

MALES' INTENTIONS TO DRINK AND SWIM

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Drinking and swimming: investigating young Australian males' intentions to engage in recreational swimming while under the influence of alcohol

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Abstract

Drowning, a largely preventable problem, continues to be a serious issue worldwide, with young men particularly at risk. Alcohol and drugs are often present among young males and, particularly for males aged 18-34 years, alcohol is considered to be a significant risk factor for drowning. The current study aimed to understand the motivations guiding the intentions of young Australian men to engage in drinking and swimming, a behaviour not yet examined systematically. A cross-sectional correlational design was adopted to investigate the ability of the theory of planned behaviour (TPB) and additional variables to predict males' intentions to drink and swim. Males ($N = 211$) aged 18-34 years ($M_{age}=23.93$, $SD=4.01$) completed a survey either on-line or paper-based. The survey assessed the TPB constructs of attitude, subjective norms, and perceived behavioural control (PBC); and additional variables of group norms, anticipated regret, objective (i.e., swimming ability) and perceived (i.e., perceived severity and perceived susceptibility) risk perceptions, and past behaviour. Support was found for the TPB constructs of attitude and subjective norms, but not PBC, as well as the additional constructs of group norm, anticipated regret, objective risk, and past behaviour in predicting males' intentions to drink and swim; explaining an overall 76% of variance. Knowledge gained from this study will help to inform resultant interventions designed to discourage alcohol use in, on, or around water and, thus, prevent drownings in this at risk group.

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Drowning, a largely preventable problem, continues to be a serious issue worldwide. An estimated 388,000 people die each year due to drowning (World Health Organisation, 2004), with the number of near-drowning victims being considerably higher. In Australia, the Royal Life Saving Society reported that, in 2011, drowning fatalities increased for the third year in a row (Royal Life Saving Society, 2011) with drowning claiming the lives of 315 people; an 11% increase on the previous five year average. Globally, men compared to women are over represented in drowning statistics, with a ratio of 4:1 drowning fatalities reported (International Life Saving Federation, 2007). In particular, drownings for men aged 18-34 years have almost doubled in the past 3 years (Royal Life Saving Society, 2011), with this at risk group identified in other developed nations (Lifesaving Society Canada, 2012).

Alcohol and drugs are often present among young males and, particularly for males aged 18-34 years, alcohol is considered to be a significant risk factor for drowning (Royal Life Saving Society, 2011). There is mounting evidence confirming the risk between alcohol use and drowning during recreational aquatic activities (Driscoll et al., 2003). Each year it is estimated that at least 20% of all adult drowning deaths are attributed to alcohol consumption, with this figure increasing to 41% in the younger population groups (Royal Life Saving Association, 2011). It is important that research among at risk groups (i.e., males aged 18-34 in years) is undertaken to gain an understanding of the processes that guides people's decisions to engage in drinking and swimming; an investigation not yet examined systematically in the current literature.

The Theory of Planned Behaviour (TPB; Ajzen, 1991) is one of the most influential models in explaining people's decision making for a range of behaviours (e.g., Armitage & Conner, 2001). The TPB specifies intentions as predicting behaviour with intentions predicted by attitude (positive/negative evaluations), subjective norm (perceived social pressure), and

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perceived behavioural control (PBC, perceived ease/difficulty of performing the behaviour; also believed to influence behaviour directly) (Ajzen, 1991). Meta analytic reviews have demonstrated the successful application of the TPB to a vast range of social and health-related behaviours (Armitage & Conner, 2001), including investigations of alcohol use (Johnston & White, 2003; Marcoux & Shope, 1997). However, potentially important constructs additional to the TPB may also help to explain males' decisions in this context.

Group Norm

In contrast to the subjective norm construct of the TPB which focuses on perceived social pressure to perform the behavior (Ajzen, 1991), group norms refer to the explicit or implicit prescriptions regarding one's appropriate attitudes and behaviors as a member of a specific reference group in a specific context (White et al., 2002). Based on a social identity approach (Hornsey, 2008; Terry & Hogg, 1996), an important part of an individual's self-concept is derived from membership in various referent groups. Once an individual categorises themselves as a group member, through interaction with the group, they become aware of the contextually relevant norms of the group. These group norms assist to define the group by describing and prescribing appropriate attitudes or behaviours for group members. Through a process of internalisation, accepted or implied rules of the in-group influence the attitudes and behaviours of the individual in the direction of the group norm (Hornsey, 2008). It is assumed that through this self-categorisation process that group norms contribute to intentions and, in turn, behaviour over and above the individual (i.e., attitudes, PBC) and social (i.e., subjective norm) factors within the TPB (Hamilton & White, 2012; Johnston & White, 2003); and are conceptually distinct from the subjective norm component of the TPB (Hamilton & White, 2012).

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The utility of this suggestion has been demonstrated in a longitudinal study on binge drinking in a sample of 289 undergraduate students (Johnston & White, 2003). The study showed that group norms significantly predicted intentions to binge drink after controlling for the TPB variables (i.e., attitude, subjective norm, and PBC). For alcohol consumption, there appears to be wide range of referents who can influence an individual's intentions to engage in drinking behaviours (Borsari & Carey, 2001; Johnson & White, 2003). While numerous social influences may be present, perceptions of group norms supportive of drinking behaviours are consistently identified as being strongly predictive of people's decisions to drink (Johnson & White, 2003; Neighbors et al., 2007). Additionally, and within the current study's context, individuals who score high on sensation seeking traits show an increased tendency to congregate with peers who drank more frequently (Cicognani & Zani, 2011). Given the importance of peer influence in the context of alcohol consumption, the inclusion of a normative construct, group norms, in addition to subjective norms may help to explain how varying social influences guide males' decisions to drink and swim.

Anticipated Regret

Regret is a negative, cognitive-based emotion that is experienced when we realize or imagine that the present situation could have been better had we acted differently (Simonson, 1992). However, it is also possible to anticipate regret pre-behaviourally and, thus, avoid actually experiencing this unpleasant emotion (Sandberg & Conner, 2008). Regret is an emotional outcome which people strive to avoid (Janis & Mann, 1977). A number of studies have been reported highlighting the importance of anticipated regret and there is consistent evidence that anticipated regret measures increase the capacity of the TPB to predict intentions (Conner & Flesch, 2001; Conner et al., 2006; Cook et al., 2007; Parker et al., 1995). Additionally, factor analytic (Richard et al., 1996) and meta-analytic (Sandberg &

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Conner, 2008) studies have demonstrated that anticipated regret is conceptually distinct from the other components of the TPB (namely attitude).

Anticipate regret may be particularly relevant to health risk behaviours. For example, Richard et al. (1996) reported that anticipated affective reactions were significant predictors of behavioural expectations after taking account of attitudes, subjective norms, and PBC for eating junk foods, using soft drugs, and alcohol use, but not for studying. While both cognitive evaluations and emotional feelings have been shown to drive behaviour (Kobbeltvedt & Wolff, 2009), in some situations, particularly risk conducive environments such is the case in the current study's context (i.e., injury, death), emotional responses may diverge from cognitive assessments of risk (Loewenstein et al., 2001). Investigating anticipated regret, therefore, may increase our understanding of the role that emotional factors play in drinking and swimming and assist to inform intervention strategies.

Risk Perceptions: Perceived and Objective

Whilst the extant literature provides strong support for the utility of the TPB in predicting people's intentions, it is a model of rational decision-making. Thus, the TPB may be limited in accounting for an individual's intentions when behavioural enactment engenders more non-rational feelings, such as threat. Threat perception (or risk perception) is a cornerstone of the health belief model (HBM; Rosenstock, 1974), a common theory in the health education and health promotion domains (Janz & Backer, 1984). Risk perception originates from threat appraisal and is postulated to serve as a motivational force for the adoption of preventative behaviours and refraining from risk taking behaviours. Threat appraisal, the overall perception of threat to health, constitutes perceived susceptibility and perceived severity (Rosenstock, 1974). Perceived susceptibility refers to beliefs about the likelihood having a health problem or condition (e.g. experiencing difficulty while

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swimming) (Rosenstock, 1974). Perceived severity refers to beliefs about the seriousness of the health problem and its consequences (e.g. risk of drowning) (Rosenstock, 1974). In addition, in this model, individuals not only engage in a given behaviour depending on the evaluated threat of a health problem but also consider their evaluation of performing the preventative action. This latter behavioural evaluation reflects beliefs about the benefits of the health behaviour and about barriers to performing the behaviour and, therefore, may be seen as akin to the constructs of attitudes and PBC within the TPB.

In general, studies support the applicability for the HBM in understanding people's health behaviour decision making (Janz and Backer, 1984); however, critics of the model suggest that the model is more a collection of variables than a systematic theory (Abraham & Sheeran, 2005). In support of the models constructs, results of quantitative reviews (Harrison et al. 1992, Janz & Backer, 1984) have found susceptibility and severity to be significant predictors of health-related behaviour. The results, however, appear to be mixed with some reviews concluding the threat appraisal framework to be a poor predictor of intention and behaviour (Milne et al., 2006) and others proving strong support for the utility of these constructs (Brewer et al., 2007). As such, objective measures of risk (in this context, one's self-rated swimming ability; White & Hyde, 2010) may be more useful in helping to understand individuals' decision making. Undoubtedly, the importance of risk perception varies across behaviours but is suggested to be more important for behaviours associated with health threats than for health promotion behaviours, such as diet and exercise (Brewer et al., 2007). Given the risky nature and negative health outcomes associated with drinking and swimming, risk perceptions may play a fundamental role in behavioural decision making in this context.

The Present Study

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The current study aims to provide an understanding of the motivational determinates guiding the intentions of young Australian men to engage in drinking and swimming. It is hypothesised that intentions to drink and swim will be predicted by attitude, subjective norms, and PBC (Hypothesis 1); that group norm, perceived anticipated regret, and objective (i.e., swimming ability) and perceived (i.e., perceived susceptibility and perceived severity) risk perceptions will further predict males' intentions (Hypothesis 2); and that all variables will retain their significance after controlling for the effects of past behaviour (Hypothesis 3).

Method

Participants

The sample comprised of 211 Australian males ranging in age from 18 to 34 years ($M_{age}=23.93$, $SD=4.01$). Participants were recruited via convenience sampling methods using three main recruitment strategies: online advertising (e.g. Facebook), face-to-face (e.g. university campuses, public beaches), and snowball. Participants were given the option to enter into a prize draw to win one of five \$20 Coles/Myer gift cards or, if appropriate, receive course credit. The majority of participants reported living in Queensland ($n=201$; 95.3%), coming from an English speaking background ($n=190$, 90.5%), being in paid employment ($n=175$, 82.9%), and not suffering from an acute/chronic medical condition ($n=202$, 95.7%) or taking medication that may impair judgement ($n=209$, 99.1%). Almost half of the participants were in a partnered relationship ($n=92$, 44.3%), with the majority not having children ($n=186$, 89%). Two items measuring the typical quantity of standard drinks consumed in a single occasion and the frequency of heavy drinking episodes taken from the Alcohol Use Disorders Identification Test (Babor et al., 2001) indicated that the majority of participants ($n=184$, 94.8%) when they consumed alcohol did so at hazardous levels.

Measures

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Target behaviour

The target behaviour was *drinking and swimming in the next six months*. Drinking was defined as having a blood alcohol concentration (BAC) of more than 0.05. This definition was adopted in line with drink walking (Haque et al., 2012) and drink driving research (Rivis et al., 2011), and research that indicates having a BAC of >0.05 impairs judgement and performance ability (Howat et al., 1991). To assist participants with this definition, a standard drink chart was presented and accompanied information referring to amount of alcohol which can be consumed to remain under 0.05. Swimming was defined as partaking in activities explicitly related to water that are undertaken for fun, pleasure, or amateur sport. Boating and personal water crafts were excluded as operation of such vehicles while intoxicated is illegal and may carry additional social undesirability, in turn, affecting self-reported intentions. The behaviour applied to open water ways such as rivers, creeks, streams, lakes, oceans and harbours, as open water ways have been identified as high risk locations with the largest number of drowning deaths (Royal Life Saving Society, 2011). Accordingly, public and private swimming pools were excluded. The operationalisation of swimming behaviour was guided by Driscoll et al.'s (2004) definition of recreational aquatic activities.

Main questionnaire: Theory of planned behaviour variables:

Intention. Five items assessed the strength of intention to perform the target behaviour (e.g., I intend to drink and swim, scored *strongly disagree* [1] to *strongly agree* [7]). The measure was reliable with an alpha co-efficient of .96.

Attitude. Attitude towards drinking and swimming in the next six months was assessed using six, 7-point semantic differential scales, including three reversed items (e.g., "If I were to drink and swim in the next six months it would be..." *harmless* [1] to *harmful* [7]). The measure was reliable with an alpha co-efficient of .81.

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Subjective norm. Subjective norm was assessed using three items (e.g., “Most people whose opinions I value would approve if I were to drink and swim”, scored *strongly disagree* [1] to *strongly agree* [7]). The measure was reliable with an alpha co-efficient of .87.

Perceived behavioural control. PBC was assessed with four items (e.g., “I have complete control over whether I drink and swim”, scored *strongly disagree* [1] to *strongly agree* [7]). The measure revealed slightly low internal consistency with an alpha co-efficient of .56. The removal of any item did not improve the internal consistency of the measure.

Past behaviour. Past behaviour was measured with a single item assessing participants' engagement in drinking and swimming in the previous six months (“In the past six months, to what extent did you drink and swim”, scored *a small extent* [1] to *a large extent* [7]).

Main questionnaire: additional variables

Group norm. Group norm, the perceived regularities in attitudes and behaviour which characterise and differentiate social groups from other groups (Terry & Hogg, 1996), was measured with four items adapted from those developed by Terry and Hogg (e.g., “How many of your friends/mates would engage in drinking and swimming in the next six months”, scored *none* [1] to *all* [7]). The measure was reliable with an alpha co-efficient of .87.

Anticipated regret. Anticipated regret, when a decision maker chooses an action that minimises the expected regret (Simonson, 1992), was measured using three items adapted from Abraham and Sheeran (2003) (e.g., “If I were to drink and swim I would feel regret”, scored *strongly disagree* [1] to *strongly agree* [7]). The measure was reliable with an alpha co-efficient of .94.

Risk perception: perceived susceptibility and perceived severity. Six items based on constructs from the HBM (Rosenstock, 1974) and adapted from McCool et al. (2009)

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measured participants' perceived risk perceptions by assessing their perceived susceptibility and perceived severity.

Perceived susceptibility. Four items assessed participants' beliefs regarding their perceived susceptibility, one's opinion of the chances of experiencing difficulty while engaging in the target behavior (e.g., "My chances of drowning if I was to drink and swim are great", scored *extremely unsusceptible* [1] to *extremely susceptible* [7]). The measure was reliable with an alpha co-efficient of .89

Perceived severity. Two items assessed participants' beliefs regarding their perceived severity, one's perception regarding the seriousness of the situation and the consequences of engaging in the target behaviour (e.g., "If you engaged in drinking and swimming in the next six months the consequences would be..."; score *not at all severe* [1] to *extremely severe* [7]). The items were significantly correlated at $r(211) = .77, p < .001$.

Risk perception: objective risk. Two items adapted from McCool et al. (2009) and McCool et al. (2006) measured objective risk by assessing two indicators of swimming ability. The first item asked participants to rate their swimming ability, scored *poor* [1] to *excellent* [7]. The second item asked participants to rate how many lengths of a 25 metre swimming pool they can currently swim without stopping or touching the bottom, scored *cannot swim* [1] to *more than 400m (more than 16 lengths)* [7]. The items were significantly correlated at $r(211) = .66, p < .001$.

Design and Procedure

Ethical clearance was granted and a cross-sectional correlational design was adopted to investigate the ability of the TPB and additional variables to predict males' intentions to drink and swim. The study involved the completion of a self-report questionnaire assessing the TPB constructs and additional measures of group norms, anticipated regret, risk

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perceptions, and past behaviour either online ($n = 77$, 36.5%) or paper-based ($n = 134$, 63.5%). Bivariate analyses with Bonferroni adjustment (to avoid chance capitalization) of the study's variables across the methods of questionnaire delivery reveal no substantive differences.

Results

Descriptive Analysis of Data

The means, standard deviations, and bivariate correlations are presented in Table 1. On average, males intended to drink and swim to a moderate degree ($M = 3.48$, $SD = 1.86$), with approximately 25% of the participants engaging in the behaviour to a moderate-large extent in the previous six months (rating of 3-7 on a 7-point scale). Intention was found to correlate with all variables, with attitude and group norms having the strongest correlations ($r = .70$, $p < .001$).

Analyses Predicting Behavioural Intention

A hierarchical multiple regression analysis was conducted on the dependent variable of intention. The TPB variables of attitude, subjective norms, and PBC were entered together in Block 1; with group norm, anticipated regret, and objective (i.e., swimming ability) and perceived (i.e., perceived severity and perceived susceptibility) risk perceptions entered together in Block 2; and past behavior entered in Block 3. As shown in Table 2, the TPB variables at Step 1 accounted for 58% (adjusted $R^2 = .57$) of the variance in intention, $F(3,198) = 90.69$, $p < .001$. Attitude and subjective norms, but not PBC, contributed significantly to the model. The addition of group norms, anticipated regret, and risk perceptions at Step 2 significantly added 10% of the variance, $F_{change}(5,193) = 12.19$, $p < .001$. Group norms, anticipated regret, and objective risk contributed significantly to the model with attitude and subjective norms remaining significant. Past behaviour entered at

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Step 3 significantly added 8% of the variance, $F_{change}(1,192) = 66.49, p < .001$, with the Step 2 variables retaining their significance after controlling for the effects of past behaviour.

Discussion

The current study aimed to understand the motivational determinates guiding the intentions of young Australian men to engage in drinking and swimming, a behaviour not yet examined systematically. The results provided partial support for Hypothesis 1 and the efficacy of the TPB in predicting male's intention to drink and swim with attitude and subjective norms, but not PBC, emerging as significant predictors of intention. Thus, males who have positive attitudes towards drinking and swimming and perceive that people important to them approve of the behaviour are more likely to intend to drink and swim.

Support is found consistently for the role of attitudes in predicting people's intentions (Armitage & Conner, 2001) and, specifically, within risk taking domains such as drink driving (Parker et al., 1992) and risky alcohol consumption (Norman and Conner, 2006). Although reviews have found subjective norm to be the weakest predictor among the TPB variables (Armitage & Conner, 2001) the current study found subjective norm to significantly predict intention. As such, for this behaviour, there appears to be a wide range of referents that can influence males' decision making to drink and swim, a finding supported within alcohol research (Johnson and White, 2003).

The current study did not find support for PBC in predicting intention, suggesting that men **could potentially** believe that they can decide at will whether they drink and swim, **although caution should be taken in interpreting this finding due to the low reliability of the PBC measure.** Although volitional problems are associated with many social and health behaviours (Armitage & Conner, 2001), the importance of PBC is expected to vary across situations and behaviours (Ajzen, 1991). For example, where Armitage et al. (2010) found

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that illegal substance use was determined by PBC this effect was not found for legal substance use which was principally determined by perceived social pressure. Moreover, PBC has been suggested to be related to the perceived risk of specific external inhibiting or facilitating factors occurring rather than the frequency of occurrence (for a review, see van der Pligt, 1998). Males have been found to overestimate their ability to cope with and underestimate the risks associated in aquatic situations (McCool et al., 2006); thus, it could be that men are not accurate in their perceptions regarding control factors due to low exposure of situations conducive to drinking and swimming. Ajzen (1991) states that the strength of PBC in determining intention is reflective on perceptions of control being accurate.

For the additional constructs, there was partial support for Hypothesis 2 in that group norm, anticipated regret, and objective risk, but not perceived risk (i.e., perceived susceptibility and perceived severity), were significant predictors accounting for an additional 10% of variance. While group norm emerged as the strongest predictor of intention, subjective norm retained its significance within the model suggesting that, while it is important to acknowledge the importance of social pressures from others to engage in drinking and swimming, it is also imperative to recognize the influence of salient groups, specifically mates/friends, in this context.

Affective processes are also important to consider in this context. Specifically, it was found that the more men feel they are likely to regret the action, the less likely they are to drink and swim. Thus, a focus on how the prospect of feeling negative emotions, such as regret, after performing a behaviour may serve as a powerful motivating factor in altering an individual's intentions to act. This finding is consistent with previous research where anticipated regret emerged as a significant predictor over and above the TPB variables (e.g., Richard et al., 1998) and supports the role of emotional outcomes being factored into decision

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making. Accordingly, considering both affective and cognitive processes improves our understanding of how men may arrive at their decision to drink and swim.

Among the measures of risk perceptions, objective risk, but not perceived risk (i.e., perceived susceptibility and severity), played a role in intention to drink and swim. This finding and those above also remained significant with the inclusion of past behavior, which emerged as the strongest predictor of intention, supporting Hypothesis 3. Although previously untested within this domain, evidence regarding the predictive utility of perceived susceptibility and perceived severity is mixed, with some studies finding direct effects on intentions (Norman et al., 1999) and others failing to do so (Godin et al., 1991). Previous results have found men to be particularly inaccurate in their risk perceptions by overestimating their ability and underestimating the risk involved regarding aquatic activity (McCool et al., 2006). Additionally, the sample comprised of heavy drinkers and generally heavy drinkers perceive more positive and less negative outcomes from alcohol use than light drinkers (Wiers et al., 2002). Thus, the suggestion of optimism bias or unrealistic optimism, the idea that individuals feel less risk than others to disease or danger (Weinstein & Klein, 1996), as an explanation for the weak relationship between perceived susceptibility and perceived severity and intentions may be appropriate (Norman & Conner, 2006).

However, objective risk, in this context defined as one's swimming ability (McCool et al., 2006), predicted intentions and suggests that the less risk perceived by the individual (due to stronger swimming ability), the more likely they are to intend to engage in drinking and swimming. This finding is somewhat consistent with previous research (White & Hyde, 2010) and supports the independent role of risk perceptions that are more objective than subjective in nature in guiding young males to decide to drink and swim. Overall, the results of this study suggest that males who have positive attitudes towards drinking and swimming,

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perceive that important others approve of the behaviour, consider their friends and mates to hold similar attitudes towards drinking and swimming and would perform the action, feel they are unlikely to regret the activity, have a strong swimming ability, and have performed the behaviour in the past, are more likely to intend to drink and swim.

The results of the current study have important practical implications for future health promotion strategies aimed at reducing the incidence of drinking and swimming. Specifically, the strong effect of normative approval reveals that including a consideration of others' disapproval in strategies to reducing drinking and swimming could be effective (see also Parker et al., 1996). As such, persons who drink and swim could be referred to as irresponsible. Additionally, the significant finding of group norms suggest that interventions aimed to address specific attitudes and practices by incorporating more non-permissive norms and correcting norm misperceptions could help to reduce drinking and swimming especially as research has shown that these perceptions, specifically in relation to drinking norms (Mattern & Neighbors, 2004), tend to be exaggerated.

The current research suggests also that interventions to alter drinking and swimming behaviour via attitude change could prove useful. Thus, strategies that aim to reduce the positive outcomes (e.g. being fun) and increase the negative consequences (e.g., increasing the chance of injury/accidents) of drinking and swimming may be effective. It should be noted, however, that the effectiveness of threatening messages appears dependent on the individual considering themselves vulnerable to the threat portrayed (Hoog et al., 2005), regardless of the severity of the risks involved. Given the lack of significance of perceived risk perceptions in this study, highlighting the positives of not drinking and swimming may be warranted. This positive focus has been found to be an effective strategy (Sibley & Harre,

2009), and particularly relevant for this population with fear appeals appearing less effective with men (Lewis et al., 2007).

Furthermore, the study's findings suggest that the amount of regret expected in undertaking the activity and ones swimming ability are also motivators. Noteworthy, is that behavioural interventions aimed at increasing the salience of anticipated affect has been found to be more effective than interventions targeting attitudes, social norms or PBC, for behaviours such as speeding (Parker et al., 1996). Therefore, interventions can be utilised that increase the salience of negative affective consequences of the behaviour on the basis that as people become increasingly aware of negative feelings following particular actions, individuals are increasing more likely to abandon these behaviours (Richard et al., 1998). Further, as individuals with stronger swimming ability were more likely to intend to engage in this risk taking behaviour, reminding men that swimmers of all abilities are at risk of drowning if they engage in drinking and swimming may serve to be a useful strategy in discouraging this potentially fatal behaviour.

The current study has a number of strengths including a relatively large community sample of young men and targeting an at risk population. To the authors' knowledge, this is first study to investigate the underlying determinants of male alcohol use and recreational swimming from a sound theoretical basis. Thus, the study adds to the body of research supporting the efficacy of the TPB and supports the validity of an extended TPB in the context of drinking and swimming. However, there are some limitations including the sample being predominately Caucasian. Previous research has indicated Caucasians to drink more than other nationalities (Windle, 2003) which could, in part, explain the high rates of hazardous drinking practices indicated within the sample. A further limitation was the use of self-report measures which are susceptible to social desirability bias, leading to under-

reporting of socially undesirable behaviours (Davis et al., 2010). Additionally, the study examined intentions only without explicitly examining actual drinking and swimming behaviour. Although data collection occurred over winter, and given the target behaviour is not one which is expected to frequently occur in the colder season, intentions have been shown to be the strongest predictor of subsequent behaviour (Armitage & Conner, 2001). Finally, the study was correlational in nature and, as such, research is needed to determine the efficacy of this extended TPB in changing male's intention, and subsequently their behaviour.

Overall, the current study provides an understanding of the motivational determinates guiding the drinking and swimming behaviours of young men which, to date, has received scant empirical attention. Given that drowning is a common yet preventable problem and an increased understanding for at risk target populations is required to reduce drowning rates, gaining knowledge of the motivational determinants in relation to drinking and swimming is imperative. This information will inform the development of resultant interventions and prevention programs designed to discourage alcohol use in, on, or around water.

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Table 1

Means, Standard Deviations, and Bivariate Correlations of all Variables in the Model

Variable	1	2	3	4	5	6	7	8	9	10
1. Attitude	-	.58***	.46***	.58***	-.56***	-.49***	-.58***	.08	.41***	.70***
2. Subjective Norm		-	.42***	.57***	-.41***	-.37***	-.43***	.07	.36***	.63***
3. Perceived Behavioural Control			-	.43***	-.40***	-.43***	-.43***	.27***	.22***	.44***
4. Group Norm				-	-.39***	-.40***	-.47***	.17**	.46***	.70***
5. Anticipated Regret					-	.53***	.59***	-.17**	.25***	-.51***
6. Perceived Susceptibility						-	.65***	-.32***	.34***	-.49***
7. Perceived Severity							-	-.13*	.26***	-.48***
8. Objective Risk								-	.15*	.23***
9. Past Behaviour									-	.66***
10. Intention										-
Mean	3.57	2.63	5.53	4.00	2.83	3.79	2.87	4.97	-	3.48
SD	1.37	1.29	1.10	1.50	1.60	1.53	1.59	1.40	-	1.86

* $p < .05$, ** $p < .01$, *** $p \leq .001$

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Table 2

Hierarchical Multiple Regression Analysis of Intentions to Drink and Swim

Variable	Model 1			Model 2			Model 3		
	B	β	95%CI	B	β	95%CI	B	β	95%CI
Attitude	.65	.48***	[.49, .81]	.45	.33***	[.29, .62]	.35	.26***	[.21, .50]
Subjective Norm			[.23, .62]			[.15, .45]			[.12, .38]
Perceive Behavioural Control	.46	.32***		.30	.21***		.25	.17***	
	.16	.09	[-.02, .34]	-.02	-.01	[-.19, .15]	.03	.02	[-.12, .17]
Group Norm						[.30 .56]			[.18, .43]
				.43	.35***		.31	.25***	
Anticipated Regret						[-.56, -.04]			[-.25, -.03]
				-.13	-.11*		-.14	-.12*	
Perceived Susceptibility						[-.23, .01]			[-.16, .08]
				-.13	-.10		-.04	-.03	
Perceived Severity						[-.01, .27]			[-.05, .20]
				.13	.10		.07	.06	
Objective Risk						[.01, .25]			[.01, .20]
				.13	.10*		.10	.08*	
Past Behaviour									[.35, .57]
							.46	.34***	
R ²			.58			.68			.76
F			90.69***			51.24***			68.39***
ΔR^2						.10			.08
ΔF						12.19***			66.49***

Note: * $p < .05$, ** $p < .01$, *** $p < .001$