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### **GIVING IN TO GROUP PRESSURE: THE IMPACT OF SOCIALIZATION AND RISK ON PERCEIVED OUTCOMES**

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#### **ABSTRACT**

*The current study applies the perspective of decision theory to understanding how choices are made in an in-group setting involving social pressure and risk. Two hundred sixty-one undergraduate students provided assessments of consequences associated with illegally consuming alcohol in different environments with differing degrees of risk. In addition, size of the social group was varied as three, four, or nine. In order to determine the moderating effects, if any, of susceptibility to social influence, a measure of socialization was included. Results provide strong support for socialization as an explanation for how individuals interpret risk-related social situations.*

## INTRODUCTION

Historically, research in the area of judgment and decision making has focused on an individual's ability to select from among choices or to evaluate expected outcomes in determining choices. Early theoretical explanations applied mathematical models to explaining how individuals select between choices that differ in consequence (Fishburn, 1970). Later theories described and explained individuals' *actual* decision making processes (Kahneman & Tversky, 1984). Thus, the distinction between normative and descriptive decision theories was established (Edwards, 1961; Hansson, 2005). An underlying assumption of decision theory is an individual's ability to form rational decisions when making choices. Decisions are portrayed as part of a process based on using the maximum amount of available information when considering all possible outcomes, and carefully weighing the costs and benefits of each possible outcome. Each stage of this process assumes an optimal amount of sound reasoning ability.

Decision processes, however, become inherently more complicated when risk is involved. Choices associated with risk carry a greater chance of loss compared to choices made with little or no-risk, especially when knowledge of outcomes or risk is uncertain. In a series of three studies, See (2009) found that when participants were unsure of the consequences of proposed policy issues, they relied on heuristics when forming judgments. Knowledgeable participants however, relied on assessments of the issue and personal relevance when determining policy support. Without accurate information regarding risk, individuals can unknowingly place themselves in dangerous and/or unhealthy situations. For example, Floyd, et al (2007) found that information combined with motivational intervention counseling sessions resulted in reduced risk of alcohol-exposed pregnancies compared to information alone. However, even when individuals have the benefit of knowing the possible costs, they still appear overly optimistic about the potential consequences of their actions. Goldberg and Fischhoff's (2000) analysis of the response patterns of adolescent alcohol consumers revealed greater alcohol use among participants who perceived an immediate positive outcome associated with drinking compared to those who did not. Jaccard, Dodge, & Guilamo-Ramos (2005) found that as perceived knowledge of how to avoid the negative consequences of a risk behavior increased, the likelihood of experiencing the consequences also increased. Interestingly, this result implies that risk perception may actually place an individual at risk for participating certain behaviors. In-group perceptions have also played a significant role when evaluating risk-related behavior. Beyth-Marom, et al (1993), found that social reactions of peers was listed more frequently as a consequence of *not* participating in a behavior, indicating the importance of social standing when weighing the costs and benefits of participating in risk-related behavior.

### Social Pressure

An individual's ability to competently assess consequences can be compromised in the presence of social pressure. This can be particularly relevant in a college environment, offering numerous opportunities for social interactions. For example, Johnson and Sheets (2004) found college students' motives for participating in drinking games related to the social aspects involved; e.g., competition and fun. In the same study, motives for participating also predicted outcomes; namely, individuals who reported playing for conformity reasons also reported drinking less than their nonconforming counterparts. This finding suggests the compelling effects of context on

perceptions of consequences. Other researchers have found a decrease in drinking behavior among socially anxious students avoiding social situations (Eggleston et al, 2004; Park, 2004). Thus, social pressure appears to moderate the relation between individual norms and expected outcomes.

Decisions made on the basis of social influence have also been found to be less accurate, garner less support, and require a longer decision-making period compared to decisions made on the basis of information (Deutsch & Gerard, 1955; Prentice & Miller, 1993). In addition, social approval or negative sanctions, such as social isolation or alienation, appears to overwhelm an individual's capacity to determine risk, negatively affecting their decision-making ability (Price, Nir, & Cappella, 2006; Henningsen, Henningsen, & Cruz, 2003). This is because aspects of the social situation have the potential to compromise an individual's norms and values. Evidence also suggests that social influence continues to affect individuals, even after the group is removed. In two separate studies, Adarves-Yorno, et al. (2006) found strong effects for identity salience in the context of norms. In the first study, identity salience and the substance of in-group norms were manipulated. Results indicated that when social identity was salient, individuals' perceptions of creativity were integrated with in-group norms: i.e., ideas were viewed as more creative if they were comparable with group norms. However, when personal identity was salient, individuals' assessments of their creativity were incongruent with the norm. Importantly, awareness of social expectations has clear implications for the manner in which norms influence members of a group.

One goal of the current study, therefore, was to examine an individuals' ability to evaluate the desirability and assess the likelihood of consequences of risk-related decisions formed in a social context. Essential to the research hypothesis was the participant's assumption of drinking illegally. Social pressure to attend an alcohol-related event was included in all experimental conditions. Risk varied as a function of the social context of the event (dorm room v. local bar) and the consequences associated within each context (university sanction v. legal action). We were specifically interested in whether knowledge of risk and associated consequences would compromise an individual's ability to adequately assess outcomes.

### **Group Size**

A second goal of our study was to examine perceptions of consequences as a function of the size of the influencing group. Asch (1955) and others (see Gerard, Wilhelmy, & Conolley, 1968) have found that larger groups have an increased ability to cause people to conform or comply with group attitudes compared to their smaller counterparts. This early research indicated that social pressure tapered off once the group majority reached between four and six members. After this point, influence levels remained constant, making it increasingly more difficult to distinguish group effects. However, recent research has failed to confirm these findings. Bond and Smith (1996) reported that conformity tended to increase with group size up to approximately eight members of the group. In addition, results of a meta-analysis of 125 studies on conformity similar to Asch, question the one-dimensional findings of earlier studies on the relation between group size and conformity (Bond, 2005). Instead, the results suggest the effects of social influence in this model are largely driven by moderator variables; i.e., features of the particular task and setting. For example, Laughlin, et al (2006), found groups of three performed

significantly better on a letters-to-numbers problem-solving task, compared to groups of two, but not compared to groups of four or five. In the present study, influencing group size was manipulated as three, four, and nine. We elected to examine this distribution of group size based on research findings. We expected perceptions of social pressure to increase as size of the group increased, thus compromising an individual's ability to adequately assess consequences.

### **Risk Attitude**

Originally, researchers conceptualized risk taking as a stable character trait, developing measures for assessment and relating individual differences in risk taking to other psychological characteristics such as problem solving ability and creativity (Bruner & Tajfel, 1961; McClelland, 1958). It was also believed that individuals could be homogeneously assembled by their risk-taking tendencies into risk-taking or risk-averse style groups. However, Slovic (1964) identified problems with defining and assessing risk taking behavior as a stable personality characteristic; e.g., grouped individuals were not always in adherence to risk-taking or risk-averse confines. Additionally, the lack of agreement among researchers in defining the construct of risk-taking implied that this characteristic might be influenced by the context in which the behavior occurred. In other words, individual differences in risk attitudes could be due in large part, to differing perceptions of risk in different domains (Harris and Jenkins, 2006). Research has found support for this notion in many different contexts. For example, MacCrimmon and Wehrung (1990) found varying degrees of risk taking and perceptions of risk in financial, personal, and business decisions. Subsequently, decision domains were sorted into smaller categories that differed in concerns associated with different domains, such as health/safety, social, and ethical decisions (Weber, Aimes, & Blais, 2005). Based on these findings, researchers developed the Domain Specific Risk-Taking Scale (DOSPERT), which measures both risk attitudes and perceived risk attitudes (Weber, Blais, & Betz, 2002). In DOSPERT, participants respond to the degree of risk and the likelihood of participating in forty behaviors (e.g., driving a car without a seatbelt, telling a friend's secret). Scores on the risk-perception aspect of the scale gauge an internal measurement of how risky each behavior is to a particular individual. Scores on the risk-taking portion of the scale indicate the level of behavioral disposition to risky activities. The five subscales are recreation, health/safety, social, ethical, and finance. Participants with high risk-taking and/or low risk-perception scales on specific domains have an increased probability of making riskier decisions in that particular domain. The model suggests that it is the context, not the trait, which determines the propensity of risk-taking behavior. In the current study, we tested the ability of the abbreviated version of the DOSPERT scale (Blais & Weber, 2006) to predict participants' perceptions of expected outcomes.

### **Socialization**

Personality type, susceptibility to peer influence, and other dispositional characteristics have each been linked to an individual's vulnerability to social pressure (La France & Boster, 2001; Yarnold, Grimm, & Mueser, 1986). Yarnold, et al. (1986) demonstrated that individuals with Type A personalities; i.e., people who tend to be impatient, competitive, and aggressive, are much less likely to conform to group pressures compared to other personality types. In a study conducted by Lewis, et al (2008), social anxiety and negative consequences were mediated by

copied and conformity motives. Undergraduate students with social anxiety reported drinking less in order to cope with negative affect. Burke and Stephens (1997) found a positive correlation between dispositional social anxiety and a mere presence effect of alcohol expectancy. Results demonstrated that as social anxiety increased for heavy drinkers, so did their expectation that drinking would result in social facilitation.

Socialization, defined as an individual's willingness to conform through a dependence on social cues, also affects susceptibility to social influence (Garrido, Masip, & Herrero, 2004). In essence, socialization occurs when the behavior and attitudes of a social group alters the beliefs and actions of an individual. Specifically, socialization occurs as result of overt reactions of group members or through subtle, indirect pressure that is derived from group norms, expectations, social acceptance, and status (Simons-Morton, 2007). Under these circumstances, atypical individual behavior can become the norm, leading to distorted perceptions of risk (Capone, Wood, Borsari, & Laird, 2007).

As a final goal of our study, we were interested in whether sensitivity to social cues would moderate the relation between risk and perceived outcomes. We expect high socialization participants to be sensitive to social cues, thereby affecting this group's ability to accurately perceive consequences. Conversely, low socialization participants will be more cognizant of the consequences associated with participation in risky behavior, leading to more accurate perceptions of consequences.

### ***Purpose of the Current Research***

In the present study we examine undergraduate students' perceptions of outcomes in a risk-related scenario involving illegally consuming alcohol. Our dependent measures were tested as a function of levels of risk (low v. high) channeled through associated consequences in the social context of dorm room v. local bar and related sanctions. Other independent variables included group size (3 v. 4 v. 9), and susceptibility to social cues (low v. high socialization). We expect individuals' ability to competently assess outcomes; i.e., willingness to engage in risky behavior, and perceptions of the likelihood of consequences, will be a function of risk, socialization and group size. Perceptions of consequences will increase with increased risk. Higher levels of socialization will be associated with decreased perceptions of consequences. In addition, based on the research addressing norms and conformity, we expect perceptions of consequences to be distorted in larger groups where increased perceptions of (unanimous) social pressure will be greatest. Finally, we examined the predictive ability of the DOSPERT risk-taking and risk-perception subscales on individuals' assessments of the events.

## **METHOD**

### **Participants**

The sample consisted of 261 undergraduate students (54% female, 46% male) from a university in New England, who participated to fulfill a course requirement or for extra credit. Participants were predominantly Caucasian (95%) and ranged in age from 18-24. Although 56% percent of the study's participants were under the age of 21, no significant differences were found between

those below and above the legal drinking age, on responses to our primary dependent measures ( $p$  values ranged from .18 to .96). As a result, analyses were conducted on the entire sample ( $N = 261$ ). Participants were randomly assigned to one of six experimental conditions. All participants identified themselves as current drinkers.

## **Materials**

Materials consisted of the following: Vignette, Socialization Scale, the Domain Specific Risk-Taking Scale (DOSPERT), four items assessing expected outcomes, and four demographic items describing participants in terms of ethnicity, gender, age, and year in school.

### ***Vignette***

Participants were administered one of six 150-word vignettes. All scenarios involved a hypothetical situation in which participants envisioned themselves and all members of their social group under the age of 21 and offered an invitation to [illegally] attend an alcohol-related event by a friend (pizza and a movie). Vignettes varied by size of the group attending (3, 4, or 9) and risk. Statement of risk and associated consequences was varied within each social context and each statement assumed a particular set of consequences if caught (university sanction v. legal action). Risk for drinking event taking place in the dorm read as follows: "Recently, resident life has been strict about underage drinking in the dorms and if caught you will be fined, required to take an alcohol awareness class, your parents will be notified and the incident will be on your school record." Statement of risk for drinking event taking place in the local bar: "Recently, local police have been strict about underage drinking in local establishments and if caught current Rhode Island law states that you will be required to complete 200 hours of community service, you will be fined, and your driver's license will be suspended." Statement of social pressure remained constant across all experimental conditions. See Appendix A for vignettes.

Immediately following the vignette, participants were asked to respond to four statements measuring: willingness to attend the event, and perceptions of likelihood of expected consequences for attending the event for themselves as well as other members of their social group. Each statement was measured on a 6-point Likert-type scale from 1 (*Not at all willing/likely*) to 6 (*Completely willing/likely*). Our primary dependent measures were counterbalanced with the ten-item socialization scale in order to minimize the probability of response sets. No significant differences were found as a function of treatment order.

### ***Socialization Scale***

Participants responded to ten items developed by the researchers, designed to measure an individual's willingness to conform through a dependence on social cues. The items were recorded on a 6-point Likert-type scale from 1 (*Strongly disagree*) to 6 (*Strongly agree*). Five items measured reliance on social cues as an individual difference factor and five items measured reliance on social cues as a function of the context portrayed in the vignette. See Appendix B for the complete Socialization Scale (SS).

### ***Domain Specific Risk-Taking Scale (DOSPERT)***

In order to gauge the effects of risk attitudes, participants completed all five subscales of the shortened version of the DOSPERT scale: Health/Safety, Social, Ethical, Financial, and Recreational. The full DOSPERT scale has been validated, possesses sufficient internal consistency, construct reliability, and moderate test-retest reliability. Internal reliability scores ranged from .70 to .84 on the risk taking scale and from .70 to .81 for risk perception (Blais & Weber, 2006; Weber, et al., 2002). Recent research has demonstrated that the shortened version of this scale remains stable in terms of its psychometric properties. It is also twenty-five percent shorter and applicable across a range of ages, cultures, and educational levels (Blais & Weber, 2006). See Appendix C for DOSPERT.

### **DESIGN AND PROCEDURE**

The design represented a 2 (Risk: Low v. High)  $\times$  3 (Group Size: 3 vs. 4 vs. 9)  $\times$  2 (Socialization: Low vs. High) between-subjects factorial design. After signing the informed consent, participants were administered stimulus materials and all dependent measures. The entire study took approximately twenty minutes. After completion, participants were thanked and debriefed.

### **RESULTS**

#### **Pilot Study**

Results of a pilot study ( $N = 50$ ) revealed participants' ability to distinguish between the levels of risk presented in vignettes:  $t(48) = 2.48, p = .014$ .

#### **Scale Validity**

Cronbach's alpha was used to obtain reliability coefficients for each of three scales administered in our study. Results indicated alpha of .81 for the SS, .83 for the Risk-taking subscale, and .86 for the Risk-perception subscale. Inter-item correlations for the SS ranged from .14 to .73,  $p < .05$ . For ANOVA analysis, scores on the SS were divided into low and high socialization groups. Based on responses to SS, 47% of our sample were considered low socialization with scores ranging from 10-35, 53% were considered as high socialization with scores ranging from 36-60. Scaled scores on the risk-taking scale ranged from 6-41: 53% of the scores in the lower half, and 47% in the upper half. The risk-perception scaled scores ranged from 86-190: 42% of the scores in the lower half, 58% in the upper half.

#### ***Willingness to Attend the Event***

A Univariate ANOVA was conducted to test participants' willingness to attend the event as a function of risk, group size, and socialization. Main effects were found for both risk and socialization. For risk:  $F(1, 249) = 14.76, p < .001, partial \eta squared = .056$ . Participants exposed to the low risk alcohol-related event indicated increased willingness to attend ( $M = 4.27, SD = 1.49$ ) compared to the off-campus event, which assumed a greater risk ( $M = 3.61, SD = 1.64$ ). For socialization:  $F(1, 249) = 78.38, p < .001, partial \eta squared = .239$ . Low

socialization participants indicated they were less likely to attend the event ( $M = 3.18$ ,  $SD = 1.63$ ) compared to high socialization participants ( $M = 4.71$ ,  $SD = 1.15$ ). No significant main effects were found for group size and no significant interactions were found. Table 1 displays the means and standard deviations of risk and socialization conditions. All means are significantly different at  $p < .001$ . Responses scaled from 1 = *Not at all willing to attend the event* to 6 = *Completely willing to attend the event*.

**Table 1. Mean Willingness to Attend Event and Standard Deviations (SD) as a Function of Level of Risk and Socialization**

	Risk		Socialization	
	Low $n = 133$	High $n = 128$	Low $n = 122$	High $n = 139$
Mean	4.27	3.61	3.18	4.71
SD	1.49	1.64	1.63	1.15

### ***Perceptions of Expected Consequences***

To test participants' perceptions of expected consequences associated with our independent variables, a second univariate ANOVA was conducted. Again, main effects for risk and socialization were found on the dependent variable: *I will get in trouble for drinking at this event*. For risk:  $F(1, 249) = 23.06$ ,  $p < .001$ , *partial eta squared* = .085. Participants in low risk condition were less likely to feel like they would get in trouble for event participation ( $M = 2.71$ ,  $SD = 1.20$ ) compared to the high-risk condition ( $M = 3.47$ ,  $SD = 1.40$ ). For socialization:  $F(1, 249) = 14.51$ ,  $p < .001$ , *partial eta squared* = .055. Low socialization participants were more likely to believe that they would get in trouble ( $M = 3.39$ ,  $SD = 1.47$ ) compared to high socialization participants ( $M = 2.79$ ,  $SD = 1.17$ ). Table 2 displays the means and standard deviations for risk and socialization conditions. All means are significantly different at  $p < .001$ . Responses scaled from 1 = *Not at all likely that I will get into trouble for attending the event* to 6 = *Completely likely that I will get into trouble for attending the event*.

**Table 2. Mean Perceptions of Personal Consequence For Attending Event and Standard Deviations (SD) as a Function of Level of Risk and Socialization**

	Risk		Socialization	
	Low $n = 133$	High $n = 128$	Low $n = 122$	High $n = 139$
Mean	2.71	3.47	3.39	2.79
SD	1.20	1.40	1.47	1.17

A significant Group Size  $\times$  Risk interaction was found for the variable: *Someone will get in trouble for drinking at this event*:  $F(2, 249) = 5.92$ ,  $p = .003$ , *partial eta squared* = .045. Individuals' perceptions that someone in the group would get in trouble differed significantly for groups of three in low ( $M = 2.37$   $SD = 1.14$ ) v. high ( $M = 3.84$   $SD = 1.40$ ) risk scenario.

Significant main effects were also found for group size, risk, and socialization. For Group Size:  $F(2, 249) = 18.85$ ,  $p < .001$ , *partial eta squared* = .131. Groups of three were viewed as less likely to get into trouble compared to groups of four and nine. Scheffé's test revealed significant



differences between three and four members: ( $M = 3.10$  v.  $M = 4.27$ ) and three and nine members: ( $M = 3.06$  v.  $M = 4.12$ ) at  $p = .02$ . Table 3 displays means and standard deviations for group size condition.

**Table 3. Mean Perceptions of Consequence For Someone in Group Attending Event and Standard Deviations (SD) as a Function of Group Size**

<i>n</i>	Group Size	M	SD
87	3	3.06 <sub>a</sub>	1.43
90	4	4.27 <sub>b</sub>	1.19
84	9	4.12 <sub>b</sub>	1.49

Means with different subscripts are significantly different at  $p < .05$ .

For risk:  $F(1, 249) = 14.13, p < .001, partial\ eta\ squared = .054$ . Higher risk scenario carried greater perceptions of negative outcomes for other group members ( $M = 4.15, SD = 1.40$ ) compared to the low risk scenario ( $M = 3.51, SD = 1.55$ ). For socialization:  $F(1, 249) = 6.87, p = .009, partial\ eta\ squared = .027$ . Low socialization participants were more likely to believe someone would get in trouble ( $M = 4.05, SD = 1.50$ ) compared to high ( $M = 3.61, SD = 1.50$ ). Table 4 displays the means and standard deviations for risk and socialization conditions. All means are significantly different at  $p < .05$ . Responses scaled from 1 = *Not at all likely that someone will get into trouble for attending the event* to 6 = *Completely likely that someone will get into trouble for attending the event*.

**Table 4. Mean Perceptions of Consequence For Someone in Group Attending Event and Standard Deviations (SD) as a Function of Level of Risk and Socialization**

	Risk		Socialization	
	Low $n = 133$	High $n = 128$	Low $n = 122$	High $n = 139$
Mean	3.51	4.15	4.05	3.61
SD	1.55	1.50	1.50	1.50

Main effects for risk and socialization were found on the item: *The whole group will get in trouble for drinking at this event*: For socialization:  $F(1, 249) = 15.96, p = .001, partial\ eta\ squared = .06$ . High socialization participants were less likely to believe the group would get in trouble ( $M = 2.39, SD = 1.16$ ) compared to low socialization participants ( $M = 3.04, SD = 1.44$ ). For risk:  $F(1, 249) = 4.03, p = .046, partial\ eta\ squared = .016$ . Individuals in the low risk condition were less likely to believe that the group would get in trouble ( $M = 2.55, SD = 1.26$ ) compared to those in high risk condition ( $M = 2.87, SD = 1.39$ ). There were no significant interactions. Table 5 displays the means and standard deviations for risk and socialization conditions. All means are significantly different at  $p < .05$ . Responses scaled from 1 = *Not at all likely to get into trouble for attending the event* to 6 = *Completely likely to get into trouble for attending the event*.

**Table 5. Mean Perceptions of Consequence For Group Attending Event and Standard Deviations (SD) as a Function of Level of Risk and Socialization**

	Risk		Socialization	
	Low <i>n</i> = 133	High <i>n</i> = 128	Low <i>n</i> = 122	High <i>n</i> = 139
Mean	2.55	2.87	3.04	2.39
SD	1.26	1.39	1.44	1.16

**Predictive Ability of DOSPERT**

Multiple regression analysis was used to determine the predictive ability of the DOSPERT risk-taking and risk-perception subscales on our dependent variables. Neither the risk-taking nor the risk-perception subscales predicted willingness to attend the event or participants' perceptions of expected consequences associated with attending the event.

**DISCUSSION**

Overall, our results provide evidence for the utility of psychological decision theory in understanding decision-making in a group setting involving social pressure. Individuals demonstrated their ability to evaluate the desirability and assess the likelihood of consequences of participating in a risk-related event for themselves as well as others. This result also provides support for the premise that individuals' willingness to act is affected by how knowledgeable they feel (See, 2009). In the current study, participants used knowledge of risk and associated consequences when weighing expected outcomes, thus their ability to competently assess expected outcomes in the context of a group setting did not appear compromised. Our results are consistent with Floyd, et al (2007) who found that providing respondents with accurate information regarding risk resulted in reduced instances of risk-related pregnancies. Additionally, similar to See (2009), our participants appeared to rely on knowledge of risk and associated consequences when weighing outcomes.

More interestingly, however, our results provide strong evidence for socialization as a moderator in the relation between risk and outcome perceptions. Socialization influenced both decisions of willingness to attend the event as well as perceptions of expected outcomes. Response on each of our primary dependent measures revealed low socialization participants as less willing to attend the event and more likely to perceive negative consequences for attending the event, compared to high socialization participants. As expected, the notion that the construct of socialization could include such characteristics as conformity, and an intrinsic sensitivity to social cues was supported. These results support other researchers (Capone, et al, 2007; Simons-Morton, 2007), who have found socialization effects in group settings. This consistent result helps provide a better understanding of the impact of this factor as an individual difference characteristic; namely, that some individuals may be more sensitive to external cues rather than their own assessments of the consequences. Additionally, as a first study, our results show promise for the utilization of the socialization scale in future research.

Group size emerged solely as an explanation for consequences. Perceptions of the likelihood of consequence differed significantly between the smallest group (three) and the two larger groups

(four and nine). The idea that an individual's ability to adequately assess consequences would be compromised in larger groups was not supported. Group size differences appeared to be a function of risk, but only for groups of three. Participants did not discern any noticeable differences in risk and associated consequences between groups of four and nine. This *context-dependent* result supports Bond's (2005) meta-analysis, which stressed the significance of moderator variables when explaining group size effects.

## **DOSPERT**

Although the internal consistency obtained on each of the DOSPERT subscales was satisfactory (Risk-taking .83; Risk-perception .86), the subscales did not yield any predictive findings. It is possible, however, that the operational definition of risk in our paradigm differed from risk as defined and measured in the DOSPERT scales. For instance, in terms of social risk, only one question on the Social subscale related to a risk involving friends, with the remaining items measuring social risk in the workplace or the loss of a social network. It is also possible that the Social subscale of the DOSPERT scale fails to measure the social risk domain, another significant aspect to our study. Similarly, the Health & Safety subscale does not address the legal ramifications associated with at-risk health and safety issues. Therefore, as with the Social subscale, it is possible that this subscale was not measuring the same form of risk.

## **Limitations and future research**

Our study does not provide any information concerning *how* participants felt about the social pressure present in the scenario. Although social pressure was salient in all experimental conditions, we are unsure if the social pressure caused all participants to feel the same or similar effects. Considering this, participants' reactions to the influence of social pressure may have informed the direction of the effects of risk. Future studies should provide a baseline to gauge participants' reactions to social pressure. In addition, the consequences associated with each level of risk may have different implications for individuals. A sanction by campus authorities holds different ramifications compared to that of arrest by law enforcement. Finally, the less salient perception of group size in the high-risk condition may have accounted for our limited effects with this factor. The size of the group was significantly more controlled in the low risk condition compared to the high-risk condition. Despite this limitation, our risk and socialization findings provide strong support for our overall results.

Considering these limitations, it is recommended that future research in this area examine this behavior through the existence of actual groups if possible, to increase the ecological validity of the findings. Regardless of limitations however, the current study provides insight into the application of decision theory when examining risky behavior in a social context. In addition, strong results on reliable measures help us understand how factors at the individual level (socialization) produce certain expected outcomes. Although there are other factors that will emerge in this context, our paradigm represents a significant starting point. They help explain how individuals make choices when exposed to situations involving risk.

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## APPENDIX A: VIGNETTES

The following instructions appeared in each of six experimental vignettes: For the purpose of this survey, imagine that you and **all** of your close friends are under the age of 21.

The italicized sections represent the risk/consequence and group size manipulations.

### Low Risk

Your best friend recently invited you to watch your favorite movie and have some drinks *in the dorm* on Friday night. *Your friend lets you know that your roommate has already agreed to the plan. It would be the **three** of you in the room/Your friend lets you know that two of your other friends have already agreed to go. It would be the **four** of you in the room/Your friend lets you know that seven of your other friends have already agreed to go. It would be the **nine** of you in the room.* You feel obligated to accept the invitation for two reasons. First, various commitments throughout the week have prevented you from spending time with your friends. Second, your friends will be hurt if you reject the invitation. Past experience has shown that your friends take invitation rejection personally. Recently, resident life has been strict about underage drinking in the dorms and if caught you will be fined, required to take an alcohol awareness class, your parents will be notified and the incident will be on your school record.

### High Risk

Your best friend recently invited you to watch your favorite movie and have some drinks *at the local bar* on Friday night. *Your friend lets you know that your roommate has already agreed to the plan. It would be the **three** of you attending/Your friend lets you know that two of your other friends have already agreed to go. It would be the **four** of you attending/Your friend lets you know that seven of your other friends have already agreed to go. It would be the **nine** of you attending.* You feel obligated to accept the invitation for two reasons. First, various commitments throughout the week have prevented you from spending time with your friends. Second, your friends will be hurt if you reject the invitation. Past experience has shown that your friends take invitation rejection personally. Recently, local police have been strict about underage drinking in local establishments and if caught current Rhode Island law states that you will be required to complete 200 hours of community service, you will be fined, and your driver's license will be suspended.

## **APPENDIX B: ITEMS FROM SOCIALIZATION SCALE**

1. The amount of fun at this event will outweigh the risk of the consequences. [SC]
2. I am excited about attending the event. [SC]
3. I will find the event fun. [SC]
4. I am interested in the event. [SC]
5. I make my plans around my friends. [ID]
6. My friends' opinions of me matter a great deal. [ID]
7. My friends think more of me when I participate in activities they like. [ID]
8. I typically agree with my friends' opinions. [ID]
9. I feel pressured to attend the event. [SC]
10. I would rather do something that I disagree with than anger my friends. [ID]

### **Sub-scales**

Individual Difference [ID]

Social Context [SC]

### **Response Alternatives**

Strongly disagree [value = 1]

Disagree [value =2]

Somewhat disagree [value = 3]

Somewhat agree [value =4]

Agree [value =5]

Strongly agree [value = 6]



## APPENDIX C: DOMAIN-SPECIFIC RISK-TAKING SCALE

1. Admitting that your tastes are different from those of a friend [S]
2. Going camping in the wilderness [R]
3. Betting a day's income at the horse races [F]
4. Investing 10% of your annual income in a moderate growth mutual fund [E]
5. Drinking heavily at a social function [H/S]
6. Taking some questionable deductions on your income tax return [E]
7. Disagreeing with an authority figure on a major issue [S]
8. Betting a day's income on the outcome of a sporting event [F]
9. Having an affair with a married man/woman [E]
10. Passing off somebody else's work as your own [E]
11. Going down a ski run that is beyond your ability [R]
12. Investing 5% of your annual income in a very speculative stock [F]
13. Going white-water rafting at high water in the spring [R]
14. Betting a day's income at a high-stake poker game [F]
15. Engaging in unprotected sex [H/S]
16. Revealing a friend's secret to someone else [E]
17. Driving a car without wearing a seat belt [H/S]
18. Investing 10% of your annual income in a new business venture [F]
19. Taking a skydiving class [R]
20. Riding a motorcycle without a helmet [H/S]
21. Choosing a career that you truly enjoy over a more prestigious one [S]
22. Speaking your mind about an unpopular issue in a meeting at work [S]
23. Sunbathing without sunscreen [H/S]
24. Bungee jumping off a tall bridge [R]
25. Piloting a small plane [R]
26. Walking home alone at night in an unsafe area of town [H/S]
27. Moving to a city far away from your extended family [S]
28. Starting a new career in your mid-thirties [S]
29. Leaving your young children alone at home while running an errand [E]
30. Not returning a wallet you found that contains \$200 [E]

### Sub-Scales

Ethics [E]  
Finance [F]  
Health/Safety [H/S]  
Recreation [R]  
Social [S]

### **Response Alternatives**

Not at all risky [value = 1]  
Slightly risky [value = 2]  
Somewhat risky [value = 3]  
Moderately risky [value = 4]  
Risky [value = 5]  
Very risky [value = 6]  
Extremely risky [value = 7]

Extremely unlikely [value = 1]  
Moderately unlikely [value = 2]  
Somewhat unlikely [value = 3]  
Not sure [value = 4]  
Somewhat likely [value = 5]  
Moderately likely [value = 6]  
Extremely likely [value = 7]

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