used to replace the scores of the outliers (Kwak & Kim, 2017).

For each variable, the assumption of normality was assessed using the skewness ratio (skewness divided by its standard error) and kurtosis ratio (kurtosis divided by its standard error). Histograms were also visually examined as well. Distributions were normal for all variables except depression which was moderately positively skewed. A square root transformation was performed. The assumption of normality was then met for all variables.

Risk-Taking Variables

Four different totals were created for each type of risk-taking (sexual risk-taking, dangerous driving, and substance use): Total lifetime frequency of risk-taking, total maladaptive outcomes experienced as a result of risk-taking, total for participating in risk-taking to stop feeling distressed, and a total for participating in risk-taking to experience excitement.

To compute the scores for lifetime frequency of each risk-taking behaviour, we added the lifetime frequency of each item in that risk-taking domain. For instance, the sexual risk-taking domain included four separate items. For each item, participants were asked how many times they had engaged in that activity. The lifetime frequency of each risk-taking behaviour was added together across all four items. Based on the participant's total score on that risk-taking domain we placed them into one of five total lifetime frequency bins: 0, 1-10,11-50,51-100, and 100>. Sadeh and Baskin-Sommers (2017) recommend using these bins to sort risk-taking behaviours to reduce skewness. If the participant was placed in the '0' bin they were labelled as 'NA' for subsequent categories (e.g., maladaptive outcome total, distress total, and excitement total) and were not included in subsequent analyses.

To create a total for the number of times participants experienced a maladaptive outcome as a result of risk-taking, all 'No' responses were coded as a 0 and all 'Yes' responses were coded as 1. Similar to above, all of the "0" and "1" response were added together across all items in each risk-taking domain, with higher scores indicating more maladaptive outcomes. Participants then had a total lifetime frequency score and a total maladaptive outcome score for each risk-taking domain (sexual risk-taking, dangerous driving, and substance use). Lastly, to assess why participants engaged in a specific behaviour (e.g., to stop feeling distressed or to feel excitement), we calculated the average of the 5-point Likert scale across all of the items in each

risk-taking domain.

Sample Characteristics

The final sample consisted of 281 participants whose ages ranged from 17 to 25 years with a mean age of 19.46 (*SD* = 1.63). The majority of participants identified as female (82.92%, *n* = 233), followed by male (12.81%, *n* = 36), and diverse (e.g., non-binary, genderfluid, genderqueer, and intersex; 3.56%, *n* = 10), and those who preferred not to say (0.71%, *n* = 2). The sample was predominantly European/White (71.17%), followed by South Asian (11.39%), African/Black (6.05%), Indigenous within Canada (2.16%), Latin, South or Central American (1.78%), West Asian (1.78%), those who self-identified (East Asian and Latin, First generation Canadian who is Filipina and Scottish, Biracial; 1.78%), Southeast Asian (1.42%), prefer not to answer (1.07%), East Asian (0.71%), and Indo-Caribbean, Indo-African, Indo-Fijian, or West-Indian (0.36%). Most participants were in their first year of study (48.40%), followed by second year (39.15%), third year (9.96%), other (fifth year, seventh year, transfer student; 1.78%), and fourth year (0.71%). Table 1 presents the means, standard deviations, and correlations for the three types of shame, depression, and social anxiety, while Table 2 presents the descriptive statistics for sexual risk-taking, dangerous driving, and substance use. Table 3 presents the correlations for the types of shame, depression, social anxiety, age, gender, and risk-taking frequencies.

Table 1

Descriptive Statistics for Shame, Depression, Social Anxiety, and Age

Variable	*M*	*SD*	Min.	Max.
1. Character Shame	28.51	8.28	12	48
2. Behaviour Shame	25.24	6.41	9	36
3. Body Shame	11.11	3.69	4	16
4. Depression	17.06	10.85	0	49.77
5. Social Anxiety	31.55	12.71	4	65
6. Age	19.46	1.64	17	25

Table 2

Frequency of Lifetime Risk-taking and Maladaptive Outcomes Experienced

Risk-taking Behaviour	Lifetime Frequency					Maladaptive Outcome	
	0	1-10	11-50	51-100	100+	Yes	No
Sexual Risk-taking	203	68	8	2	0	15	63
Dangerous Driving	84	71	56	20	50	34	163
Substance Use	66	54	69	29	63	71	144

Table 3

Correlations for Shame, Depressive Symptoms, Social Anxiety, Age, Gender and Risk-Taking Frequencies

Variable	1	2	3	4	5	6	7	8	9
1. Character Shame	-	-	-	-					
2. Behaviour Shame	.67***	-	-	-					
3. Body Shame	.60***	.52***	-	-					
4. Depressive Symptoms	.61***	.50***	.57***	-					
5. Social Anxiety	.63***	.60***	.48***	.61***					
6. Age	-.12	-.17**	-.07	-.12*	.07				
7. Gender	.02	-.12*	-.08	.02	-.02	.16**			
8. Sexual Risk Taking	.04	.01	-.03	-.01	-.07	.08	.01		
9. Dangerous Driving	-.03	-.02	-.07	-.06	-.11	.05	-.10	.34***	
10. Substance Use	.15*	.01	.12*	-.05	-.07	.22***	.01	.43***	.48***

Note. Male gender coded as 0 (n = 36), female as 1 (n = 233), diverse as 3 (n = 12).
***$p < .001$; ** $p < .01$; ** $p < .05$

Shame and Frequency of Risk-taking Behaviours

A series of ordinal logistic regressions were conducted to investigate the relationship between sexual risk-taking behaviours, substance use, and risky driving frequency bins (e.g., all measured on ordinal scales) and seven predictor variables: body shame, character shame, behaviour shame, depression, social anxiety, age, and gender. Our main predictor variables of interest were the three types of shame (body, character, behaviour). Depression, social anxiety, age and gender were included because of their relationships with shame and risk-taking.

Shame and Sexual Risk-taking Behaviours

The first ordinal regression was conducted to examine the relationship between sexual risk-taking behaviours (measured as total lifetime frequency on an ordinal scale) and the seven predictor variables mentioned above. Variance inflation factors (VIFs) and tolerance were calculated to detect the presence of multicollinearity between predictors. High VIFs indicate increased effects of multicollinearity in the model. VIFs greater than 5 are cause for concern, whereas VIFs of 10 should be considered the maximum upper limit (O'Brien, 2007). Low tolerance indicates increased effects of multicollinearity in the model. Tolerance below .20 is cause for concern while tolerance below .10 suggests major multicollinearity problems (Menard, 1995). All predictors in the regression model have VIFs less than 5 and tolerance values greater than .20. Table 4 presents the tolerance and VIF for each predictor in the model.

To test the linearity of log-odds assumption, a Box Tidwell test was conducted. This assumption states that the relationship between the log-odds of being in a specific category (relative to all other categories) and the continuous predictor variables should be linear. To assess this assumption, an interaction term was created by multiplying the variable with its natural logarithm. Each interaction term was then included in the model; to pass the linearity assumption, the interaction terms must be non-significant. This assumption was met for all predictor variables in the model.

Table 4

Tolerance and VIF for Predictors of Sexual Risk-taking

Predictor	Tolerance	VIF
Character shame	.37	2.68
Behaviour shame	.37	2.68
Body shame	.43	2.33
Age	.78	1.28
Depression	.42	2.37
Social anxiety	.51	1.97
Gender identity	.76	1.32

To test the assumption of proportional odds, a test of parallel lines was conducted. This assumption states that the effect of each predictor variable on the log-odds should be the same across all categories of the outcome variable (e.g., that the slopes of the logistic functions are parallel). The test of parallel lines was non-significant $\chi2(16) = 14.49$, $p > .05$, indicating that the proportional odds assumption was met for risky sexual behaviours. After all assumptions were checked, we examined the overall fit of the model and found that the model fit was not statistically significant, $\chi2(8) = 14.75$, $p = .064$. This suggests that the model as a whole is no better than a simple intercept only model in predicting lifetime frequency of sexual risk-taking behaviours.

Shame and Dangerous Driving Behaviours

An ordinal logistic regression analysis was conducted to investigate the relationship

between risky driving (measured as total lifetime frequency on an ordinal scale) and the seven predictor variables. Variance inflation factors and tolerance were calculated to detect the presence of multicollinearity between predictors. All predictors in the regression model have VIFs less than 5 and tolerance greater than .20. Therefore there were no concerns about multicollinearity. Table 5 presents the tolerance and VIF for each predictor in the model.

Table 5

Tolerance and VIF for Predictors of Dangerous Driving

Predictor	Tolerance	VIF
Character shame	.35	2.84
Behaviour shame	.42	2.41
Body shame	.52	1.92
Age	.91	1.10
Depression	.51	1.96
Social anxiety	.46	2.16
Gender identity	.82	1.22

The results of the Box Tidwell test showed that the linearity of log-odds assumption was met for all predictor variables in the model. The test of parallel lines was significant $\chi 2(24) = 80.22$, $p = .000$, indicating that the proportional odds assumption was not met for substance abuse. However, the proportional odds assumption has been described by some researchers as "anti-conservative" meaning that it almost always results in a significant p-value, specifically if the explanatory variables are continuous such as the current model (Allison, 1999) or the sample size is large (Allison, 1999; Clogg & Shihadeh, 1994). The number of predictor variables in our

model that were continuous and the larger sample size most likely accounts for why this assumption is not met. The model fit was not statistically significant, $\chi2(8) = 12.45$, $p = .132$. This suggests that the model as a whole is no better than a simple intercept only model.

Shame and Substance Use Behaviours

An ordinal logistic regression analysis was conducted to investigate the relationship between substance use (measured as total lifetime frequency on an ordinal scale) and the seven predictor variables. VIFs and tolerance were calculated to detect the presence of multicollinearity between predictors. All predictors in the regression model have VIFs less than 5 and tolerance values greater than .20 suggesting the absence of multicollinearity. Table 6 presents the tolerance and VIF for each predictor in the model.

Table 6

Tolerance and VIF for Predictors of Substance Use

Predictor	Tolerance	VIF
Character shame	.39	2.59
Behaviour shame	.46	2.17
Body shame	.54	1.85
Age	.91	1.10
Depression	.49	2.06
Social anxiety	.44	2.29
Gender identity	.88	1.14

The assumption of linearity of log-odds was met for all predictor variables in the model. The test of parallel lines was significant $\chi2(24) = 51.71$, $p = .001$, indicating that the proportional

odds assumption was not met for substance abuse. As mentioned before, this is known to be an anticonservative test and is likely not met due to the number of predictors and the sample size (Allison, 1999; Clogg & Shihadeh, 1994).

The overall model fit was statistically significant, $\chi 2 = 27.14$, $p = .001$, suggesting that the model was effective in differentiating between levels of substance abuse based on the predictors. The Pseudo R-Squared value (Nagelkerke = .097) indicates that almost 10.0% of the variance in substance use frequency can be explained by the model. In terms of individual predictors, character shame emerged as a significant predictor, with a positive relationship suggesting that higher character shame is associated with higher levels of substance use. Although results are provided in log odds, for ease of interpretation, all log odds were converted to odds ratios. The odds of being in the "Very Often" category of substance abuse (vs. the combined "Never", "Rarely", "Sometimes" and "Often" categories) increased by a factor of 1.06 (95% CI: 1.02, 1.11) for every one unit increase in character shame, after adjusting for the effects of other predictor variables. In other words, for every one unit increase in character shame (as the raw shame score increases from 2 to 3 for example), the odds of being in the Very Often category compared to all of the categories combined is 1.06 times higher. An odds ratio of 1.06 suggests a small effect size (Rosenthal, 1996). Age also emerged as a significant predictor of substance use, with a positive relationship suggesting that older age is associated with higher levels of substance use. The odds of being in the "Very Often" category of substance abuse (vs. the combined "Never", "Rarely", "Sometimes" and "Often" categories) increased by a factor of 1.30 (95% CI: 1.14, 1.50) for every one unit increase in age (measured in years), after adjusting for the effects of other predictor variables. An odds ratio of 1.30 indicates a small effect size (Rosenthal, 1996). Table 7 summarizes the results of the ordinal regression model.

Table 7

Ordinal Logistic Regression Results Predicting Substance Use

						95% CI	
Predictor	*b*	SE	Wald	*p*	OR	Lower Level	Upper Level
Character shame	.06	.02	7.80	.005	1.06	1.02	1.11
Behaviour shame	-.04	.03	2.75	.097	.96	.91	1.01
Body shame	.05	.04	1.42	.233	1.05	.97	1.13
Age	.27	.07	14.20	.000	1.30	1.14	1.50
Depression	.00	.01	.01	.936	1.00	.97	1.03
Social anxiety	-.02	.01	1.61	.205	.98	.96	1.01
Gender - male	.65	.55	1.42	.233	1.92	.66	5.62
Gender - female	.71	.62	1.33	.248	2.03	.61	6.79

Note. *b* = unstandardized coefficient, *SE* = standard error, *OR* = odds ratio

Shame and Risk-taking Outcomes

A series of binary logistic regressions were conducted to investigate the relationship between the maladaptive outcomes of sexual risk-taking behaviours, substance use, and risky driving (all measured on dichotomous scales) and seven predictor variables: body shame, character shame, behaviour shame, depression, anxiety, age, and gender. Our main predictor variables of interest were the three types of shame. Similar to the ordinal regression models, depression, social anxiety, age and gender were included because they were all related to our outcome variables.

Shame and Sexual Risk-taking Outcomes

The first binary regression was conducted to examine the relationship between maladaptive sexual risk-taking outcomes (Yes or No) and the seven predictor variables mentioned above. The overall model fit was not statistically significant, $\chi 2(8) = 7.23$, $p = .51$. However, in terms of individual predictors, body shame emerged as a significant individual predictor, with a negative relationship suggesting that higher body shame is associated with lower chances of experiencing a maladaptive outcome of sexual risk-taking. The odds of being in the "Yes" category of negative sexual risk-taking outcomes (vs. the "No" category) decreases by a factor of .75 for every one unit increase in body shame, after adjusting for the effects of other predictor variables. In other words, for every one unit increase in body shame, the odds of being in the Yes category compared to the No category is .75 times lower. An odds ratio of .75 indicates a small effect size (Rosenthal, 1996). Table 8 summarizes the results of the binary regression model.

Table 8

Binary Regression Results Predicting Sexual Risk-taking Outcomes

Predictor	*b*	*SE*	*Wald*	*p*	*OR*
Character shame	.03	.06	.19	.662	1.03
Behaviour shame	.03	.07	.12	.729	1.03
Body shame	-.29	.13	4.53	.033	.75
Age	.08	.17	.21	.648	1.08
Depression	.09	.05	3.16	.075	1.09
Social anxiety	-.03	.04	.49	.484	.97
Gender - male	-.60	.19	.19	.664	.55
Gender - female	-1.95	1.12	1.12	.289	.14

Note. *b* = unstandardized coefficient, *SE* = standard error, *OR* = odds ratio.

Shame and Dangerous Driving Outcomes

A binary logistic regression analysis was conducted to investigate the relationship between maladaptive dangerous driving outcomes (Yes or No) and the seven predictor variables. The overall model fit was not statistically significant, $\chi 2(10) = 13.58$, $p = .19$. Symptoms of social anxiety however, did emerge as a significant predictor, with a negative relationship suggesting that higher social anxiety is associated with lower chances of experiencing a maladaptive outcome of dangerous driving. The odds of being in the "Yes" category of negative dangerous driving outcomes (vs. the "No" category) decreases by a factor of .94 for every one unit increase in symptoms of social anxiety, after adjusting for the effects of other predictor

variables. In other words, for every one unit increase in symptoms of social anxiety, the odds of being in the Yes category compared to the No category is .94 times lower. An odds ratio of .94 indicates a small effect size (Rosenthal, 1996). Table 9 summarizes the results of the binary regression model.

Table 9

Binary Regression Results Predicting Dangerous Driving Outcomes

Predictor	*b*	*SE*	*Wald*	*p*	*OR*
Character shame	.07	.04	2.52	.113	1.07
Behaviour shame	-.02	.05	.20	.652	.98
Body shame	.00	.08	.00	.984	1.00
Age	-.01	.12	.00	.969	1.00
Depression	.00	.03	.00	.982	1.00
Social anxiety	-.06	.03	5.61	.018	.94
Gender - male	-2.07	1.63	1.60	.206	.13
Gender - female	-1.50	1.51	.99	.320	.22

Note. *b* = unstandardized coefficient, *SE* = standard error, *OR* = odds ratio.

Shame and Substance Use Outcomes

A binary logistic regression analysis was conducted to investigate the relationship between maladaptive substance use outcomes (Yes or No) and the seven predictor variables. The overall model fit was not statistically significant, $\chi 2(8) = 13.91$ $p = .08$. However, character shame emerged as a significant individual predictor, with a positive relationship suggesting that

higher character shame is associated with higher chances of experiencing a maladaptive outcome of substance use. The odds of being in the "Yes" category of negative substance use outcomes (vs. the "No" category) increases by a factor of 1.07 for every one unit increase in character shame, after adjusting for the effects of other predictor variables. In other words, for every one unit increase in character shame, the odds of being in the Yes category compared to the No category is 1.07 times higher. An odds ratio of 1.07 suggests a small effect size (Rosenthal, 1996). Table 10 summarizes the results of the binary regression model.

Table 10

Binary Regression Results Predicting Substance Use Outcomes

Predictor	*b*	*SE*	*Wald*	*P*	*OR*
Character shame	.07	.03	4.86	.027*	1.07
Behaviour shame	-.03	.04	.64	.425	.97
Body shame	-.00	.06	.00	.970	1.00
Age	.14	.09	2.47	.116	1.15
Depression	.02	.02	1.44	.231	1.02
Social anxiety	-.02	.02	1.12	.291	.98
Gender - male	-.20	.76	.07	.795	.82
Gender - female	-.72	.86	.70	.404	.49

Note. *b* = unstandardized coefficient, *SE* = standard error, *OR* = odds ratio.

Shame and Motivations for Risk-taking

A series of partial Pearson's correlations were conducted to examine the relationship

between motivations for risk-taking (distress and excitement) and the three kinds of shame, while controlling for age, gender, social anxiety, and depression. For each distress and excitement variable, the assumption of bivariate normality was assessed using the Shapiro-Wilk test for bivariate normality. The Shapiro-Wilks test for the distress and excitement variables for sexual risk-taking, dangerous driving, and substance were all significant, indicating non-normality. Log transformations were applied which then corrected the normality for each variable. There were no significant relationships between motivations for risk-taking for each domain and the three kinds of shame (see Table 11).

Table 11

Partial Correlations Between Shame and Motivations for Risk-taking

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. Character shame	-							
2. Behaviour shame	.44**	-						
3. Body shame	.35**	.30**	-					
4. Sexual risk-taking distress	.22	.15	-.03	-				
5. Sexual risk-taking excitement	.01	.03	-.03	.55**	-			
6. Substance use distress	.10	-.07	.04	.56**	.45**	-		
7. Substance use excitement	.11	-.11	.05	.38*	.47**	.66**	-	
8. Dangerous driving distress	-.04	-.05	.03	.46**	.40*	.41**	.29**	-
9. Dangerous driving excitement	-.11	-.11	-.02	.14	.36*	.32**	.41**	.55**

Note. *$p < .01$, **$p < .001$

Discussion

The goal of the present study was to examine the relationship between character shame, behaviour shame, and body shame with sexual risk-taking, dangerous driving, and substance use in adolescents and emerging adults. Results partially support the hypothesized relationships. Contrary to our first hypothesis, the three types of shame do not increase the frequency of sexual risk behaviours or dangerous driving. Character shame did emerge as a significant predictor of increased substance use, partially supporting our first prediction that different types of shame would be related to an increase in different risk-taking domain frequency. Contrary to our third and fourth hypotheses, character shame, behaviour shame, and body shame are not associated with more maladaptive outcomes resulting from sexual risk-taking and dangerous driving. Body shame, however, is a significant predictor of less maladaptive outcomes associated with sexual risk-taking, and character shame significantly predicts more maladaptive outcomes of substance use. This partially supports our fourth hypothesis that the three types of shame would increase the maladaptive outcomes of risk-taking.

Sexual Risk-taking and Shame

Contrary to our first hypothesis, the three types of shame are not a significant predictor of sexual risk-taking frequency. Furthermore, the three types of shame do not predict more maladaptive outcomes of sexual risk-taking, which is not in alignment with our third and fourth hypotheses. In terms of character and behaviour shame, one possible explanation for this finding is that there is increased acceptance of sexual exploration among youth . Over the past couple of years, exploring one's sexuality has become more common among emerging adults, with many people holding permissive attitudes about sex (Rittenhour & Sauder, 2024). Thus, feelings of character and behaviour shame may not lead to increased high-risk sexual behaviours due to the

evolving nature of how youth think about sex. For instance, it may be that experimenting with sexual activities and having multiple sexual partners has become more acceptable among all youth, not just those experiencing shame (Rittenhour & Sauder, 2024).

On the other hand, another potential explanation for our findings is that there may be a decline in risky sexual activity among adolescents and emerging adults and an increase in contraception use, minimizing maladaptive outcomes as a result. Lindberg et al. (2021) found a significant decrease in partnered sexual behaviour among youth. One possible reason for this might be that youth might avoid sexual activity due to past experiences with a romantic partner (Byers et al., 2016). For instance, Byers et al. (2016) found that youth reported avoidance of sexual activity due to experiencing negative emotional experiences (e.g., depression, guilt), sexual coercion, and trust issues with a past partner (Byers et al., 2016). Females reported a higher avoidance of sexual activity than males (Byers et al., 2016), which aligns with past research that has found that females experience greater negative consequences (e.g., sexual coercion, depression) as a result of sexual activity (Simon & Barrett, 2010). Our sample was predominantly female, so perhaps they are more cognizant of the maladaptive outcomes associated with sexual risk-taking and therefore do not use it as a coping mechanism. Furthermore, Lindberg et al. (2021) found a significant increase in contraception use among youth, with IUD's and implants being the most utilized form of birth control by females and condoms being the most utilized form of birth control by males. Therefore, youth may not engage in sexual risk-taking as a result of experiencing character and behaviour shame due to anticipation of negative consequences, such as emotional distress and STI's.

Body shame was found to be a significant predictor of less maladaptive outcomes associated with sexual risk-taking, which is the opposite of what we predicted. One explanation

for this finding is that those who struggle with their body image may be less likely to partake in sexual encounters (Reissing et al., 2005). Those who experience body shame may be less comfortable and confident during sexual interactions and, as a result, may avoid these encounters altogether (Ackard et al., 2000; Cash et al., 2004). Avoiding sexual interactions also decreases the opportunities for individuals to experience negative outcomes of sexual risk-taking. Thus, adolescents and emerging adults with high levels of body shame might avoid putting themselves in situations where others would see their body or any parts of it.

Dangerous Driving and Shame

Contrary to our second hypothesis, character shame and behaviour shame did not significantly predict an increase in dangerous driving. These two kinds of shame also did not predict an increase in maladaptive outcomes of dangerous driving, which is contrary to our fourth hypothesis. One explanation might be that youth currently are concerned about the consequences of dangerous driving, such as jail time, loss of driver's license or potential harm to others. These consequences may act as a deterrent for modern youth, particularly if they are preparing for and exploring their future in terms of a career (Arnett, 2000). The current job market may have adolescents and emerging adults consider more seriously that the consequences of driving dangerously might limit their opportunities (Greene et al., 2018). Therefore, youth who experience either character shame or behaviour shame may be using other ways to cope rather than dangerous driving. As mentioned above, our sample is predominantly females. Females are known to drive less risky than males (Fleiter et al., 2010; Krahé & Fenske, 2002; Lemarié et al., 2018; Lewis et al., 2013), which would be another explanation for the lack of relationship between shame and dangerous driving.

Symptoms of social anxiety, which was included as a control variable in our models, emerged as a significant predictor of less maladaptive outcomes from dangerous driving. This finding might have occurred due to the hypervigilance associated with symptoms of social anxiety (Greenfield et al., 2025). Individuals with greater symptoms of social anxiety may have more fear about how their actions on the road might hurt themselves or others, or how their actions may draw negative reactions from other drivers compared to individuals with fewer symptoms. To ease this anxiety, these individuals may engage in safety behaviours (e.g., checking seatbelts, obeying traffic laws and speed limits), plan their route ahead of time, or even avoid driving altogether (Greenfield et al., 2025). Not only do these behaviours reduce the likelihood that the driver will make a mistake that might hurt or annoy someone else, but they also reduce the likelihood that the individual will experience a maladaptive outcome. Furthermore, there is a higher incidence of increased symptoms of social anxiety in females compared to males (Oren-Yagoda et al., 2024). As our sample is predominantly female, this might help to further explain this relationship.

Substance Use and Shame

Partially supporting our first hypothesis, character shame significantly predicted increased frequency of substance use though behaviour shame and body shame did not. Similarly, only character shame predicted greater maladaptive outcomes associated with substance use, which partially supported our fourth hypothesis. One potential explanation is that character shame may be thought of as uncontrollable in comparison to behaviour shame and body shame, as the shame is about who you are as a person (e.g., your mannerisms). Youth who experience character shame may believe that there is little they can do to change their situation. However, youth who experience behaviour shame may feel as if they have more control over the

shame-provoking situation and thus believe that as long as they change their behaviour, their shame will decrease (Janoff-Bulman, 1979). Individuals who experience behaviour shame tend to focus on the future and improving their outcomes, while individuals who experience character shame focus on their past experiences and make little attempt to improve their future outcomes (Janoff-Bulman, 1979). As a result, character shame may lead to an increase in substance use frequency and subsequent maladaptive outcomes due to a perceived lack of control over their shame or for emotional relief or as a distraction from their shame. Moreover, due to a potential focus on past events and lack of problem solving, youth with character shame may not make an attempt to avoid maladaptive outcomes as they believe that negative events are out of their control and inevitable (Heggeness et al., 2019). Therefore, while those with behaviour shame may actively avoid negative consequences as a result of substance use to improve later outcomes, those with character shame may not.

Similar to behaviour shame, body shame may be attributed to things external to the individual and perceived to be changeable. For instance, Tong et al. (2022) found that youth cited various external reasons for the rise in obesity, such as the cost of healthy food and easy access to unhealthy food. Individuals experiencing body shame can apply these external factors in a plan that will help them alleviate their body shame. For example, those wanting to lose weight may choose to make more meals at home as opposed to ordering takeout food. Therefore, while behaviour shame and body shame could be controlled by altering one’s behaviours, character shame may be more difficult to alleviate as it could be based on the individual's personality, which might be perceived as uncontrollable and lead to risk-taking as a way to overcompensate.

Motivations for Risk-taking

As an exploratory analysis, we also examined the relationships between motivations of risk-taking, distress, and excitement in relation to shame. No specific predictions were made; however, we were interested to see whether different motivations to engage in risk-taking would be related to the three types of shame. No significant relationship was found between the types of shame and the distress and excitement motivation variables for sexual risk-taking, dangerous driving, and substance use. One reason for this might be that youth are motivated to take risks as normative aspect of development, and risk-taking is often associated with identity development. For instance, Ravert et al. (2015) found that youth often take risks as an opportunity for growth. This includes building resilience, learning about one's likes and dislikes, learning from mistakes, and experimenting with new experiences. Furthermore, many youth also cite enjoyment, satisfaction, and the opportunity to form relationships with others as motivations for their risk behaviours (Defoe et al., 2022; Ravert et al., 2015). Although some of these examples might be motivated by excitement, using the term excitement might be too broad to encompass other motivational factors, such as identity exploration. Therefore, youth may not necessarily take risks due to distress or excitement, but rather as an opportunity for self-growth as well as normative behaviours during the adolescent transition.

Implications

The results of this study have several practical implications. Many risk-taking prevention programs encourage youth to abstain from risk-taking altogether and connect risk-taking to individual factors, such as one's character (e.g., those who take risks are dangerous; Wolfe et al., 2006). This might be an ineffective approach, as our results suggest that character shame may increase risk-taking behaviours, particularly substance use, and maladaptive outcomes of these

behaviours. By attaching negative labels and character stereotypes to risk-taking behaviours, youth may internalize these messages, which in turn may guide their behaviour in a negative direction (Buchanan & Hughes, 2009). For instance, if youth believe that all risk behaviours make them irresponsible, this might increase their character shame, which in turn will increase their frequency of risk-taking and even escalate their behaviours. Connecting risk-taking to one's character might make youth feel that they have no control over their behaviour, and as a result, it does not matter what behaviour they engage in (Buchanan & Hughes, 2009). Prevention programs that use shame as a way to discourage risk-taking may be doing more harm than good. Instead, programs that focus on preventing risk-taking in adolescents should focus on addressing character shame and how it can be decreased to prevent risk-taking among youth.

One way that prevention programs for youth can reduce character shame is through utilizing a strength-based approach. Strength-based approaches assist individuals in identifying assets and resources that exist around them, as well as changing one's mindset through cognitive appraisal (Caiels et al., 2024). For instance, as opposed as viewing one's mannerisms as something to be ashamed of, a strength-based approach can help youth view their mannerisms as an asset (e.g., these mannerisms help them form strong bonds with others). Once these strengths have been identified, strength-based prevention programs can help youth create goals for themselves. Past research has found that utilizing a strength-based prevention program helps individuals feel in control of themselves, as well as increases their sense of independence, confidence, and dignity (Caiels et al., 2024). As those with character shame may perceive a lack of control over their shame, assisting them in seeing their character as a strength may help them feel more in control over their shame. As a result, strength-based approaches may help to reduce subsequent risk-taking behaviours and maladaptive outcomes.

Limitations and Future Research

The current study is not without limitations. First, our sample was predominantly female. Generalized shame, as well as symptoms of social anxiety and depression have a higher incidence among females (Oren-Yagoda et al., 2024) which might explain lack of significant correlations in the present study. Furthermore, there may be gender differences in risk-taking behaviours. For instance, dangerous driving is often more prevalent among males (Lemarié et al., 2018; Lewis et al., 2013) compared to females. Fewer instances of risk-taking are more likely in a sample of mostly females. Another limitation is that our sample is composed of undergraduate students. Past research has found a negative relationship between education and risk-taking (Viinikainen et al., 2022) which means a sample with higher levels of education may show a low frequency of risk taking behaviour such as sexual risk-taking and dangerous driving. Future research with a more diverse sample, both in terms of gender and education level is needed. Finally, our sample completed all of the questionnaires online and as a result we could not follow up on responses or clarify misinterpretations. Future research using a mixed method design that includes interviews or focus groups could help provide a more detailed understanding of shame and risk taking in late adolescence and emerging adulthood. Finally, emerging adulthood is not an identical developmental transition for everyone. Some individuals might have more transitions and instability than others (e.g., moving out of home and then back home). Therefore, more research is needed on how emerging adulthood might impact both shame and risk-taking.

Conclusion

The current study suggests that character shame plays an important role in the increased frequency of substance use, as well as more maladaptive outcomes experienced from substance use. Past research on shame and risk-taking has been inconsistent, finding shame and risk-taking

to be positively correlated (Gilliland et al., 2011; Rahim & Patton, 2015; negatively correlated (Kernan & Sullins, 2022), or not correlated at all (Tangey et al., 2006). However, our findings suggest that risk-taking prevention programs should focus on reducing character shame as it plays an important role in substance use frequency and its maladaptive outcomes. For instance, often character shame stems from gendered stereotypes (e.g., females avoid conflict while men are assertive; Impett et al., 2006; Limmer, 2014) and feelings of inadequacy (e.g., unable to handle the responsibilities of emerging adulthood; Uscola, 2023). Since character shame is about who you are as a person (e.g., personal habits, mannerisms), youth may view these aspects of the self as uncontrollable, leading to substance use as a way to avoid or cope with character shame. Risk-taking prevention programs should focus on providing youth with facts about maladaptive risk-taking outcomes (e.g., deaths as a result of drinking and driving) without focusing on abstinence and promoting character shame through the use of negative labelling and stereotypes (Buchanan & Hughes, 2009). Furthermore, by utilizing a strength-based approach, prevention programs may be able to reduce character shame through cognitive reappraisal (e.g., viewing one's character as a strength as opposed to something to be ashamed of). Providing youth with education about risk behaviours and teaching them skills to reduce shame and risks may help youth avoid harmful consequences that might occur with risk-taking.

References

Ackard, D. M., Kearney-Cooke, A., & Peterson, C. B. (2000). Effect of body image and self-image on women's sexual behaviors. *The International Journal of Eating Disorders*, *28*(4), 422–429. https://doi.org/10.1002/1098-108X(200012)28:4<422::AID-EAT10>3.0.CO;2-1

Albert, D., & Steinberg, L. (2011). Judgment and decision making in adolescence. *Journal of Research on Adolescence*, *21*(1), 211–224. https://doi.org/10.1111/j.1532-7795.2010.00724.x

Ali, F., Russell, C., Nafeh, F., Chaufan, C., Imtiaz, S., Rehm, J., Spafford, A., & Elton-Marshall, T. (2022). Youth substance use service provider's perspectives on use and service access in Ontario: Time to reframe the discourse. *Substance Abuse Treatment, Prevention and Policy*, *17*(1), 9–9. https://doi.org/10.1186/s13011-022-00435-9

Allison, P. D. (1999). *Logistic regression using the SAS system: Theory and application*. SAS Institute.

Anders, K. M., Goodcase, E., Yazedjian, A., & Toews, M. L. (2020). "Sex is easier to get and love is harder to find": Costs and rewards of hooking up among first-year college students. *The Journal of Sex Research*, *57*(2), 247–259. https://doi.org/10.1080/00224499.2019.1667946

Andrews, J. L., Ahmed, S. P., & Blakemore, S.J. (2021). Navigating the social environment in adolescence: The role of social brain development. *Biological Psychiatry (1969)*, *89*(2), 109–118. https://doi.org/10.1016/j.biopsych.2020.09.012

Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British Journal of Clinical Psychology*, *41*(1), 29–42. https://doi.org/10.1348/014466502163778

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *The American Psychologist*, *55*(5), 469–480. https://doi.org/10.1037/0003-

066X.55.5.469

Balkmar, D. (2008). Drive-by shaming: Reflections on the emotions of (dangerous) car driving. *Thinking with Beverley Skeggs*, 9-17. https://ocul-tu.primo.exlibrisgroup.com/permalink/01OCUL_TU/1odk209/cdi_swepub_primary_oai_DiVA_org_mau_67448

Bauman, L. J., Karasz, A., & Hamilton, A. (2007). Understanding failure of condom use intention among adolescents: Completing an intensive preventive intervention. *Journal of Adolescent Research*, *22*(3), 248–274. https://doi.org/10.1177/0743558407299696

Beck, A., Steer, R.A., Brown, G.K. (1996). *Beck Depression Inventory–II (BDI-II)*. The Psychological Corporation.

Beck, K. H., & Watters, S. (2016). Characteristics of college students who text while driving: Do their perceptions of a significant other influence their decisions? *Transportation Research. Part F, Traffic Psychology and Behaviour*, *37*, 119–128. https://doi.org/10.1016/j.trf.2015.12.017

Bem, C., & Small, N. (2020). An ecological framework for improving child and adolescent health. *Archives of Disease in Childhood. 105,* 299-301. https://doi.org/10.1136/archdischild-2019-317518

Bender, S. S., Hilmarsdottir, K., & Gunnarsdottir, T. J. (2024). Unmet sexual health needs of young men in contemporary society regarding condom use: Qualitative study. *Sexual & Reproductive Healthcare*, *39*, 100947–100947. https://doi.org/10.1016/j.srhc.2024.100947

Berridge, B. J., McCann, T. V., Cheetham, A., & Lubman, D. I. (2018). Perceived barriers and enablers of help-seeking for substance use problems during adolescence. *Health Promotion Practice*, *19*(1), 86–93. https://doi.org/10.1177/1524839917691944

Beyth-Marom, R., Austin, L., Fischhoff, B., Palmgren, C., & Jacobs-Quadrel, M. (1993). Perceived consequences of risky behaviors: Adults and adolescents. *Developmental Psychology*, *29*(3), 549–563. https://doi.org/10.1037/0012-1649.29.3.549

Bilevicius, E., Clark, C. C., Johnson, E. A., & Keough, M. T. (2020). Ashamed and alone—Risk factors for alcohol craving among depressed emerging adults. *Alcohol and Alcoholism (Oxford)*, *55*(5), 540–546. https://doi.org/10.1093/alcalc/agaa056

Bornioli, A., Lewis-Smith, H., Smith, A., Slater, A., & Bray, I. (2019). Adolescent body dissatisfaction and disordered eating: Predictors of later risky health behaviours. *Social Science & Medicine (1982)*, *238*, 112458-. https://doi.org/10.1016/j.socscimed.2019.112458

Bowers, J. R., Segrin, C., & Joyce, N. (2016). The role of transitional instability, psychological distress, and dysfunctional drinking in emerging adults' involvement in risky sex. *Journal of Social and Personal Relationships*, *33*(8), 1097–1119. https://doi.org/10.1177/0265407515617621

Buchanan, C. M., & Hughes, J. L. (2009). Construction of social reality during early adolescence: Can expecting storm and stress increase real or perceived storm and stress? *Journal of Research on Adolescence*, *19*(2), 261–285. https://doi.org/10.1111/j.1532-7795.2009.00596.x

Byers, E. S., O'Sullivan, L. F., & Brotto, L. A. (2016). Time out from sex or romance: Sexually experienced adolescents' decisions to purposefully avoid sexual activity or romantic relationships. *Journal of Youth and Adolescence*, *45*(5), 831–845. https://doi.org/10.1007/s10964-016-0447-9

Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking: A meta-analysis. *Psychological Bulletin, 125*(3), 367–383. https://doi.org/10.1037/0033-2909.125.3.367

Caiels, J., Silarova, B., Milne, A. J., & Beadle-Brown, J. (2024). Strengths-based approaches—perspectives from practitioners. *The British Journal of Social Work*, *54*(1), 168–188. https://doi.org/10.1093/bjsw/bcad186

Cash, T. F., Maikkula, C. L., & Yamamiya, Y. (2004). "Baring the body in the bedroom": Body image, sexual self-schemas, and sexual functioning among college women and men. *Electronic Journal of Human Sexuality*, *7*. https://link-gale-com.proxy1.lib.trentu.ca/apps/doc/A154757374/AONE?u=ocul_thomas&sid=bookmark-AONE&xid=130d2bbc

Cheok, F., & Proeve, M. (2019). The role of perspective taking and Alexithymia in associations between shame, guilt, and social anxiety. *Journal of cognitive psychotherapy*, *33*(4), 286–300. https://doi.org/10.1891/0889-8391.33.4.286

Clogg, C., & Shihadeh, E. S. (1994). *Statistical models for ordinal variables.* Sage Publications.

Cobb-Clark, D. A., Dahmann, S. C., & Kettlewell, N. (2022). Depression, risk preferences, and risk-taking behavior. *The Journal of Human Resources*, *57*(5), 1566–1604. https://doi.org/10.3368/jhr.58.1.0419-10183R1

Cohen, A. O., & Casey, B. J. (2017). The neurobiology of adolescent self-control. In *The Wiley Handbook of Cognitive Control* (pp. 455–475). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118920497.ch26

Cooper, M. L. (1994). Motivations for alcohol use among adolescents: Development and validation of a four-factor model. *Psychological Assessment, 6*(2), 117–128. https://doi.org/10.1037/1040-3590.6.2.117

Crawford M., & Popp D. (2003). Sexual double standards: A review and methodological critique of two decades of research. *Journal of Sex Research*, *40*, 12–26.

doi:10.1080/00224490309552163

Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review*, *108*(3), 593–623. https://doi.org/10.1037/0033-295X.108.3.593

da Silva, S. U., Santos Goncalves, V. S., Barufaldi, L. A., & Baiocchi de Carvalho, K. M. (2022). Weight misperception and substance use: Brazilian study of cardiovascular risks in adolescents (ERICA). *BMC Public Health*, *22*(1), 1–11. https://doi.org/10.1186/s12889-022-14267-6

Dai, M. (2023). Examine the associations between smartphone hookup application uses and sexual health and relationship outcomes among college students. *Journal of American College Health*, *71*(2), 554–561. https://doi.org/10.1080/07448481.2021.1898406

Day, M. R., Thompson, A. R., Poulter, D. R., Stride, C. B., & Rowe, R. (2018). Why do drivers become safer over the first three months of driving? A longitudinal qualitative study. *Accident Analysis and Prevention*, *117*, 225–231. https://doi.org/10.1016/j.aap.2018.04.007

Dearing, R. L., Stuewig, J., & Tangney, J. P. (2005). On the importance of distinguishing shame from guilt: Relations to problematic alcohol and drug use. *Addictive Behaviors*, *30*(7), 1392–1404. https://doi.org/10.1016/j.addbeh.2005.02.002

Defoe, I. N., Rap, S. E., & Romer, D. (2022). Adolescents' own views on their risk behaviors, and the potential effects of being labeled as risk-takers: A commentary and review. *Frontiers in Psychology*, *13*, 945775–945775. https://doi.org/10.3389/fpsyg.2022.945775

Douglass, C. H., Block, K., Eghrari, D., Horyniak, D., Hellard, M. E., & Lim, M. S. C. (2024). "You have to drink with a little bit of shame": Alcohol and other drug use among young people from migrant and ethnic minority backgrounds in Melbourne, Australia. *Journal of Ethnicity in Substance Abuse*, *23*(2), 340–364. https://doi.org/10.1080/15332640.2022.2091703

Dula, C. S., & Ballard, M. E. (2003). Development and evaluation of a measure of dangerous, aggressive, negative emotional, and risky driving. *Journal of Applied Social Psychology, 33*(2), 263–282. https://doi.org/10.1111/j.1559-1816.2003.tb01896.x

Fallon, D. (2013). 'They're gonna think it now': Narratives of shame in the sexual health experiences of young people. *Sociology*, *47*(2), 318-332. https://doi.org/10.1177/0038038512441281

Fleiter, J. J., Lennon, A., & Watson, B. (2010). How do other people influence your driving speed? Exploring the 'who' and the 'how' of social influences on speeding from a qualitative perspective. *Transportation Research. Part F, Traffic Psychology and Behaviour*, *13*(1), 49–62. https://doi.org/10.1016/j.trf.2009.10.002

Fryt, J., Szczygieł, M., & Duell, N. (2022). Positive and negative risk-taking: Age patterns and relations to domain-specific risk-taking. *Advances in Life Course Research*, *54*, 100515–100515. https://doi.org/10.1016/j.alcr.2022.100515

Gambin, M., & Sharp, C. (2018). The relations between empathy, guilt, shame, and depression in inpatient adolescents. *Journal of Affective Disorders*, *241*, 381–387. https://doi.org/10.1016/j.jad.2018.08.068

Gilliland, R., South, M., Carpenter, B.N., Hardy, S.A. (2011). The roles of shame and guilt in hypersexual behavior. *Sexual Addiction and Compulsivity: The Journal of Treatment and Prevention, 18*(1), 12–29. https://doi-org.proxy1.lib.trentu.ca/10.1080/10720162.2011.551182

Glendon, A. (2013). Influences on young drivers' reported driving behaviours and perceptions: A focus group study. *Journal of the Australasian College of Road Safety, 24*(1), 16–29. https://search.informit.org/doi/10.3316/informit.185885077286679

Govender, D., Naidoo, S., & Taylor, M. (2020). "My partner was not fond of using condoms and I was not on contraception": Understanding adolescent mothers' perspectives of sexual risk

behaviour in KwaZulu-Natal, South Africa. *BMC Public Health*, *20*(1), 366–366. https://doi.org/10.1186/s12889-020-08474-2

Graham, L. (2016). "I am a mother": Young women's negotiation of femininity and risk in the transition to adulthood. *Culture, Health & Sexuality*, *18*(3), 265–279. https://doi.org/10.1080/13691058.2015.1084376

Granié, M.-A., & Papafava, E. (2011). Gender stereotypes associated with vehicle driving among French preadolescents and adolescents. *Transportation Research. Part F, Traffic Psychology and Behaviour*, *14*(5), 341–353. https://doi.org/10.1016/j.trf.2011.04.002

Greenfield, J., Allen, J., & Rudisill, T. M. (2025). Determining how individuals manage their driving anxiety. *PLOS Mental Health*, *2*(4), e0000163-. https://doi.org/10.1371/journal.pmen.0000163

Gross, E. F., & Hardin, C. D. (2007). Implicit and explicit stereotyping of adolescents. *Social Justice Research*, *20*(2), 140–160. https://doi-org.proxy1.lib.trentu.ca/10.1007/s11211-007-0037-9

Gunning, J. N., Cooke-Jackson, A., & Rubinsky, V. (2020). Negotiating shame, silence, abstinence, and period sex: Women's shift from harmful memorable messages about reproductive and sexual health. *American Journal of Sexuality Education*, *15*(1), 111–137. https://doi.org/10.1080/15546128.2019.1669511

Hall. G.S. (1904). *Adolescence* (Vols. 1 & 2). Prentice Hall.

Heggeness, L. F., Lechner, W. V., & Ciesla, J. A. (2019). Coping via substance use, internal attribution bias, and their depressive interplay: Findings from a three-week daily diary study using a clinical sample. *Addictive Behaviors*, *89*, 70–77. https://doi.org/10.1016/j.addbeh.2018.09.019

Heimberg, R. G., Mueller, G. P., Holt, C. S., Hope, D. A., & Liebowitz, M. R. (1992). Assessment of

anxiety in social interaction and being observed by others: The Social Interaction Anxiety Scale and the Social Phobia Scale. *Behavior therapy*, *23*(1), 53-73. https://doi.org/10.1016/S0005-7894(05)80308-9

Heldman, C., & Wade, L. (2010). Hook-up culture: Setting a new research agenda. *Sexuality Research and Social Policy*, 7, 323–333. doi:10.1007/s13178-010-0024-z

Herman-Kinney, N. J., & Kinney, D. A. (2013). Sober as deviant: The stigma of sobriety and how some college students "stay dry" on a "wet" campus. *Journal of Contemporary Ethnography*, *42*(1), 64–103. https://doi.org/10.1177/0891241612458954

Hill, L., Rybar, J., Styer, T., Fram, E., Merchant, G., & Eastman, A. (2015). Prevalence of and attitudes about distracted driving in college students. *Traffic Injury Prevention*, *16*(4), 362–367. https://doi.org/10.1080/15389588.2014.949340

Hines, A. R., & Paulson, S. E. (2006). Parents' and teachers' perceptions of adolescent storm and stress: Relations with parenting and teaching styles. *Adolescence*, *41*(164), 597-614. https://link-gale-com.proxy1.lib.trentu.ca/apps/doc/A156808953/AONE?u=ocul_thomas&sid=bookmark-AONE&xid=e1737922

Impett E. A., Schooler D., Tolman D. L. (2006). To be seen and not heard: Femininity ideology and adolescent girls' sexual health. *Archives of Sexual Behavior*, *35*, 129–142. doi:10.1007/s10508-005-9016-0

Insel, P. M., & Roth, W. T. (2022). *Connect core concepts in health* (17th ed.). McGraw-Hill.

Jacobs, L., Conroy, D., & Parke, A. (2018). Negative experiences of non-drinking college students in Great Britain: An interpretative phenomenological analysis. *International Journal of Mental Health and Addiction*, *16*(3), 737–750. https://doi.org/10.1007/s11469-017-9848-6

Janoff-Bulman, R. (1979). Characterological versus behavioral self-blame: Inquiries into depression and rape. *Journal of Personality and Social Psychology, 37*(10), 1798–1809. https://doi.org/10.1037/0022-3514.37.10.1798

Jones, D. C., & Crawford, J. K. (2006). Does body image play a role in risky sexual behavior and attitudes? *Journal of Youth and Adolescence*, *35*(2), 257–269. https://doi.org/10.1007/s10964-005-9005-6

Jones, A., Winter, V. R., Pekarek, E., & Walters, J. (2018). Binge drinking and cigarette smoking among teens: Does body image play a role? *Children and Youth Services Review*, *91*, 232–236. https://doi.org/10.1016/j.childyouth.2018.06.005

Julia Tong, T., Mohammadnezhad, M., Salem Alqahtani, N., & Salusalu, M. (2022). Perception of students on factors contributing to overweight and obesity among high school students in Kiribati: A qualitative study. *PloS One*, *17*(1), e0260900-. https://doi.org/10.1371/journal.pone.0260900

Kahsay, Z. H., Tesema, A. G., & Bazzano, A. N. (2019). A qualitative study of drivers of psychoactive substance use among Mekelle University students, Northern Ethiopia. *Substance Abuse Treatment, Prevention and Policy*, *14*(1), 11–11. https://doi.org/10.1186/s13011-018-0190-1

Kamke, K., Stewart, J. L., & Widman, L. (2022). Multilevel barriers to sexual health behavior among vulnerable adolescent girls in the USA. *Sexuality Research & Social Policy*, *19*(2), 822–833. https://doi.org/10.1007/s13178-021-00594-7

Kann, L., Kinchen, S., Shanklin, S. L., Flint, K. H., Hawkins, J., Harris, W. A., Lowry, R., Olsen, E. O., McManus, T., Chyen, D., Whittle, L., Taylor, E., Demissie, Z., Brener, N., Thornton, J., Moore, J., & Zaza, S. (2014). Youth risk behavior surveillance — United States, 2013.

MMWR. Surveillance Summaries, *63*(4), 1–168.

Kernan, A., & Sullins, J. (2022). The relationship between adolescent risk-taking behaviour and guilt versus shame proneness. *Modern Psychological Studies, 2*8(1). https://scholar.utc.edu/mps/vol28/iss1/12

Knox, D. (2001). College student attitudes toward sexual intimacy. *College Student Journal.*, *35*(2), 241–243. https://ocul-tu.primo.exlibrisgroup.com/permalink/01OCUL_TU/1odk209/cdi_gale_infotracgeneralonefile_A77399631

Korucuoglu, O., Harms, M. P., Kennedy, J. T., Golosheykin, S., Astafiev, S. V., Barch, D. M., & Anokhin, A. P. (2020). Adolescent decision-making under risk: Neural correlates and sex differences. *Cerebral Cortex (New York, N.Y. 1991)*, *30*(4), 2691–2707. https://doi.org/10.1093/cercor/bhz269

Krahé, B., & Fenske, I. (2002). Predicting aggressive driving behavior: The role of macho personality, age, and power of car. *Aggressive Behavior*, *28*(1), 21–29. https://doi.org/10.1002/ab.90003

Kwak, S. K., & Kim, J. H. (2017). Statistical data preparation: Management of missing values and outliers. *Korean Journal of Anesthesiology*, *70*(4), 407–411. https://doi.org/10.4097/kjae.2017.70.4.407

Lam, L.T. (2002). Distractions and the risk of car crash injury: The effect of drivers' age. *Journal of Safety Research*, *33*(3), 411–419. https://doi.org/10.1016/S0022-4375(02)00034-8

Lashbrook, J. T. (2000). Fitting in: Exploring the emotional dimension of adolescent peer pressure. *Adolescence*, *35*(140), 747–757. https://link-gale-com.proxy1.lib.trentu.ca/apps/doc/A70777836/AONE?u=ocul_thomas&sid=bookmark-

AONE&xid=5dc6df8a

Lazarus, G., & Shahar, B. (2018). The role of shame and self-criticism in social anxiety: A daily-diary study in a nonclinical sample. *Journal of Social and Clinical Psychology, 37*(2), 107–127. https://doi.org/10.1521/jscp.2018.37.2.107

Leath, S., Pittman, J. C., Grower, P., & Ward, L. M. (2020). Steeped in shame: An exploration of family sexual socialization among Black college women. *Psychology of Women Quarterly*, *44*(4), 450–467. https://doi.org/10.1177/0361684320948539

Lemarié, L., Chebat, J.-C., & Bellavance, F. (2018). Reckless driving promotion and prevention: Priming effects. *Journal of Social Marketing*, *8*(2), 220–236. https://doi.org/10.1108/JSOCM-02-2017-0012

Lewis, I., Watson, B., White, K. M., & Elliott, B. (2013). The beliefs which influence young males to speed and strategies to slow them down: Informing the content of antispeeding messages. *Psychology & Marketing*, *30*(9), 826–841. https://doi.org/10.1002/mar.20648

Li, J., & Craig, W. M. (2020). Adolescent sexual harassment, shame, and depression: Do experiences of witnessing harassment matter? *The Journal of Early Adolescence*, *40*(5), 712–737. https://doi.org/10.1177/0272431619870610

Limmer, M. (2014). The pressure to perform: Understanding the impact of masculinities and social exclusion on young men's sexual risk taking. *International Journal of Men's Health*, *13*(3), 184-. https://doi.org/10.3149/jmh.1303.184

Lindberg, L.D., Firestein, L., & Beavin, C. (2021). Trends in U.S. adolescent sexual behavior and contraceptive use, 2006-2019. *Contraception: X*, *3*, 100064-.https://doi.org/10.1016/j.conx.2021.100064.

Littleton, H., Breitkopf, C. R., & Berenson, A. (2005). Body image and risky sexual behaviors: An

investigation in a tri-ethnic sample. *Body Image*, *2*(2), 193–198. https://doi.org/10.1016/j.bodyim.2005.02.003

Love, S., Truelove, V., Rowland, B., Kannis-Dymand, L., Ross, D., Sullman, M., & Davey, J. (2023). The antecedents, regulation and maintenance of anger on the road: A qualitative investigation on the factors influencing driver anger and aggression. *Transportation Research. Part F, Traffic Psychology and Behaviour*, *93*, 118–132. https://doi.org/10.1016/j.trf.2023.01.002

Manago, A. M., Ward, L. M., Lemm, K. M., Reed, L., & Seabrook, R. (2015). Facebook involvement, objectified body consciousness, body shame, and sexual assertiveness in college women and men. *Sex Roles*, *72*(1–2), 1–14. https://doi.org/10.1007/s11199-014-0441-1

Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy, 36*(4), 455-470. https://doi.org/10.1016/S0005-7967(97)10031-6

Menard, S. (1995). *Applied logistic regression analysis: Sage University series on quantitative applications in the social sciences*. Sage Publications, Inc.

Miller, K. E., Farrell, M. P., Barnes, G. M., Melnick, M. J., & Sabo, D. (2005). Gender/racial differences in jock identity, dating, and adolescent sexual risk. *Journal of Youth and Adolescence*, *34*(2), 123–136. https://doi.org/10.1007/s10964-005-3211-0

Morris, H., Larsen, J., Catterall, E., Moss, A. C., & Dombrowski, S. U. (2020). Peer pressure and alcohol consumption in adults living in the UK: A systematic qualitative review. *BMC Public Health*, *20*(1), 1–1014. https://doi.org/10.1186/s12889-020-09060-2

Mothers Against Drunk Driving. (2023, July 18). *Statistics and Links.* https://madd.ca/pages/programs/youth-services/statistics-links/

Naidoo, P., & Kasiram, M. (2006). Exploring unplanned pregnancy amongst university students.

Social Work, *42*(3–4), 341–353. https://doi.org/10.15270/42-3-304

National Center for Health Statistics. (2020). *Death rates*. Atlanta: Centers for Disease Control and Prevention.

Nelson, C.A. (2003). Neural developments and lifelong plasticity. In R.M. Lerner, F. Jacobs, & D. Wertlieb (Eds.), *Handbook of applied developmental science* (Vol. 1). Sage Publications, Inc.

Neyens, D. M., & Boyle, L. N. (2007). The effect of distractions on the crash types of teenage drivers. *Accident Analysis and Prevention*, *39*(1), 206–212. https://doi.org/10.1016/j.aap.2006.07.004

O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity, 41*(5), 673-690. doi:10.1007/s11135-006-9018-6

Oren-Yagoda, R., Rosenblum, M. & Aderka, I.M. (2024). Gender differences in shame among individuals with Social Anxiety Disorder. *Cogn Ther Res 48*, 720–729. https://doi-org.proxy1.lib.trentu.ca/10.1007/s10608-023-10461-x

Osman, A., Gutierrez, P. M., Barrios, F. X., Kopper, B. A., & Chiros, C. E. (1998). The Social Phobia and Social Interaction Anxiety Scales: Evaluation of psychometric properties. *Journal of Psychopathology and Behavioral Assessment*, *20*(3), 249-. https://doi.org/10.1023/A:1023067302227

Özkan, T., & Lajunen, T. (2006). What causes the differences in driving between young men and women? The effects of gender roles and sex on young drivers' driving behaviour and self-assessment of skills. *Transportation Research. Part F, Traffic Psychology and Behaviour*, *9*(4), 269–277. https://doi.org/10.1016/j.trf.2006.01.005

Palmqvist, R., & Santavirta, N. (2006). What friends are for: The relationships between body image, substance use, and peer influence among Finnish adolescents. *Journal of Youth and*

Adolescence, *35*(2), 192–206. doi:10.1007/s10964-005-9017-2

Patrick, M. E., Fairlie, A. M., & Lee, C. M. (2018). Motives for simultaneous alcohol and marijuana use among young adults. *Addictive Behaviors*, *76*, 363–369. https://doi.org/10.1016/j.addbeh.2017.08.027

Phillips, K. T., Lalonde, T. L., Phillips, M. M., & Schneider, M. M. (2017). Marijuana use and associated motives in Colorado university students. *The American Journal on Addictions*, *26*(8), 830–837. https://doi.org/10.1111/ajad.12640

Potard, C., Lancelot, C., & Courtois, R. (2019). Examining relationships between sexual risk–safety behaviors and physical self-concept by gender: A cluster analytical approach. *Emerging Adulthood (Thousand Oaks, CA)*, *7*(1), 31–44. https://doi.org/10.1177/2167696817750802

Prinstein, M. J., & Giletta, M. (2016). Peer relations and developmental psychopathology. In D. Cicchetti (Ed.), *Developmental psychopathology: Theory and method* (3rd ed., pp. 527–579). John Wiley & Sons, Inc. https://doi.org/10.1002/9781119125556.devpsy112

Ramseyer Winter, V., Cook, M., Pekarek, E., & Ward, M. (2019). Sex and substances: Does body image play a role? *Journal of Substance Use*, *24*(6), 672–676. https://doi.org/10.1080/14659891.2019.1642411

Rahim, M., & Patton, R. (2015). The association between shame and substance use in young people: A systematic review. *PeerJ (San Francisco, CA)*, *3*, e737–e737. https://doi.org/10.7717/peerj.737

Ravert, R. D., Gomez-Scott, J., Suárez-Orozco, C., & Arnett, J. J. (2015). Why take risks? Four good reasons according to emerging adult college students. *Journal of Adolescent Research*, *30*(5), 565–585. https://doi.org/10.1177/0743558414547099

Reimer, M.S. (1996). “Sinking into the ground”: The development and consequences of shame in

adolescence. *Developmental Review*, *16*(4), 321–363. https://doi.org/10.1006/drev.1996.0015

Reissing, E. D., Laliberte, M., & Davis, J. (2005). Young women's sexual adjustment: The role of sexual self-schema, sexual self-efficacy, sexual aversion and body attitudes. *Canadian Journal of Human Sexuality, 14*, 77-85. https://link-gale-com.proxy1.lib.trentu.ca/apps/doc/A144664515/AONE?u=ocul_thomas&sid=bookmark-AONE&xid=9b79130a

Reynolds, E. K., Schreiber, W. M., Geisel, K., MacPherson, L., Ernst, M., & Lejuez, C. W. (2013). Influence of social stress on risk-taking behavior in adolescents. *Journal of Anxiety Disorders*, *27*(3), 272–277. https://doi.org/10.1016/j.janxdis.2013.02.010

Rhyner, K. J., Uhl, C. A., & Terrance, C. A. (2018). Are teens being unfairly punished? Applying the dual systems model of adolescent risk-taking to sexting among adolescents. *Youth Justice*, *18*(1), 52–66. https://doi.org/10.1177/1473225417741227

Richter, L. M. (2006). Studying adolescence. *Science (American Association for the Advancement of Science)*, *312*(5782), 1902–1905. https://doi.org/10.1126/science.1127489

Ritchie, R. A., Meca, A., Madrazo, V. L., Schwartz, S. J., Hardy, S. A., Zamboanga, B. L., Weisskirch, R. S., Kim, S. Y., Whitbourne, S. K., Ham, L. S., & Lee, R. M. (2013). Identity dimensions and related processes in emerging adulthood: Helpful or harmful? *Journal of Clinical Psychology*, *69*(4), 415–432. https://doi.org/10.1002/jclp.2196

Rittenhour, K., & Sauder, M. (2024). Identifying the impact of sexual scripts on consent negotiations. *The Journal of Sex Research*, *61*(3), 454–465. https://doi.org/10.1080/00224499.2023.2182266

Rosenthal, J. A. (1996). Qualitative descriptors of strength of association and effect size. *Journal of Social Service Research*, *21*(4), 37–59. https://doi.org/10.1300/J079v21n04_02

Sadeh, N., & Baskin-Sommers, A. (2017). Risky, Impulsive, and Self-Destructive Behavior Questionnaire (RISQ): A validation study. *Assessment (Odessa, Fla.)*, *24*(8), 1080–1094. https://doi.org/10.1177/1073191116640356

Saint-Eloi Cadely, H., Hutchinson, M. K., & Sutherland, M. A. (2024). The influence of pre-college behaviors and parenting practices on alcohol misuse, sexual risk-taking, and adverse outcomes among first-year college women. *Journal of American College Health*, *72*(3), 731–742. https://doi.org/10.1080/07448481.2022.2056416

Scheinfeld, E. (2021). Shame and STIs: An exploration of emerging adult students' felt shame and stigma towards getting tested for and disclosing sexually transmitted infections. *International Journal of Environmental Research and Public Health, 18*(13), 7179-. https://doi.org/10.3390/ijerph18137179

Schooler, D., & Ward, L. M. (2006). Average joes: Men's relationships with media, real bodies, and sexuality. *Psychology of Men & Masculinity*, *7*(1), 27–41. https://doi.org/10.1037/1524-9220.7.1.27

Schooler, D., Ward, L. M., Merriwether, A., & Caruthers, A. S. (2005). Cycles of shame: Menstrual shame, body shame, and sexual decision-making. *The Journal of Sex Research*, *42*(4), 324–334. https://doi.org/10.1080/00224490509552288

Scott-Parker, B., Watson, B., King, M. J., & Hyde, M. K. (2012). "They're lunatics on the road": Exploring the normative influences of parents, friends, and police on young novices' risky driving decisions. *Safety Science*, *50*(9), 1917–1928. https://doi.org/10.1016/j.ssci.2012.05.014

Seabrook, R. C., Ward, L. M., Cortina, L. M., Giaccardi, S., & Lippman, J. R. (2017). Girl power or powerless girl? Television, sexual scripts, and sexual agency in sexually active young women.

Psychology of Women Quarterly, *41*(2), 240–253. https://doi.org/10.1177/0361684316677028

Simonds, L. M., John, M., Fife-Schaw, C., Willis, S., Taylor, H., Hand, H., Rahim, M., Winstanley, H., & Winton, H. (2016). Development and validation of the Adolescent Shame-Proneness Scale. *Psychological Assessment*, *28*(5), 549–562. https://doi.org/10.1037/pas0000206

Simons, R. M., Sistad, R. E., Simons, J. S., & Hansen, J. (2018). The role of distress tolerance in the relationship between cognitive schemas and alcohol problems among college students. *Addictive Behaviors*, *78*, 1–8. https://doi.org/10.1016/j.addbeh.2017.10.020

Simons-Morton, B. G., Ouimet, M. C., Chen, R., Klauer, S. G., Lee, S. E., Wang, J., & Dingus, T. A. (2012). Peer influence predicts speeding prevalence among teenage drivers. *Journal of Safety Research*, *43*(5–6), 397–403. https://doi.org/10.1016/j.jsr.2012.10.002

Stuewig, J., & McCloskey, L. (2005). The impact of maltreatment on adolescent shame and guilt: Psychological routes to depression and delinquency. *Child Maltreatment, 10*, 324–336.

Stuewig, J., Tangney, J. P., Kendall, S., Folk, J. B., Meyer, C. R., & Dearing, R. L. (2015). Children's proneness to shame and guilt predict risky and illegal behaviors in young adulthood. *Child Psychiatry and Human Development, 464*, 217-227. https://doi.org/10.1007/s10578-014-0467-1

Substance Abuse and Mental Health Services Administration. (2013). *Results from the 2013 national survey on drug use and health: Summary of national findings*. Retrieved from http://store.samhsa.gov/home

Swan, H., & O'Connell, D. J. (2012). The impact of intimate partner violence on women's condom negotiation efficacy. *Journal of Interpersonal Violence*, *27*(4), 775–792. doi:10.1177/0886260511423240

Tadege, M. (2020). Determinants of fatal car accident risk in Finote Selam town, Northwest Ethiopia.

BMC Public Health, *20*(1), 624–624. https://doi.org/10.1186/s12889-020-08760-z

Tangney, J. P. (1992). Situational determinants of shame and guilt in young adulthood. *Personality and Social Psychology Bulletin, 18*, 199–206.

Tangney, J. P., Stuewig, J., Kendall, S., Reinsmith, C., & Dearing, R. (2006). *Implications of childhood shame and guilt for risky and illegal behaviors in young adulthood.* [Unpublished manuscript]. George Mason University.

Tangney, J. P., Wagner, P., & Gramzow, R. (1989). *The Test of Self-Conscious Affect (TOSCA).* [Unpublished measure]. George Mason University.

Taylor, C. (2022). *How do young people describe, understand and manage experiences of shame?* [Doctoral dissertation, University of East London]. https://doi.org/10.15123/uel.8v5yy

Tefft, B.C., Williams, A.F. & Grabowski, J.G. (2012). *Teen Driver Risk in Relation to Age and Number of Passengers* (Technical Report). Washington, D.C.: AAA Foundation for Traffic Safety.

Telzer, E. H., Dai, J., Capella, J. J., Sobrino, M., & Garrett, S. L. (2022). Challenging stereotypes of teens: Reframing adolescence as window of opportunity. *The American Psychologist*, *77*(9), 1067–1081. https://doi.org/10.1037/amp0001109

Thompson-Memmer, C., Glassman, T., & Diehr, A. (2019). Drunkorexia: A new term and diagnostic criteria. *Journal of American college health : J of ACH*, *67*(7), 620–626. https://doi.org/10.1080/07448481.2018.1500470

Tontodonato, P., & Drinkard, A. (2020). Social learning and distracted driving among young adults. *American Journal of Criminal Justice*, *45*(5), 821–843. https://doi.org/10.1007/s12103-020-09516-6

Tracy, J., Robins, R., & Tangney, J. (2007). *The self-conscious emotions: Theory and research.*

Guilford Press.

Turchik, J.A., & Garske, J. P. (2009). Measurement of sexual risk taking among college students. *Archives of Sexual Behavior*, *38*(6), 936–948. https://doi.org/10.1007/s10508-008-9388-z

Uscola, C. J. (2023). Drinker identity development: Shame, pride, and a thirst to belong. *Society and Mental Health*, *13*(1), 45–60. https://doi.org/10.1177/21568693221141927

Viinikainen, J., Bryson, A., Böckerman, P., Kari, J. T., Lehtimäki, T., Raitakari, O., Viikari, J., & Pehkonen, J. (2022). Does better education mitigate risky health behavior? A mendelian randomization study. *Economics and Human Biology*, *46*, Article 101134. https://doi.org/10.1016/j.ehb.2022.101134

Villarosa-Hurlocker, M. C., Bravo, A. J., Pearson, M. R., Prince, M. A., Madson, M. B., Henson, J. M., Looby, A., Gonzalez, V. M., Henslee, A. M., Cuttler, C., Wong, M. M., & McChargue, D. E. (2019). The relationship between social anxiety and alcohol and marijuana use outcomes among concurrent users: A motivational model of substance use. *Alcoholism, Clinical and Experimental Research*, *43*(4), 732–740. https://doi.org/10.1111/acer.13966

Walsh, Ó., Dettmer, E., Regina, A., Dentakos, S., Christian, J., Hamilton, J., & Toulany, A. (2022). 'Teenagers are into perfect-looking things': Dating, sexual attitudes and experiences of adolescents with severe obesity. *Child : Care, Health & Development*, *48*(3), 406–414. https://doi.org/10.1111/cch.12940

Waling, A., Farrugia, A., & Fraser, S. (2023). Embarrassment, Shame, and Reassurance: Emotion and Young People's Access to Online Sexual Health Information. *Sexuality Research & Social Policy*, *20*(1), 45–57. https://doi.org/10.1007/s13178-021-00668-6

Wamboldt, A., Khan, S., Mellins, C. A., Wall, M. M., Reardon, L., & Hirsch, J. S. (2019). Wine night, "bro-dinners," and jungle juice: Disaggregating practices of undergraduate binge

drinking. *Journal of Drug Issues*, *49*(4), 643–667. https://doi.org/10.1177/0022042619857549

Watters, S. E., & Beck, K. H. (2016). A qualitative study of college students' perceptions of risky driving and social influences. *Traffic Injury Prevention*, *17*(2), 122–127. https://doi.org/10.1080/15389588.2015.1045063

Weatherall, A., & Walton, M. (1999). The metaphorical construction of sexual experience in a speech community of New Zealand university students. *The British Journal of Social Psychology.*, *38*(4), 479–498. https://doi.org/10.1348/014466699164284

Widman, L., Choukas-Bradley, S., Helms, S. W., & Prinstein, M. J. (2016). Adolescent susceptibility to peer influence in sexual situations. *Journal of Adolescent Health*, *58*(3), 323–329. https://doi.org/10.1016/j.jadohealth.2015.10.253

Willemsen, J., Dula, C. S., Declercq, F., & Verhaeghe, P. (2008). The Dula Dangerous Driving Index: An investigation of reliability and validity across cultures. *Accident Analysis and Prevention*, *40*(2), 798–806. https://doi.org/10.1016/j.aap.2007.09.019

Williams, A. F. (2007). Contribution of the components of graduated licensing to crash reductions. *Journal of Safety Research*, *38*(2), 177–184. https://doi.org/10.1016/j.jsr.2007.02.005

Willis, E., Adams, R., & Keene, J. (2019). If everyone is doing it, it must be safe: College students' development of attitudes toward poly-substance use. *Substance Use & Misuse*, *54*(11), 1886–1893. https://doi.org/10.1080/10826084.2019.1618334

Willoughby, T., Heffer, T., Good, M., & Magnacca, C. (2021). Is adolescence a time of heightened risk taking? An overview of types of risk-taking behaviors across age groups. *Developmental Review*, *61*, 100980-. https://doi.org/10.1016/j.dr.2021.100980

Wingood, G. M., DiClemente, R. J., Harrington, K., & Davies, S. L. (2002). Body image and African American females' sexual health. *Journal of women's health & gender-based medicine*, *11*(5),

433–439. https://doi.org/10.1089/15246090260137608

Winkeljohn Black, S., Pössel, P., & Dietz, A. (2016). Understanding student drinking patterns: Does shame proneness matter? *Journal of Drug Education*, *46*(3–4), 82–95. https://doi.org/10.1177/0047237917728357

White, V., Azar, D., Faulkner, A., Coomber, K., Durkin, S., Livingston, M., Chikritzhs, T., Room, R., & Wakefield, M. (2018). Adolescents' alcohol use and strength of policy relating to youth access, trading hours and driving under the influence: Findings from Australia. *Addiction (Abingdon, England)*, *113*(6), 1030–1042. https://doi.org/10.1111/add.14164

Wolfe, D.A., Jaffe, P. G., & Crooks, C. V. (2006). *Adolescent risk behaviors : Why teens experiment and strategies to keep them safe*. Yale University Press.

World Health Organization, (2023, December 13). *Road traffic injuries.* https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries

Appendix A

Prescreening Form

Study Title: No Risk, No Reward: Does Shame Impact Youth Risk-taking Behaviours and its Outcomes?

Thank you for your interest in our study!

Adolescence is a critical period for developing behaviours relevant to one's health. Risk- taking for instance (e.g., substance use, dangerous driving) rises during adolescence and can result in a variety of both adaptive consequences (e.g., social acceptance) and maladaptive consequences (e.g., alcohol poisoning, premature death). Adolescents also experience an increase in self-conscious emotions, including shame. Shame involves a painful focus on the self and is characterized by feelings of shrinking, worthlessness, and exposure. Shame-prone adolescents may engage in risk-taking to cope with negative self-perceptions. Some conceptualizations of shame dictate that people can experience several types of shame, including body (e.g., shame about physical appearance), character (e.g., shame of personal habits), and behavioural (e.g., shame about doing something wrong). The purpose of this study is to better understand how different types of shame are related to risk-taking behaviours and their subsequent outcomes. In doing so, this study may contribute to the development of intervention and prevention programs for the adolescents who need them the most.

If you choose to participate in this study, you will be asked to complete a series of online questionnaires that will require approximately 30 minutes of your time. The questions will provide us with information regarding basic background, risk-taking behaviours (e.g., the frequency of behaviours, outcomes of behaviours), feelings of shame, depression, anxiety, and social anxiety, as well as general coping strategies.

1. If you are interested in participating, please click "continue" below. Otherwise, you may select "No thanks".

Continue No thanks

Note: If participants select "Continue" they will be directed to question 2 below. If they select "No thanks" the session will end.

2. Are you currently a student at Trent University (in any program and any year) between the ages of 17 and 25?

Yes No

Note: If participants select "Yes" they will be directed to the link below. If they select "No" they will be thanked for their interest and told that they do not quality.

You qualify for the study, please click on the link below to get started:

[enter Qualtrics link here]

Appendix B

Participant Consent Form

Study Title: No Risk, No Reward: Does Shame Impact Youth Risk-taking Behaviours and its Outcomes?
Principal Investigator: Jennifer Eastabrook, PhD (jennifereastabrook@trentu.ca)
Affiliation: Trent University
Student Investigator: Taylor Anthony (tayloranthony@trentu.ca)
Affiliation: Trent University
Trent University Research Ethics Coordinator: Anna Kisiala (annakisiala@trentu.ca)

Introduction:
You are invited to participate in a research study called "No Risk, No Reward: Does Shame Impact Youth Risk-taking Behaviours and its Outcomes?". Before you decide to participate, it is important that you understand the purpose of the study and what your participation involves.

Reason for Study:
The purpose of this study is to better understand how different types of shame are related to risk-taking behaviours and their subsequent outcomes. In doing so, this study may contribute to the development of intervention and prevention programs for the adolescents who need them the most.
Adolescence is a critical period for developing behaviours relevant to one's health. Risk- taking for instance (e.g., substance use, dangerous driving) rises during adolescence and can result in a variety of both adaptive consequences (e.g., social acceptance) and maladaptive consequences (e.g., alcohol poisoning, premature death). Adolescents also experience an increase in self-conscious emotions, including shame. Shame involves a painful focus on the self and is characterized by feelings of shrinking, worthlessness, and exposure. Shame-prone adolescents may engage in risk-taking to cope with negative self-perceptions. Some conceptualizations of shame dictate that people can experience several types of shame, including body (e.g., shame about physical appearance), character (e.g., shame of personal habits), and behavioural (e.g., shame about doing something wrong).

What's Involved:
If you choose to participate in this study, you will be asked to complete a series of online questionnaires that will require approximately 30 minutes of your time. The questions will provide us with information regarding basic background, risk-taking behaviours (e.g., the frequency of behaviours, outcomes of behaviours), feelings of shame, depression, anxiety, and social anxiety, as well as general coping strategies.

Confidentiality:
No one other than the research team will have direct access to the information you provide. Confidentiality is very important to us; due to the nature of this research, we understand that some of the information provided may be particularly private or sensitive. We will ensure that your privacy is protected and the information you provide cannot be traced back to you. In order

to do so, all participants will be identified by a number instead of a name and all data will be stored on a password protected computer in a locked office. Results will be reported in group format only. The information you provide may be included in scientific research journals, scientific conferences, public talks, teaching opportunities, community engagement and reports, but not in any way that identifies you.

Statement of Disclosure:
I (the participant) understand that the information I provide is confidential and will never be revealed to anyone outside the research team in a way that can identify me. Please click the appropriate box below:

YES NO

Voluntary Participation and Withdrawal:
Participation in this study is completely voluntary, which means that it is your choice to participate. At any time, you can stop completing the questionnaire by closing the browser or navigating away from the page and your data will be erased without explanation and without consequence. If you wish to withdraw after you complete the study you can email Dr. Jennifer Eastabrook at jennifereastabrook@trentu.ca with your SONA unique ID number and your data will be removed from the study. Your decision will not affect your relationship with Trent University and you will not face any penalty.

Potential Risks and Benefits:
Your participation may contribute to a deeper understanding of risk-taking behavours and shame. Your involvement may help improve interventions and support mechanisms for individuals who experience shame and engage in risk-taking as a result. If you are enrolled in a course where you can receive SONA bonus credits you will receive a 0.5 bonus credit for your participation. Those who are not eligible to receive a SONA bonus credit will be entered into a draw for a chance to win one of two $50 Amazon gift cards.
You may feel uncomfortable answering questions about your feelings and behaviours; however, you can choose to skip a question or withdraw from the study at any time. If you experience any distress, please seek support.
Here are some resources that you may be interested in:
Trent Counselling Services - Contact: (705) 748-1386; email: counselling@trentu.ca
Trent Durham Counselling website: https://www.trentu.ca/durham/student-life/student-support-services/counselling-services
Good2Talk - Provides confidential support services for post-secondary students in Ontario. Contact: 1-866-925-5454 or Text: GOOD2TALKON to 686868
Durham Mental Health Services - available 24/7-365 days/year at 905-666-0483 (local) / 1 800-742-1890 (toll-free)

Questions and Concerns:
If you have any questions about the study or your participation, please feel free to contact the Principal Investigator, Dr. Jennifer Eastabrook at jennifereastabrook@trentu.ca. If you have any concerns about your rights as a research participant, you may contact Anna Kisiala (annakisiala@trentu.ca) for assistance.

Research Ethics Approval
I understand that this project has been approved by the Trent University Research Ethics Board (REB #29347). Please click the appropriate box below:
YES NO

Confirmation of Receipt of Consent Form
I understand that I can save these pages for my records by printing the screen. Please click the appropriate box below:
YES NO

Participant Consent
By clicking on "I CONSENT" I acknowledge that I am voluntarily providing my consent, that I understand the information presented in the consent form, and that I have chosen to participate in this study. By giving consent, I do not waive any legal right or recourse. Please click the appropriate box below:
I CONSENT I do NOT consent

Please select one of the following:
- I am a student enrolled in a course with SONA bonus credits and am completing this study for .5 research credits
- I am not enrolled in a course that offers SONA bonus credit and am volunteering to complete this questionnaire, with the possibility to enter into a random draw to win one of two $50 Amazon gift cards

[Note: if a participant selects the first option (SONA participation), they will be sent directly to the questionnaire. If they select the second option, they will be directed to the information below to ask whether they would like to be entered into the draw).

If you would like to be entered into a random draw to win one of two $50 Amazon gift cards, please provide us with an email address so that we can contact you:
Email: _____
If you want to retain a copy of this consent, please feel free to save these pages for your records.
Thank you!

Appendix C

Demographic Questionnaire

Instructions: Please complete the following questions as they pertain to yourself.

1. What is your gender identity?
    a) Women
    b) Man
    c) Non-binary
    d) A gender identity not listed here: (please specify)
    e) Prefer not to say

2. What is your age?

3. How do you describe your racial identity?
    a) African/Black (including African-American, African-Canadian, Caribbean)
    b) East Asian (e.g., Chinese, Taiwanese, Japanese, Korean, etc.)
    c) European/White
    d) Indo-Caribbean, Indo-African, Indo-Fijian, West-Indian
    e) Latin, South or Central American
    f) Polynesian (e.g., Samoans, Tongan, Niuean, Cook Island Maori, Tahitian Maaohi, Hawaiian Ma'oli, Marquesan, New Zealand Maori)
    g) South Asian (e.g., Afghan, Nepali, Tamil, Bangladeshi, Pakistani, Indian, Sri Lankan, Punjabi)
    h) Southeast Asian (e.g., Vietnamese, Thai, Cambodian, Malaysian, Filipino/a, Laotian, Signaporean, Indonesian)
    i) West Asian (e.g., Iraqi, Jordanian, Palestinian, Saudi, Syrian, Yemeni, Armenian, Iranian, Israeli, Turkish)
    j) Indigenous within Canada (e.g., First Nation, Métis, Inuit)
    k) Prefer to self-identify: _____
    l) Prefer not to answer

4. Please select your year of study:
    a. First year
    b. Second year
    c. Third year
    d. Fourth year
    e. Other: _____

Appendix D

Risky, Impulsive, Destructive Behaviour Questionnaire

For each behavior, fill-in how many times you did it in your lifetime (A) & the total number of times you did it the past month (B). Enter one number for each time period, even if it is your best guess. Please do not put a range, but enter a single number (e.g., behaviors engaged in everyday for multiple years can be written in as 1000+, behaviors engaged in daily for a single year can be written in as 365, any other frequency should be estimated using your best guess). If you have ever done the behavior, write how old you were the first time (C) and check the box if the behavior ever caused you any problems, regardless of the specific problem (D). For the last two columns (E & F) rate how much you agree with each statement from 0 = Strongly Disagree to 4 = Strongly Agree. Please provide ratings for both statements (E & F), and treat them as separate questions.

Behaviour	(A) How many times total have you done this in your life?	(B) How many times have you done this in the past month?	(C) How old were you the first time?	(D) Did it ever cause you any problems, such as • going to the hospital • legal trouble • problems at work, with family or friends	(E) I do this behavior to stop feeling upset, distressed, or overwhelmed	(F) I do this behavior to feel excitement, to get a thrill, or to feel pleasure
Shoplifted things						
Drove 30mph or faster over the speed limit						
Bet on sports, horses, or other animals						
Used cocaine or crack						
Bought drugs						
Impulsively bought stuff you did not need & won't use						
Had unprotected sex with someone you						

just met or didn't know well						
Gotten in a physical fight						
Had sex for money or drugs						
Thought about killing yourself						
Drank alcohol until you blacked or passed out						
Used hallucinogens, LSD, mushrooms						
Gone to work intoxicated or high						
Attacked someone with a weapon, such as a knife or gun						
Punched or hit someone with a fist or object						
Cut, burned, or hurt yourself on purpose without trying to die						
Lost more money than you could afford gambling						
Threatened to physically hurt someone						
Threatened someone with a weapon, such as a knife or gun						

Used heroin						
Destroyed or vandalized property						
Drank 5 or more alcoholic drinks in 3 hours or less						
Paid for sex						
Sold drugs						
Robbed someone						
Tried to kill yourself						
Used marijuana						
Had difficulty stopping eating						
Been in 2 or more sexual relationships at the same time						
Bought expensive items you could not afford on the spur of the moment						
Abused multiple drugs at once						
Played lotteries, card games for money, or went to the casino						
Gambled illegally (not part of a legal business, using a bookie)						
Abused prescription medication						

Ate a lot of food when not hungry						
Had a plan to kill yourself						
Ran red lights or ignored stop signs						
Stole money						

Appendix E

Dula Dangerous Driving Index

Subscale items are denoted as follows: AD = aggressive driving; NE =negative emotions while driving; RD = risky driving; 0 = item omitted from subscales. Please answer each of the following items as *honestly* as possible. Please read each item carefully and then fill in the bubble/circle of the answer you choose on the form. If none of the choices seem to be your ideal answer, then select the answer that comes *closest.* THERE ARE NO RIGHT OR WRONG ANSWERS. Select your answers quickly and do not spend too much time analyzing your answers. You may change any answer(s) at any time before completing this form. If you do change an answer, please erase the previous mark(s) entirely.

1. I drive when I am angry or upset. (NE)
2. I lose my temper when driving. (NE)
3. I consider the actions of other drivers to be inappropriate or "stupid." (NE)
4. I flash my headlights when I am annoyed by another driver. (AD)
5. I make rude gestures (e.g., giving "the finger," yelling curse words) toward drivers who annoy me. (AD)
6. I verbally insult drivers who annoy me. (AD)
7. I deliberately use my car/truck to block drivers who tailgate me. (AD)
8. If another driver *seriously* threatens my safety, I would defend myself. (O)
9. I would tailgate a driver who annoys me. (AD)
10. I "drag race" other drivers at stop lights to get out front. (RD)
11. I will illegally pass a car/truck that is going *too* slowly. (RD)
12. I feel it is my right to strike back in some way, if I feel another driver has been aggressive toward me. (AD)
13. When I get stuck in a traffic jam, I get *very* irritated. (NE)
14. I will race a slow moving train to a railroad crossing. (RD)
15. I will weave in and out of slower traffic. (RD)
16. I will drive if I am only *mildly* intoxicated or buzzed. (RD)
17. When someone cuts me off, I feel I should punish him/her. (AD)
18. I get impatient and/or upset when I fall behind schedule when I am driving (NE)
19. Passengers in my car/truck tell me to calm down. (NE)
20. I get irritated when a car/truck in front of me slows down for no reason. (NE)
21. I will cross double yellow lines to see if I can pass a slow moving car/truck. (RD)
22. I feel it is my right to get where I need to go as quickly as possible. (RD)
23. I am an aggressive driver. (O)
24. I feel that passive drivers should learn how to drive or stay home. WE)
25. I keep some type of weapon in my car/truck. (O)
26. I will drive in the shoulder lane or median to get around a traffic jam. (RD)
27. When passing a car/truck on a 2-lane road, I will barely miss on-coming cars. (RD)
28. I will drive when I am drunk. (RD)
29. I feel that I may lose my temper if I have to confront another driver. (NE)
30. I consider myself to be a risk-taker. (RD)
31. I feel that most traffic "laws" could be considered as suggestions. (RD)

Appendix F

Experience of Shame Scale

Everybody at times can feel embarrassed, self-conscious or ashamed. These questions are about such feelings if they have occurred **at any time in the past year**. There are no 'right' or 'wrong' answers. Please indicate the response which applies to you with a tick.

(1) Not at all (2) A little (3) Moderately (4) Very much

1. Have you felt ashamed of any of your personal habits?
2. Have you worried about what other people think of any of your personal habits?
3. Have you tried to cover up or conceal any of your personal habits?
4. Have you felt ashamed of your manner with others?
5. Have you worried about what other people think of your manner with others?
6. Have you avoided people because of your manner?
7. Have you felt ashamed of the sort of person you are?
8. Have you worried about what other people think of the sort of person you are?
9. Have you tried to conceal from others the sort of person you are?
10. Have you felt ashamed of your ability to do things?
11. Have you worried about what other people think of your ability to do things?
12. Have you avoided people because of your inability to do things?
13. Do you feel ashamed when you do something wrong?
14. Have you worried about what other people think of you when you do something wrong?
15. Have you tried to cover up or conceal things you felt ashamed of having done?
16. Have you felt ashamed when you said

something stupid?
17. Have you worried about what other people think of you when you said something stupid?
18. Have you avoided contact with anyone who knew you said something stupid?
19. Have you felt ashamed when you failed in a competitive situation?
20. Have you worried about what other people think of you when you failed in a competitive situation?
21. Have you avoided people who have seen you fail?
22. Have you felt ashamed of your body or any part of it?
23. Have you worried about what other people think of your appearance?
24. Have you avoided looking at yourself in the mirror?
25. Have you wanted to hide or conceal your body or any part of it?

Appendix G

Beck Depression Inventory

Instructions: This questionnaire consists of 20 groups of statements. Please read each group of statements carefully and then pick out the one statement in each group that best describes the way you have been feeling during **the past two weeks, including today.** Check the statement you have picked. If several statements in the group seem to apply equally well, check the highest number for that group.

1. Sadness
    0 I do not feel sad.
    1 I feel sad
    2 I am sad all the time and I can't snap out of it.
    3 I am so sad and unhappy that I can't stand it.
2. Pessimism
    0 I am not particularly discouraged about the future.
    1 I feel discouraged about the future.
    2 I feel I have nothing to look forward to.
    3 I feel the future is hopeless and that things cannot improve.
3.Past Failure
    0 I do not feel like a failure.
    1 I feel I have failed more than the average person.
    2 As I look back on my life, all I can see is a lot of failures.
    3 I feel I am a complete failure as a person.
4. Loss of Pleasure
    0 I get as much satisfaction out of things as I used to.
    1 I don't enjoy things the way I used to.
    2 I don't get real satisfaction out of anything anymore.
    3 I am dissatisfied or bored with everything.
5.Guilty Feelings
    0 I don't feel particularly guilty
    1 I feel guilty a good part of the time.
    2 I feel quite guilty most of the time.
    3 I feel guilty all of the time.
6.Punishment Feelings
    0 I don't feel I am being punished.
    1 I feel I may be punished.
    2 I expect to be punished.
    3 I feel I am being punished.
7.Dissapointment
    0 I don't feel disappointed in myself.
    1 I am disappointed in myself.
    2 I am disgusted with myself.
    3 I hate myself.
8.Self-Criticalness

0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9.Self-Harm
0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10.Crying
0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

11.Irritability
0 I am no more irritated by things than I ever was.
1 I am slightly more irritated now than usual.
2 I am quite annoyed or irritated a good deal of the time.
3 I feel irritated all the time.

12.Loss of Interest
0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

13.Indecisiveness
0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions more than I used to.
3 I can't make decisions at all anymore.

14.Physical Appearence
0 I don't feel that I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel there are permanent changes in my appearance that make me look unattractive
3 I believe that I look ugly.

15.Concentration Difficulty
0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

16.Changes in Sleep Pattern
0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17.Tiredness or Fatigue

0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

18.Changes in Appetite
0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

19.Weight Changes
0 I haven't lost much weight, if any, lately.
1 I have lost more than five pounds.
2 I have lost more than ten pounds.
3 I have lost more than fifteen pounds.

20.Health Concerns
0 I am no more worried about my health than usual.
1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think of anything else.

21.Loss of Interest in Sex
0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I have almost no interest in sex.
3 I have lost interest in sex completely.

Appendix H

Social Interaction Anxiety Scale

Instructions: For each item, please circle the number to indicate the degree to which you feel the statement is characteristic or true for you. The rating scale is as follows:

0 = **Not at all** characteristic or true of me.
1 = **Slightly** characteristic or true of me.
2 = **Moderately** characteristic or true of me.
3 = **Very** characteristic or true of me.
4 = **Extremely** characteristic or true of me.

1. I get nervous if I have to speak with someone in authority (teacher, boss, etc.).
2. I have difficulty making eye contact with others.
3. I become tense if I have to talk about myself or my feelings.
4. I find it difficult to mix comfortably with the people I work with.
5. I find it easy to make friends my own age.
6. I tense up if I meet an acquaintance in the street.
7. When mixing socially, I am uncomfortable.
8. I feel tense if I am alone with just one other person.
9. I am at ease meeting people at parties, etc.
10. I have difficulty talking with other people.
11. I find it easy to think of things to talk about.
12. I worry about expressing myself in case I appear awkward.
13. I find it difficult to disagree with another's point of view.
14. I have difficulty talking to attractive persons of the opposite sex.
15. I find myself worrying that I won't know what to say in social situations.
16. I am nervous mixing with people I don't know well.
17. I feel I'll say something embarrassing when talking.
18. When mixing in a group, I find myself worrying I will be ignored.
19. I am tense mixing in a group.
20. I am unsure whether to greet someone I know only slightly.