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Dying for romance: Risk taking as purposive behavior

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Many approaches have been utilized to understand adolescent risk taking. The current research frames risk taking as a purposive behavior enacted with a specific goal in mind. Rather than assuming adolescent risk taking to be the result of arrogance or perceived invulnerability, adolescent risk taking is interpreted as a means to an end. Stemming from a Tolmanian framework, an alternative explanation for adolescent risk taking is tested: adolescents are willing to take risks to the extent that the risk is associated with a needed outcome – the greater the need for the outcome, the greater the willingness to take risks. To test the proposed hypothesis, 192 participants completed a survey about their need for a romantic relationship and their willingness to endure harm to obtain a romantic relationship. Data were collected at two time points. A hierarchical regression revealed that need for romance is a significant predictor of willingness to endure harm for romance, even after gender and sensation seeking are statistically controlled. Moreover, need for romance at T1 was shown to be predictive of harm for romance at T2. Results are supportive of taking a purposive – that is, Tolmanian – approach, as a means for interpreting adolescent behavior.

Keywords: adolescence; risk taking; sensation seeking; purposive behavior; Tolman

Introduction

Adolescent risk taking has been elucidated with a multitude of explanations. These fall within the biological (sensation seeking, affective neuroscience), cognitive (dual-process approaches, cognitive immaturity, perceived invulnerability), social (parental monitoring, peer influence), and emotional (somatic marker hypothesis, emotional regulation, and impulsivity) realms (see Boyer, 2006). Other explanations include goal-oriented approaches such as reward theories or reputation enhancement theories (Carroll, Hattie, Durkin, & Houghton, 2001).

One perspective that has received little consideration, although it would fall within current goal-oriented approaches, is that risk taking is purposive (Siegel, Alvaro, Patel, & Crano, 2009; Siegel et al., 2008; Siegel et al., in press; Tolman, 1932, 1959). This reasoning proceeds from the work of Edward Chance Tolman (1932, 1959), a giant of early psychological theorizing. Tolman theorized that behavior “... always seems to have the character of getting-to or getting-from a specific goal-object, or goal-situations” (p. 10). From a Tolmanian perspective, risk

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taking is a purposive behavior that is enacted with the goal of achieving a particular outcome.

Overall, Tolman posits that individuals are intrinsically motivated to retain a state of equilibrium. If disequilibrium occurs, the result is an internal metabolic condition which produces physiological sensations that drive the individual to seek quiescence (Tolman, 1926; 1932). Myriad physiological and psychological changes occur when an individual is in a state of disequilibrium. One result of disequilibrium is that individuals are willing to endure harm if the associated action will result in a return to equilibrium (Tolman, 1932, 1941). This phenomenon occurs because as the need for equilibrium rises, the individual’s momentary mental field constricts (Lewin, 1951). Reaching equilibrium takes prime importance and all other concerns, such as harms associated with reaching equilibrium, become secondary.

Approaching risk taking as purposive recalls Warner’s (1928) early work on hungry rats. Picture a rat on one side of a box, food on the other, and an electric grid between the rat and the food. At first, the rat is unwilling to cross the grid in order to obtain food due to physical harm caused by touching the electric grid. However, as time passes and hunger increases to the point that it causes a hunger-induced disequilibrium, the rat soon crosses the electric grid to obtain the food. Warner explained that the growing motivation, or need for food, induced a state where the rat was willing to endure harm to obtain food and return to a state of equilibrium. Applying this principle to the adolescent realm suggests that when in a state of disequilibrium, adolescents will sometimes be willing to endure harm if doing so will lead the individual to their desired goal state.

A recently completed study offers preliminary support for a Tolmanian approach toward risk taking (Siegel et al., in press). Approximately 1000 young adolescents were asked to report their desired level of popularity. Next, the adolescents were provided with items asking questions such as whether they would be willing to put themselves in the hospital or injure themselves in order to become popular. Not all adolescents wanted popularity nor were all adolescents willing to hurt themselves to become popular; however, those with the greatest desire for popularity reported the greatest willingness to injure themselves to reach the desired goal state. These data suggest that willingness to endure harm for popularity is not random or irrational but the result of a heightened need for popularity. No desire for popularity, no willingness to impair oneself for popularity.

The current study

The present study investigates a simple hypothesis: risk taking is purposive. This approach does not paint adolescents as irrational, but rather as individuals who have a heightened need for a specific outcome. It is proposed that the greater the need for the outcome, the greater the adolescents’ willingness to endure harm to reach the desired outcome. While the initial study (Siegel et al., in press) assessed popularity among young adolescents, this study seeks to assess whether the same processes occur in a different population, college students, with a different desired end state, romantic relationships. This study examines the need for romantic relationships because romantic relationships have been found to be extremely important to older adolescents (Siegel, 2004). Quite simply, it is posited that the greater the respondents' need for a romantic relationship, the greater the respondents' willingness to endure harm to obtain such a relationship (H1).
To fully investigate the explanatory power of purpose in the risk taking equation, sensation-seeking levels are also investigated. Sensation seeking (Zuckerman, 1971; Zuckerman, Buchsbaum, & Murphy, 1980) is a known variable in the risk-taking literature and has been associated with increased risk taking across various research efforts (e.g., Dunlop & Romer, 2010). Comparing the effects of purposive behavior and sensation seeking on risk taking will reveal the predictive strength of the Tolmanian approach.

Moreover, it is predicted that the purposive motivation persists over time. Thus, it is hypothesized that the need for a romantic relationship will be a stable predictor of willingness to endure harm for a romantic relationship such that the need for a romantic relationship will be predictive of willingness to endure harm two weeks later (H2).

Methods

Procedures

Participants were recruited from an undergraduate psychology course in Southern California. Students, given extra credit for their participation, were asked to fill out the survey online and asked to fill out an identical survey two weeks later. A total of 192 participants completed the survey at T1 and T2. The majority of respondents were females (60.4%) and the average age was 18.96 years old. Specifically, 42.7% (n = 82) of respondents were freshmen, 38% (n = 73) sophomores, 12% (n = 23) juniors, and 7.3% (n = 14) were seniors. The ethnic breakdown of the sample was as follows: 67.7% Caucasian, 12.5% Hispanic, 5.7% Asian, 4.7% African American, and 7.3% responded “Other.”

Measures

Sensation seeking (α = 0.83)

Sensation seeking was measured with an eight-item, seven-point, Likert-type (strongly disagree = 1/strongly agree = 7) scale (Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2002). Items included “I would like to explore strange places,” “I prefer friends who are excitingly unpredictable,” and “I like to do frightening things.”

Need for a romantic relationship (α = 0.88)

A need for a romantic relationship scale was adapted from a prior study (Siegel, 2004). Participants responded to each of the five items on a seven-point scale (strongly disagree = 1/strongly agree = 7): (1) Having a satisfying romantic relationship is very important to me; (2) I often think about how I could have a satisfying romantic relationship; (3) People who have a satisfying romantic relationship are happier than those who do not; (4) I wish I could find my soul mate; and (5) I wonder if I will ever find the perfect romantic partner. All items loaded on one factor.

Harm for a romantic relationship (α = 0.93)

The extent to which participants were willing to harm themselves to attain a romantic relationship was measured via a scale created as a part of this research.
effort. Respondents rated their willingness to harm themselves on a seven-point scale (1–7), ranging from strongly disagree to strongly agree. Items included: (1) I would be willing to risk getting physically hurt if I thought it would lead to a satisfying romantic relationship; (2) I would be willing to risk being embarrassed if it I thought it would lead to a satisfying romantic relationship; (3) I would be willing to risk friendships if I thought it would lead to a satisfying romantic relationship; (4) I would be willing to risk getting emotionally hurt if it I thought it would lead to a satisfying romantic relationship; (5) I would be willing to hurt my career if I thought it would lead to a satisfying romantic relationship; (6) I would be willing to have to go to the hospital if I thought it would lead to a satisfying romantic relationship; and (7) I would be willing to hurt myself if I thought it would lead to a satisfying romantic relationship. All items loaded on one factor.

Results

Descriptive data showed respondents averaged 4.40 (SD = 1.27) for T1 sensation seeking, 4.88 (SD = 1.64) for T1 need for romance, and 2.87 (SD = 1.43) for harm for romance. At T2, respondents averaged 4.36 (SD = 1.25) for sensation seeking, 4.79 (SD = 1.58) for T2 need for romance, and 3.07 (SD = 1.37) for T2 harm for romance. Correlations between the variables of interest are reported in Table 1. Test–retest correlations between composites assessed at different time points were found to be at acceptable levels (rs of 0.66–0.77, all p = 0.001). Moreover, all composites were shown to be significantly correlated with the assessment of T1 and T2 harm for romance, the outcome variables of interest. Regarding gender differences, there was no statistically significant difference in need for romance; however, males (M = 3.36, SD = 1.50, T1; M = 3.70, SD = 1.27, T2) were significantly more likely to report a willingness to endure harm for romance than females (M = 2.56, SD = 1.30, T1; M = 2.67, SD = 1.29, T2).

To assess the proposed hypotheses, three separate linear hierarchical multiple regression were conducted. One model tested the hypothesis cross-sectionally at T1, one cross-sectionally at T2, while the third longitudinally assessed whether need for romance at T1 would predict harm for romance at T2. No multicollinearity problems were encountered in these models.

Analysis #1: At T1, each predictor contributed to a significant proportion of the variance at the step entered (see Table 2). In the final model, need for romance (β = 0.51, p < 0.001) was significantly associated with harm for romance

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Note: *p < 0.05; **p < 0.01; ***p < 0.001.
over and above both gender ($\beta = 0.32$, $p < 0.001$) and sensation seeking ($\beta = 0.10$, ns).

**Analysis #2:** The analysis of T1 was replicated at T2 (Table 3). At T2, the predictors were again found to contribute a significant proportion of variance at their respective steps. Gender ($\beta = 0.35$, $p < 0.001$), sensation seeking ($\beta = 0.16$, $p < 0.01$), and need for romance ($\beta = 0.44$, $p < 0.001$) were all evidenced to be uniquely and significantly associated with harm for romance in the final model.

**Analysis #3:** The third analysis demonstrated the ability of need for romance to predict harm for romance at a second time point, specifically 2 weeks later. As highlighted in Table 4, the proportion of variance at each step of entry emerged to be significant. Furthermore, need for romance ($\beta = 0.40$, $p < 0.001$) was again shown to uniquely contribute to the harm for romance model even after statistically controlling for gender ($\beta = 0.40$, $p < 0.001$) and sensation seeking ($\beta = 0.15$, $p < 0.05$) at T1.

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<tr>
<th>Step 1: Gender</th>
<th>$R^2$ change at step</th>
<th>$B$</th>
<th>SE</th>
<th>$\beta$</th>
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<tr>
<td>Step 2: T1 sensation seeking</td>
<td>0.07***</td>
<td>0.94</td>
<td>0.18</td>
<td>0.32***</td>
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<tr>
<td>Step 3: T1 need for romance</td>
<td>0.04**</td>
<td>0.12</td>
<td>0.07</td>
<td>0.10</td>
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<tr>
<td>Final model: $F(3, 185) = 34.72$, Total $R^2 = 0.36$***</td>
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Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

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<th>$\beta$</th>
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<tr>
<td>Step 2: T2 sensation seeking</td>
<td>0.14***</td>
<td>0.99</td>
<td>0.17</td>
<td>0.35***</td>
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<tr>
<td>Step 3: T2 need for romance</td>
<td>0.08***</td>
<td>0.18</td>
<td>0.07</td>
<td>0.16**</td>
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<tr>
<td>Final model: $F(3, 180) = 38.91$, Total $R^2 = 0.39$***</td>
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Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

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<tr>
<td>Step 2: T1 sensation seeking</td>
<td>0.14***</td>
<td>1.13</td>
<td>0.18</td>
<td>0.40***</td>
</tr>
<tr>
<td>Step 3: T1 need for romance</td>
<td>0.05***</td>
<td>0.16</td>
<td>0.07</td>
<td>0.15*</td>
</tr>
<tr>
<td>Final model: $F(3, 177) = 30.82$, Total $R^2 = 0.34$***</td>
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Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. 
Discussion

There are innumerable reasons why adolescents engage in behaviors typically categorized as risky. Stemming from a Tolmanian perspective, this study focused on risk taking as purposive. Like a hungry rat crossing an electric grid to satiate hunger, this current study empirically investigated risk taking as a means to an end.

The results of this current study offer strong support for interpreting risk taking as purposive behavior. Three different regression models, two cross-sectional and one longitudinal, provide evidence indicating that need for romance is a stalwart predictor of willingness to endure harm for romance, even stronger in magnitude than sensation seeking. At T1, need for romance is a significant predictor of willingness to endure harm for romance. While sensation seeking accounts for only 4% of the variance, over and above gender, need for romance accounts for an additional 25% of the variance over and above gender and sensation seeking at T1. This result was replicated at T2. Specifically, at T2 sensation seeking accounts for 8% of the variance over and above gender, while need for romance accounts for 18% over and above gender and sensation seeking. Finally, need for romance at T1 was a significant predictor of willingness to endure harm for romance at T2. Over and above gender, sensation seeking accounts for 5% of the variance in harm for romance; need for romance accounts for 15% of the variance over and above both sensation seeking and gender.

Gender accounts for more variance than sensation seeking and nearly as much variance as harm for romance in two of the three analyses. This result, along with the willingness of males to take greater risks than females is noteworthy. In a world with limited intervention resources, it would make sense to target interventions to the gender that is more willing to risk harm.

These data call for a renewed consideration of adolescent risk taking. Rather than perceiving adolescents as reckless, these data support an alternative explanation: some adolescents are extremely determined to reach their desired goal states. From this perspective, adolescents’ willingness to take risks is not the result of ignorance, irrational thought, or arrogance. Adolescents take risks because they have a need for the given outcome. From this viewpoint, adolescents are not arrogant risk takers, but individuals experiencing disequilibrium and seeking a return to equilibrium. Interventions seeking to reduce adolescent risk taking may be able to change behavior by offering adolescents a less risky means of returning to equilibrium.

Conclusion

This study assessed Tolman’s purposive framework. Romantic relationships were merely a context within which to test the broader theoretical framework of purposive risk-taking behavior. The key finding is that the greater one’s need to obtain a specific outcome, the greater the individuals’ willingness to endure harm to reach the desired outcome. As described earlier, a similar finding was recently revealed in the domain of popularity (Siegel et al., in press). The greater the young adolescent sample’s need for popularity, the greater their willingness to endure harm to become popular. Together these two studies offer support for applying Tolman’s purposive model to adolescent risk-taking behavior.
Limitations and future directions

The following limitations should be kept in mind when interpreting the results of this research. First, participants were not asked to report their current relationship status. Controlling for current relationship status would have been a beneficial addition to the analyses. Moreover, the Harm for Relationship scale was created specifically for this research endeavor. While both internal consistency and test–retest reliability were more than sufficient, additional measurement assessment would be beneficial. Also, future studies would benefit from the inclusion of additional personality measures such as self-esteem and stability of self. Finally, this current research endeavor tested only one aspect of Tolman’s model. Given the results of this study, future studies should consider testing additional aspects of Tolman’s model within the adolescent realm.

Acknowledgment

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References


