J Gambl Stud (2018) 34:1–20
https://doi.org/10.1007/s10899-017-9684-4

ORIGINAL PAPER

Daily Grind: A Comparison of Causality Orientations, Emotions, and Fantasy Sport Participation

Brendan Dwyer[1] · **James Weiner**[2]

Published online: 14 March 2017

Abstract In 2015, daily fantasy football entered the fantasy sports market as an offshoot of the traditional, season-long form of the game. With quicker payouts and less commitment, the new activity has drawn comparisons to other forms of illegal gambling, and the determination of whether it is a primarily a game of skill or chance has become the center of the comparison. For the most part, legal commentators and society, in general, views traditional, season-long fantasy football as an innocuous, social activity governed equally by both skill and chance. Little evidence exists, however, about participant perception of skill and chance components in daily fantasy football. The current study surveyed 535 daily and traditional-only fantasy football participants in order to understand differences and similarities in the causality orientations of participation (skill or chance). In addition, enjoyment and anxiety were tested for mediating effects on causality orientations and consumption behavior. The results suggest the differences between the activities are not extreme. However, differences were found in which causality orientations influenced enjoyment and which emotion mediated the relationship between perceived skill and consumption.

Keywords Fantasy sports · Daily fantasy sports · Skill and chance · Media consumption

✉ Brendan Dwyer
bdwyer@vcu.edu

James Weiner
james.weiner@louisville.edu

[1] Virginia Commonwealth University, P.O. Box 842003, Richmond, VA 23284-2003, USA

[2] University of Louisville, Room 104L – SAC E, Louisville, KY 40292, USA

Introduction

For the contemporary sport fan, the allure of fantasy football is multi-faceted. It is entertaining, engaging, competitive, and most importantly, a relatively simple game for connecting with family, friends, and co-workers. An additional draw of fantasy football is the perceived control over an unpredictable product, professional football. Each week, participants set lineups, trade players, and make decisions that directly impact their success or failure as a team. This perceived control has been found to directly and positively predict media consumption prior to and during competition, as participants aim to make informed decisions leading up to games, and then want to see these decisions pay off (Dwyer 2011b).

For professional sport organizations, media providers, and broadcasters, fantasy football is an attractive activity for other reasons. The rapid growth throughout the late 1990s and early part of the 21st century has been sustained. Participation rates have remained steady and as a result, the activity has greatly supported professional sport organizations like the National Football League (NFL) and its 32 teams. It has also led to major changes in broadcasting strategy at the major networks of CBS, ABC/ESPN, and FOX as participants voraciously crave statistical data at unprecedented levels. Currently, it is estimated that over 59 million Americans participate in some form of fantasy sport (Fantasy Sport Trade Association, FSTA 2016a). Total economic activity surrounding the endeavor is difficult to truly capture given the method through which league entry fees are dispersed following the season, but direct revenues of the industry are estimated to be nearly $1 billion and the economic impact over $5 billion when you include the media products and services associated with participation.

Daily fantasy football (DFS) entered the market as an offshoot of the traditional, season-long form of the game (TFS) with a major advertising push in the late summer of 2015. The premise of the daily game is similar to the season-long activity, but allows participants to form teams and leagues for the duration of 1 week as opposed to the entire season. There is less commitment, and the flexibility to own new or different players and compete against new opponents is a huge draw for participants. Additionally, shorter contests lead to faster payments as winners are paid only a week after submitting their entry, as opposed to traditional leagues where winners are paid at the end of the 5-month season.

The DFS advertising campaign, in 2015, appeared to heavily promote the quick turn-around in payments, as well as the opportunity to win substantial amounts of money (>$1 million) with a minimal investment (<$10). These advertisements immediately captured the attention of a number of lawmakers and regulators, including the Nevada Gaming Commission, who questioned whether DFS was indeed a game of skill rather than chance. Quickly, DFS was scrutinized at state capitals across the country. In some cases, it was deemed an illegal form of gambling (e.g., TX and NV) and prohibited from operation. At the center of the debate about legality is the quotient of chance versus skill (control) in the activity. The same attribute mentioned above that is a major draw of TFS participation.

Unpredictability or chance is central to sport just as it is an important aspect of all forms of competition. Thus, the notion that fantasy sport, in any form, would be completely a game of skill is highly unlikely. However, the idea that DFS is governed primarily by skill as opposed to chance is how the activity has avoided being termed gambling. Games termed gambling, such as poker, blackjack, and the lottery, are seen as dictated primarily by chance than the effort or ability of the participant (Meyer et al. 2013; Myrseth et al. 2010). And while state legislators are weighing these conversations from a public policy

perspective, little empirical evidence exists explaining how participants grapple with the notion of skill and chance.

Currently, it is estimated that over 3 million individuals participate in DFS despite being strictly prohibited in five states and non-operational in five others. Its rapid growth has been supported by the aforementioned TFS landscape; however, DFS has toed the line between the perceived innocuous family friendly activity of TFS and illegal gambling. Yet, little is known about differences in participation. The purpose of the current study was to explore the perceptions of outcome causality (perceived chance and skill) among TFS-only and DFS participants, and to examine how these causality orientations relate to emotion and consumption for both activities.

Gambling and, in particular, sport wagering is an entertaining and lucrative enterprise. However, the regulation associated with gambling activities is robust as the outcomes stemming from problem behavior and addiction are debilitating. A recent study of college students found that fantasy sport players were more likely to experience gambling-related problems than non-players (Martin et al. 2016, p. 575). Currently, DFS is unregulated in most states. Understanding the attitudes and behaviors of DFS participants as it relates to perceptions of skill and chance should provide public policy makers with key information about this highly scrutinized activity.

Literature Review

Empirical research associated with fantasy football participation has witnessed growth that parallels participation rates. Since 2007, a number of studies have examined motives, segmented participants by gender, behavior, and/or consumption, and explored the social and psychological benefits associated with the activity (cf., Dwyer et al. 2013; Farquhar and Meeds 2007; Lee et al. 2010). Within this knowledge base, the perception of skill and chance has also received attention from researchers. Dwyer (2011a) found that one's level of fantasy football involvement was positively predicted by the belief that the game was more skill than chance. Dwyer and LeCrom (2013) not only found that novice participants were specifically drawn to the perceived skill aspect of fantasy football, but that media consumption of NFL games and programming was driven by this perception of control. Participants consumed more pre-game media to make more informed decisions, and were then drawn to watching their fantasy teams at a rate similar to their favorite team (Dwyer and LeCrom 2013). However, this phenomenon was not always positive; participants noted that aspects related to this perception of control (i.e., line-up decisions or trades) created tension and anxiety (Dwyer and LeCrom 2013).

The previous work in this area was exploratory and/or examined the aspects of skill and chance in an ancillary fashion. In addition, the focus has always been on TFS, and given the newly formed and highly scrutinized DFS platform, an opportunity exists to understand how skill related perceptions impact participation and potentially drive behavior among users. To that end, causality orientations theory was utilized to guide the examination, as understanding the impact of internal control or external forces was paramount. The following section highlights the current study's theoretical background and framework for examination.

Theoretical Background

Causality Orientations Theory

Stemming from Deci and Ryan's (2002) self-determination theory, causality orientations theory (COT) focuses on motivational orientations within environments towards behavior that is regulated by a range of internal and external stimuli. For instance, certain people feel they control their environment while others believe it is out of their hands. As a result of these orientations, individuals are drawn to certain activities based on the perception of impact they have on the outcome. Based on the range of possible stimuli, COT assesses people on three orientations that have various degrees of effect on behavior: autonomy, controlled, and impersonal.

Autonomy involves the belief that one is control of his/her environment. Individuals who score high in this orientation are intrinsically motivated, seek challenges, and take responsibility for success and failure. This orientation is positively related to one's self-determination, self-esteem, ego development, and private self-consciousness (Deci and Ryan 1985; Ryan and Deci 2006). The controlled orientation meanwhile is the level of one's orientation toward external regulation concerning how one should act or through reward structures (Koestner and Zuckerman 1994). Individuals who display this orientation are motivated by reward or opportunity. While there is still a belief in the connection between actions and outcomes, behaviors that are motivated by the controlled orientation are not governed solely by oneself as in the autonomy orientation, but are shaped by demand (Deci and Ryan 1985). The impersonal orientation relates to one's belief that outcomes are beyond his/her control and that achievement is largely a matter of chance (Ryan and Deci 2006). Individuals who maintain a high level of impersonal causality give up control, as they do not perceive much influence over the outcome.

The orientations have been linked to individuals' personalities differences. Causality orientations theory suggests that the distinct orientations (autonomy, controlled, and impersonal) are forms of motivation where individuals navigate a specific situation based on their perceived ability to impact the outcome. This perspective has been utilized to understand binge drinking in college students (Neighbors et al. 2004) and physical exercise in older adults (Solberg et al. 2013). Thus, within the current study, causality orientations were utilized to understand fantasy participant motives based on perceived environmental control.

Motives–Emotion–Behavior Framework

Motives represent a foundational cue for individual behavior. Motives come in many forms including intrinsic or extrinsic, achievement or incentive, affiliation or individuality, and power or fear. Understanding motivation is crucial, as it represents a key psychographic indicator that leads to goal-oriented behavior (Mowen and Minor 1998). However, these interactions do not occur in a vacuum. Other factors impact decision-making and, ultimately, behavior.

Emotion, or an individual's natural state of mind based on mood or circumstances, is also an influential antecedent to behavior. In other words, how we feel guides behavior. For instance, shopping research conducted by Dawson et al. (1990) was the first to investigate the mediating effect of emotion between motives to purchase decisions. Based on the motivation work of Westbrook and Black (1985), the above researchers explored the

impact of product and experiential motives with pleasure and arousal (emotion) on purchase choice and satisfaction (behavior). The results suggested pleasure mediated all forms of behavior and satisfaction; arousal, on the other hand, mediated purchase choice and expectations met.

Since this piece, the mediating impact of emotions between motives and goal-directed behavior has been extended to a number of contexts including atmospherics (Morrison et al. 2011) and social networks (Kim et al. 2011). Rodriguez et al. (2015) examined the relationship between causality orientations, emotions, and gambling behavior and found that the autonomy orientation positively impacted enjoyment of playing and enjoyment and excitement of playing positively impacted gambling frequency. However, the mediating relationship of emotions was not explored.

The current investigation sought to explore the mediating impact of emotions between motives of fantasy participation (i.e., causality orientations) and consumption behavior. For example, does enjoyment or anxiety mediate the relationship between autonomy (skill motive) and fantasy participation? Figure 1 displays the relationships and research questions associated with each relationship under examination. A number of possible emotions could have been examined as part of this investigation. The current study aimed to examine one positive and one negative emotion. Enjoyment was chosen as the positive emotion based on previous work in customer, fantasy sports, and gambling contexts (Dawson et al. 1990; Dwyer and Kim 2011; Rodriguez et al. 2015). Similarly, anxiety was selected as the negative emotion based on fantasy sports and gambling literature (Broman-Fulks et al. 2014; Dwyer and LeCrom 2013).

At the confluence of traditional and daily fantasy sports, causality orientations, and emotion, the following research questions were devised to guide the study:

RQ1: How do causality orientations associated with TFS-only and DFS participation impact decision anxiety among participants?
RQ2: How do causality orientations associated with TFS-only and DFS participation impact enjoyment among participants?

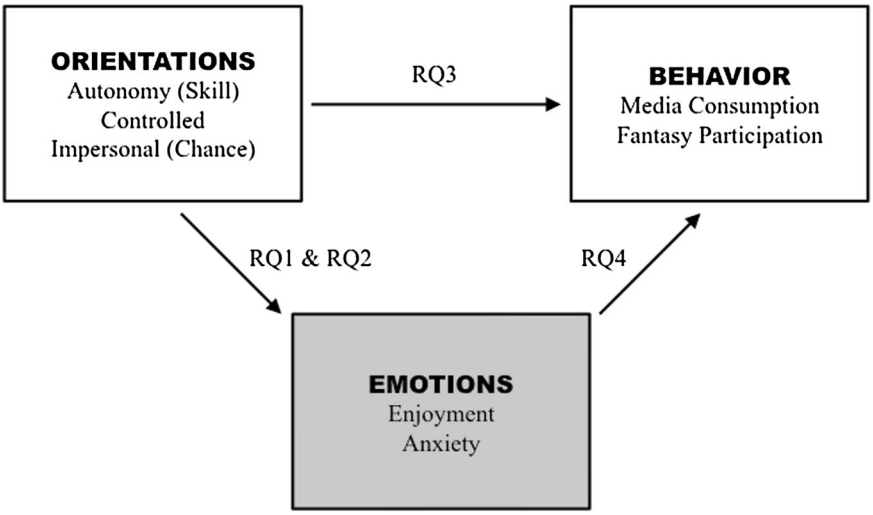

Fig. 1 Proposed causality orientations–emotions–behavior framework

RQ3: How do causality orientations associated with TFS-only and DFS participation impact consumption?
RQ4: How do the emotions of enjoyment and decision anxiety associated with TFS-only and DFS participation impact consumption?

Methods

Sample and Procedure

This study targeted both DFS and TFS participants. Recent industry research, as cited by Gouker (2015), has concluded that only a small percentage of TFS participants are playing DFS, but most of DFS participants (83%) are playing season-long contests. Thus, the current research team chose to group respondents into TFS participants with no DFS experience (TFS-only) and DFS participants with or without TFS experience. Understanding that this may be a limitation for a group contrast, the research team aimed to align with industry standards. The current sample of DFS participants nearly matched these standards, as 75.3% of DFS respondents indicated playing TFS as well.

Fantasy football was the activity under examination and a sample was solicited via Amazon's Mechanical Turk (MTurk). MTurk is an online marketplace where researchers and scholars can recruit paid workers to complete "Human Intelligence Tasks" (HITs). In this case, the research team hired workers, in the form of fantasy sport participants, to complete an online survey hosted by formsite.com. MTurk has been used to study several topics including risk taking and human networking and cooperation (Eriksson and Simpson 2010; Suri and Watts 2011). This sampling method has even been used to study the migration rate of casino gamblers to online gamblers (Kim et al. 2015). Methodologists Casler et al. (2013) examined the reliability and validity of MTurk data collection compared to social media solicitation and face-to-face testing and found MTurk to be a favorable data collection method especially when targeting a diverse population.

Potential respondents were offered $.25 (USD) for a completed survey. Fantasy sports participation is ubiquitous, and occurs almost entirely online. The portals through which participants manage and interact with their teams is online, information about fantasy players and game tactics are online, as is the communication between and within leagues. Thus, taken together, an online solicitation through MTurk was deemed acceptable to reach a generalizable sample. The survey questionnaire was hosted by FormSite.com.

Data collection occurred over 4 weeks of the 2015–2016 National Football League (NFL) season. Based on previous or current DFS participation, potential respondents were provided different surveys. If a respondent had played or was currently playing DFS, he/she was provided the DFS survey where the items and instruments listed below were adapted to the DFS environment. Participants of the TFS portion of the study were retained if they never had experience with DFS, and received items and instruments adapted to TFS.

Measures

Each instrument selected for the current study was adapted from previous research (Dwyer et al. 2013; Graves et al. 2010; Leykin and DeRubeis 2010; Murphy et al. 1999). Regardless, each was evaluated following Stanton et al. (2002) item evaluation criteria. Prior to data collection, items were selected and rigorously evaluated for judgment quality.

For instance, the research team evaluated an item's quality of expression and relevancy to the topic, and a pilot test of 24 individuals (10 DFS; 12 TFS-only participants; 2 communications faculty members) was conducted to ensure face and content validity. After data collection, the items and factors scores were subject to reliability testing (internal item quality) and convergent and discriminant validity testing (external item quality). See the appendix for exact item wording, means, and standard deviations.

Autonomy

Autonomy, as conceptualized within COT theory, is the notion that behavior is guided when an individual believes he/she dictates or controls the outcome. To measure with respect to fantasy sport participation, the research team utilized the *Internality* factor of Murphy et al.'s (1999) Locus of Control instrument. This two-factor instrument (internality and externality) was developed to predict treatment adherence of injured athletes, but has been utilized previously in relation to fantasy sports behavior (Dwyer et al. 2016). The items were adapted to match fantasy football participation or daily fantasy football participation as opposed to injury treatment.

Controlled

The controlled orientation of COT theory is based on external reward based structure or outcomes of an activity. In this case, MacCrimmon and Wehrung's (1986) Perception of Risk scale was utilized. While the name is Perception of Risk, the four-item instrument is a semantic differential where one end was a negative consequence (loss, threat, failure, negative situation) and the other was a positive reward (gain, opportunity, win, positive situation). Since the potential for external reward was one way the controlled orientation was conceptualized (Gagné and Deci 2005; Koestner and Zuckerman 1994), a scale assessing perceived reward from the activity was deemed appropriate. A similar adaptation was utilized by Sitkin and Weingart (1995), where the researchers used the scale as an antecedent to behavior.

Impersonal

The *Externality* or *Chance* dimension of Murphy et al.'s Locus of Control instrument was used to measure the impersonal orientation. As prescribed through COT theory, the impersonal orientation explains outcomes external to the individual, where regulation or initiation are beyond a person's control. Once again, the items were adjusted to match fantasy football or daily fantasy football participation.

Anxiety

To measure anxiety within fantasy football participation, the research team utilized Leykin and DeRubeis' (2010) *Anxiety* factor from their Decision Styles instrument. The five-item factor focuses specifically on state anxiety and not trait. State anxiety was targeted, and while the state subdimension of the State-Trait Anxiety Inventory was a possibility, best practices in measuring state anxiety within a given activity suggests that a specific decision or moment in time should be prompted as activation (Ekkekakis et al. 1999). Furthermore, stress and anxiety related to fantasy football centers on the fear of making the wrong

decisions that lead to failure (Dwyer and LeCrom 2013; Troy 2014). Failure that occurs as a result of your opponent performing better does not stress out participants as much as failure due to making the wrong decision related to trades or line-ups. Thus, a decision anxiety items adapted to match either daily or season-long fantasy football were deemed appropriate.

Enjoyment

Emotions related to enjoyment within fantasy football participation were assessed through an abbreviated version of Kendzierski and DeCarlo's (1991) Physical Activity Enjoyment Scale. In particular, the items related to how much a participant enjoys, has fun, and is frustrated with TFS-only and DFS were selected. A similar adaptation was conducted by Graves et al. (2010) in their examination of enjoyment of Nintendo Wii participation.

Fantasy Sport-Related Consumption

Previous fantasy sport research has found that participation substantially impacts sport media consumption both directly related to one's fantasy team (i.e., internet activity) and through traditional broadcast media (i.e., television and radio content) (Drayer et al. 2010; Nesbit and King 2010). And while consumption behavior could be measure in terms of the number of teams managed or the amount of money invested in league entry fees, the strongest correlation found with fantasy football involvement is media consumption leading up to and media consumption during one's fantasy competition (Dwyer 2011b). As a result, the current study utilized hours per week spent following fantasy sports via traditional broadcast media and conducting fantasy sport-related research via new media (internet, mobile phone, social media, etc.) as a means to measure TFS-only consumption.

For DFS, the outcome of most importance is number of contests entered per weekend. While money invested is important, frequency of participation or "chasing" within an activity has been found to be an important behavioral pattern within the gambling literature (Breen and Zuckerman 1999). The premise of DFS supports multiple entries, not only within a specific tournament or competition, but also over time. For example, a participant can enter multiple contests on Thursday night, multiple contests for the 1 pm Eastern kickoffs, the same for the 4 pm kickoffs, Sunday Night Football, and Monday Night Football. "Chasing" or attempting to win back previous losses is a known behavior pattern among gamblers (Breen and Zuckerman 1999), and it has been found to be a predictor of potential problem gambling (Lesieur 1979). Thus, taken together, the outcome variable of most importance for DFS participants was not media consumption, but the number of contests entered each weekend.

Data Analysis

A series of multiple linear regression analyses were conducted to explore the relationships between the above measures on the two samples. Prior to regression analyses, descriptive statistics were run and interpreted to assess key assumptions as prescribed by Brown (2012). In addition, instrument reliability and validity were assessed via composite reliability and average variance extracted scores (AVE). Once reliability and validity scores from the factors were confirmed, factor means were calculated for additional analyses.

To answer RQ1 and RQ2, four separate multiple linear regressions were conducted where enjoyment and decision anxiety were individually regressed on the causality orientations (Autonomy, Controlled, and Impersonal) of both TFS-only and DFS participants. To answer RQ3 and RQ4, two hierarchical linear were conducted where the consumption items (media for TFS-only and the number of teams for DFS) were regressed on the causality orientations (Autonomy, Controlled, and Impersonal) in Step 1 and causality orientations and emotions (enjoyment and decision anxiety) in Step 2. This procedure provides both the impact of causality orientations on media consumption, and it tests the effects of the emotion on fantasy-related consumption while controlling for the causality orientations. This process helped determine how much additional variance emotion would explain in one's fantasy-related consumption after the causality orientations had been factored in.

To understand the effects of each independent variable (3 causality orientations) and potential mediators (2 emotions) on the dependent variable, a stepwise procedure was used within each hierarchical block to separately test the effects of causality orientations and emotion on fantasy-related consumption. According to Field (2013), stepwise regression is a worthwhile technique exploring a new model. The stepwise technique also provided which variable had the greatest impact on the outcome, as the first predictor variable entered would include the shared variance explained by all predictors. Thus, two stepwise, hierarchical regressions, one for each of the dependent variables were conducted. According to Cohen (1992), a minimum of 6% of the variance explained in the outcome variable is an appropriate standard for practical meaningfulness.

Results

A total of 596 fantasy football participants began the survey questionnaire with 546 completing it. Respondents who did not complete the entire survey questionnaire or provided patterned responses were removed from the sample. Two hundred fifty-five indicated playing DFS (48%) and were asked questions only about their DFS participation. The remaining 279 participants had no DFS experience and were provided questions solely about TFS participation. Additional information about the sample is available in Table 1.

Instrument reliability and validity were assessed through composite reliability and AVE scores. Table 2 displays the reliability, convergent validity and correlation scores for each factor for both models. The instrument scores met the threshold for reliability established by Cohen (1992). The convergent validity scores, however, exceeded Fornell and Larcker's (1981) criterion for acceptable AVE scores.

Research Questions 1 and 2

Table 3 displays the multiple linear regression analyses for RQ1 and RQ2. With respect to RQ1, both models were statistically significant [TFS-only: F (3246) = 12.336, $p < .001$; DFS: F (3246) = 15.649, $p < .001$]. The TFS-only model explained 15.1% of the variance, while the DFS model explained 20.1%. In both models, the *Autonomy* and *Impersonal* factors were positive contributors to decision anxiety among participants, and *Controlled* was a negative predictor. For RQ2, both models were also statistically significant [TFS-only: F (3246) = 39.785, $p < .001$: DFS: F (3246) = 16.775, $p < .001$]. The TFS-only model in this case explained 20.8% of the variance, and the DFS model

Table 1 Sample demographics

Traditional ($N = 279$)				Daily ($N = 256$)			
Age	Mean	33.4		Age	Mean	33.7	
	SD	10.7			SD	9.7	
	Range	18–74			Range	19–69	
Gender	Female	92	34%	Gender	Female	20	8%
	Male	176	66%		Male	236	92%
Ethnicity	Asian	19	7%	Ethnicity	Asian	49	20%
	Black	18	7%		Black	21	9%
	Caucasian	206	77%		Caucasian	162	66%
	Hispanic	11	4%		Hispanic	5	2%
	Other	15	6%		Other	10	4%
Education	High school	23	8%	Education	High school	19	8%
	Some college	63	23%		Some college	53	21%
	Associates	24	9%		Associates	28	11%
	Bachelors	113	42%		Bachelors	103	41%
	Masters	39	14%		Masters	42	17%
	Doctorate	9	3%		Doctorate	4	2%
Income	Less than $50,000	48	18%	Income	Less than $50,000	47	19%
	$50,000–$74,999	85	31%		$50,000–$74,999	62	25%
	$75,000–$99,999	67	25%		$75,000–$99,999	67	27%
	$100,000–$149,999	35	13%		$100,000–$149,999	31	13%
	$150,000–$199,999	28	10%		$150,000–$199,999	23	9%
	$200,000–$249,000	5	2%		$200,000–$249,000	10	4%
	$250,000 or more	2	1%		$250,000 or more	8	3%
Number of leagues	Mean	1.94		Number of contests/week	Mean	3.3	
	SD	2.4			SD	4.2	
	Range	1–20			Range	1–30	
Attraction to players[a]	Mean	5.4		Attraction to players[a]	Mean	5.6	
	SD	1.3			SD	1.1	

[a] Measured on seven point Likert type scale

explained 33.8%. The *Controlled* causality was a positive predictor for participant enjoyment for both type of players, and the *Impersonal* causality was a positive contributor for the TFS-only subgroup. The *Autonomy* orientation was not found to be significant for either group.

Research Questions 3 and 4

The results of the two stepwise hierarchical regressions to answer RQ3 and RQ4 are displayed in Table 4. To test the impact of the three causality orientations on consumption, block one of the hierarchical regression was interpreted.

For TFS participants, media consumption was used as the outcome variable, and the block one results revealed that the *Autonomy* orientation was the only statistically

Table 2 Factor means, reliability, validity, and correlations

Factors	Composite reliability	AVE	1	2	3	4	5
TFS-only participants							
1. Autonomy (skill)	.913	.778	–				
2. Controlled	.844	.643	.158**	–			
3. Impersonal (chance)	.702	.525	−.083	.153*	–		
4. Anxiety	.873	.596	.291***	−.051	.146*	–	
5. Enjoyment	.923	.856	.139*	.555***	.204**	−.043	–
N	–	–	279	279	279	279	279
Mean	–	–	4.06	5.22	4.83	3.71	5.59
SD	–	–	1.32	1.21	1.04	1.65	1.33
DFS participants							
1. Autonomy (skill)	.778	.539	–				
2. Controlled	.810	.587	.216**	–			
3. Impersonal (chance)	.711	.545	−.047	.190***	–		
4. Anxiety	.908	.663	.294***	−.003	.360***	–	
5. Enjoyment	.720	.566	.267***	.444***	.147*	−.188**	–
N	–	–	256	256	256	256	256
Mean	–	–	4.55	5.31	4.86	3.93	6.04
SD	–	–	1.24	.94	1.07	1.65	1.07

All factors measured on a seven-point Likert type scale

*** $p < .001$; ** $p < .01$; * $p < .05$

Table 3 Multiple linear regression results for RQ1 and RQ2

Outcome variable	Predictor variables	TFS-only			DFS		
		Standardized β	*t*	*p*	Standardized β	*t*	*p*
Anxiety	(Constant)		3.108	.002**		2.620	.009**
	Autonomy (skill)	.345	5.925	<.001***	.229	3.45	.001**
	Controlled	−.137	−2.337	.020*	−.141	−2.088	.038*
	Impersonal (chance)	.237	4.148	<.001***	.352	5.257	<.001***
Enjoyment	(Constant)		3.134	.002**		7.640	<.001***
	Autonomy (skill)	.086	1.694	.092	.020	.302	.763
	Controlled	.516	1.04	<.001***	.432	6.45	<.001***
	Impersonal (chance)	.173	3.46	.001**	.030	.457	.648

*** $p < .001$; ** $p < .01$; * $p < .05$

Table 4 Hierarchical regression results for RQ3 and RQ4

Model	Unstandardized coefficients		Standardized coefficients	*t*	*p*
	B	SE	β		
TFS-only *Media consumption*[a]					
Step 1					
(Constant)	−.251	3.054			
Autonomy (skill)**	1.027	.367	.174	2.801	.005
Controlled	−.114	.405	−.018	−.280	.779
Impersonal (chance)	.576	.459	.077	1.254	.211
Step 2					
(Constant)	−3.123	3.103			
Autonomy (skill)	.858	.384	.155	1.452	.056
Controlled	−.431	.469	−.067	−.919	.359
Impersonal (chance)	.039	.474	.005	.083	.934
Anxiety**	1.106	.365	.194	3.029	.003
Enjoyment*	.911	.454	.147	2.006	.046
DFS *Number of contests/week*[b]					
Step 1					
(Constant)	4.833	2.109		2.291	.023
Autonomy (skill)	−.128	.250	−.037	−.513	.608
Controlled	.333	.337	.073	.986	.325
Impersonal (chance)*	−.580	.292	−.144	−1.989	.047
Step 2					
(Constant)	4.008	2.462		1.628	.105
Autonomy (skill)	−.297	.254	−.087	−1.17	.243
Controlled	.508	.365	.111	1.39	.166
Impersonal (chance)**	−.876	.310	−.220	−2.829	.005
Anxiety**	.656	.240	.217	2.733	.007
Enjoyment	−.084	.364	−.018	−.230	.818

[a] $R^2 = .087$ for Step 1; $\Delta R^2 = .111$ for Step 2 ($p < .01$)

[b] $R^2 = .063$ for Step 1; $\Delta R^2 = .082$ for Step 2 ($p < .01$)

significant predictor of media consumption. After controlling for the causality orientations, both decision anxiety and enjoyment explained an additional 11.1% of the variance.

For DFS participants, the average number of contests entered per week was the outcome variable. The block one results for this stepwise hierarchical regression exposed the *Impersonal* orientation as the only statistically significant contributor to the number of contests entered per week ($\beta = -.144$). After controlling for the causality orientations, only decision anxiety explained an additional 8.2% of the variance, as enjoyment was not statistically significant.

Discussion

In an effort to compare and contrast DFS and TFS-only participation, the current study explored the relationship between causality orientations, emotion, and behavior of the two groups of fantasy football participants. Among the causality orientations under examination were a belief in autonomous control (skill) and impersonal control (chance). These two factors also happen to be at the center of the political scrutiny surrounding DFS competition. Understanding how these orientations impact both the emotional response and consumption behavior of fantasy participants provide important psychographic and dispositional information of these lucrative segments of sport consumers.

Skill Versus Chance

The relationships among the three different causality orientations were similar for both forms of fantasy participation. The *Controlled* orientation was positively correlated with the *Autonomy* and *Impersonal* orientations. No relationship, however, was found between the *Autonomy* and *Impersonal* orientations. This result was unexpected as these orientations represented the skill (*Autonomy*) and chance (*Impersonal*) components of fantasy participation. Thus, a negative relationship was theorized. The results add to a clouded belief that the activity includes a measurable amount of both skill and chance. The fantasy sport industry has argued vociferously that the game is primarily skill-based (FSTA 2016b), and many legal commentators believe the balance between skill and chance will be a major factor in the policy concerns going forward.

The current study's results are mixed as it relates to this important debate. First, both aspects positively impact anxiety (negative emotion) and do not impact enjoyment (positive emotion). However, the *Autonomy* (skill) aspect positively impacts media consumption for TFS-only participants, and the *Impersonal* (chance) aspect negatively impacts the number of teams entered by DFS participants. The latter results seem to work together despite the different activities. On one hand, TFS-only participants consume more as the perception of skill associated with the activity increases, and on the other hand, DFS participants are less likely to enter more teams as the perception of chance associated with activity increases. The former results related to anxiety may be worrisome to policy makers given the impact of anxiety within gaming and gambling context (i.e., increased isolation, alcohol and drug dependency, etc.) (McCormick et al. 1984). The latter result is potentially interesting as a notable DFS strategy is to enter multiple lineups to enhance your opportunity to win (Hunter 2016). Additional research is suggested to further understand both the perceptions of skill and chance among chasing behavior, but also the actual skill and chance aspects required in participation.

The *Controlled* orientation (opportunity based) results parallel previous fantasy sports research related to the impact of monetary gain. Dwyer and Kim (2011) found a small subgroup of TFS-only participants were drawn to the financial gain aspect of fantasy football, yet the consumption behavior of these participants was unaffected by this motive. In the current study, the *Controlled* orientation negatively impacted anxiety for DFS participants and positively impacted enjoyment for both groups, which may speak to the positive aspect of this orientation. However, consumption behavior was unaffected by this orientation. Perhaps these results suggest the ancillary nature of external reward for participants. It has been found to be a motive, but lower-level motive in predicting behavior compared to

social interaction, competition, arousal, and entertainment (Dwyer and Kim 2011; Farquhar and Meeds 2007).

Similarities and Differences

One of the goals of this exploration was to uncover similarities and differences in TFS-only and DFS participation. The only stark contrast demographically was gender, as 34% of TFS-only participants were female compared to 8% of DFS participants. Otherwise, the groups were similar in age, income, and education. In addition, both groups were similarly attracted to their fantasy players. As for the causality orientations, emotion, and consumption related outcomes, the mean differences were slight.

Mediating Effect of Emotion

Perhaps the biggest difference was related to the mediating effect of emotion. Following a framework developed in retail yet confirmed in a number of other contexts including social networking and sport tourism, the current study validated the mediating effect of emotion on the relationship between motives and behavior. In this case, the impact of enjoyment (positive emotion) and anxiety (negative emotion) was explored as it relates to causality orientations related to fantasy sport participation and consumption behavior. Results of the current study suggest that anxiety mediates the relationship between the *Autonomy* (skill) orientation and media consumption of TFS-only participants. In other words, as one's perceived control over fantasy football outcomes increase, anxiety increases, and his/her consumption of mediated NFL content increases. Enjoyment appears to positively impact media consumption as well, but *Autonomy* did not statistically impact enjoyment. Thus, mediation could not be concluded. The other causality orientations were not found to impact media consumption of TFS-only participants.

Previous TFS-only research by Dwyer and LeCrom (2013) has supported the notion of cognitive dissonance in participation, and the current study's findings of positive and negative emotions positively impacting media consumption confirms this idea. Dwyer and LeCrom found participants that were conflicted by what they could control and what they could not, and current study suggests that increased perceptions of both skill (autonomy orientation) and chance (impersonal) positively impacted anxiety. Taken together, despite the emotional reaction, the autonomous belief in fantasy participation appears to be good from a consumption perspective. Certainly, the explosion of media services, content, and programming associated with fantasy sports underscores this population's desire for information (Steinberg 2014). However, if the mediating emotion is potentially a negative feeling, are there long-term consequences to this behavior? Over time, anxiety has been found to have detrimental effects (Leykin and DeRubeis 2010). Are participants willing endure these feelings year after year and will the novelty of the game wear off? Or, will the game evolve to encourage more skill components and in an attempt to eliminate chance all together?

The mediating effect of emotions between causality orientations and DFS participant consumption was less clear. The *Impersonal* orientation positively impacted anxiety and anxiety positively impacted the number of contests entered by DFS participant when controlling for the impersonal orientation; however, the impersonal orientation not only remained a statistically significant predictor of participation level, the negative relationship toward participation level strengthened. Thus, it is not possible conclude mediation. In addition, the relationship is reversed at the emotional level. Where a decreased belief in the

chance aspects of DFS positively predicts more teams entered each week, the relationship between the chance factor and anxiety and anxiety and the number of contests entered is positive. This suggests that the increased perception of influential chance factors increases anxiety and thus increases the number of teams entered each week; this logic is difficult to follow. It appears something else is going within these relationships. More research within DFS participation as it relates to anxiety, skill and chance, and engagement is suggested. The individual impacts of the *Impersonal* orientation and anxiety are discussed below.

These mediating effect differences could also possibly signify the importance who participants are playing, as opposed to simply why you are playing. Nearly three-quarters of all TFS participation is against family, friends, and co-workers, where most DFS participation is against strangers (FSTA 2016c). In addition, social interaction and social competition has been found to be important drivers of TFS participation. Perhaps the difference in anxiety outcomes is related to the pressure to compete with those close to you. One would think the possibility of immediately losing money, as is the case in DFS, would also be a source of anxiety related to skill and chance, the results to do not support this notion.

Anxiety and Enjoyment

As it relates to anxiety and the RQ1 results, it appears DFS and TFS-only participation is impacted similarly by causality orientations. The *Autonomy* and *Impersonal* positively contribute to anxiety, and the *Controlled* orientation negatively impact it. Each of these relationships was statistically significant. Thus, regardless of the activity under examination both the perception of skill and chance positively impact anxiety among participants. This is an important finding as no statistical relationship was found between the two orientations. In other words, as one's perception that fantasy sport is skill-based and chance-based increases, so increases the anxiety associated with participation.

Anxiety is generally perceived as a negative emotion that includes unpleasant feelings; however, the current study examined state anxiety as opposed to trait anxiety. Given the premise of fantasy sport, this particular form of anxiety is characterized by many in psychology as competitive state-anxiety, which is a combination of tension and arousal (Hackfort and Schwenkmezger 1989). For high-level athletes, this type of anxiety can be beneficial as it leads to increased focus and task preparation.

As it relates to fantasy sport, arousal has been found to be an important driver (Farquhar and Meeds 2007). In addition, it has been associated with the "action" gamblers seek when engaging in sports betting (Wulfert et al. 2005). Anxiety was not correlated with enjoyment, so it is difficult to surmise that participants are drawn to the benefits of anxiety. Thus, there is a possibility that anxiety is a mechanism that subconsciously attracts participants to activities. More research in this area is certainly advised.

Fantasy football is an entertaining accessory to professional football. Previous research has highlighted the gratifying nature of the activity (Dwyer and Kim 2011; Farquhar and Meeds 2007). It should not be surprising that the enjoyment emotion positively impacts consumption behavior as it does for TFS-only participants. It is interesting that it does not impact DFS participant behavior, as one would think that the more enjoyable the experience the more contests would be entered. This is supported, however, through the gambling literature as Rodriguez et al. (2015) found that enjoyment was not associated with gambling frequency. It is possible that the cost of entering a contest offsets the any positive emotion gained from participation. Media consumption for TFS-only participants indirectly costs money, but directly costs time, and previous research suggests individuals

are more willing to invest time than money in enjoyable leisure experiences (Lloyd and Auld 2002).

In addition, the RQ2 results suggest that the perception of skill (*Autonomy* orientation) does not impact enjoyment for either group, yet the perception of chance (*Impersonal* orientation) positively impacted enjoyment in TFS-only participants and not DFS participants. The *Controlled* orientation (opportunity to prosper) positively impacted enjoyment for both DFS and TFS-only participants. These are unique findings as researchers Ryan et al. (2006) found that autonomy is directly related to enjoyment in digital games. In addition, the *Autonomy* orientation was positively correlated with the enjoyment of gambling among college students (Rodriguez et al. 2015). In that same study, the *Controlled* and *Impersonal* orientations were not found to be related to enjoyment. The notion that the opportunity for reward (*Controlled* orientation) significantly impacts enjoyment within the current study may speak to the optimism surrounding both activities. In the short run, it certainly infers similarity between the two types of fantasy options and provides a notable difference from other forms of gambling. Regardless, it is certainly interesting that enjoyment appears to be dependent on the external reward, and not on one's perceived ability to attain it. Once again, this area is worthy of further examination.

In all, the differences between the activities were not extreme. Mean scores for the causality orientations of note (*Autonomy* and *Impersonal*) were somewhat similar (see Table 2), and a number of the relationships between the factors were similar. However, from make up of the competition to functionality and whom one competes against, the activities are certainly different. Yet, according to the current sample of participants, the psychological and emotional connections are similar. This could be evidence that DFS may not be the social pariah some legal commentators have suggested. It could also be evidence that TFS participation may be more socially detrimental than currently assumed. Regardless, more research comparing the two forms of fantasy participation is advised.

Limitations

The current study had a number of limitations. First, while differences were found between fantasy sports participants, differences between other groups and individuals would be beneficial for sport marketers and managers as well. Such as, how do fantasy participants compare to online gamblers, how do they compare to those who bet on NFL game out comes, and how do they compare with non-participating NFL fans? Second, additional attitudes and emotions may be at play. The use of causality orientations, enjoyment, and anxiety is a start, but what else plays a role? Third, it was a cross-section of TFS and DFS participants. While the sample appears to be generalizable, it is only a snapshot of attitudes, emotions, and behaviors. In addition, it was a snapshot near the end of the season, and while steps were taken to ensure a similar level of interest at this point in time, an investigation that started in preseason or in September would have been ideal. A longitudinal approach would certainly yield interesting results. Other forms of future research include, but are not limited to: an exploration of potential problem gambling behavior among DFS participants, the impact of DFS participation on favorite NFL team fandom, an investigation into factors influencing the *escape* motive in DFS-only participants, and any effects on the lack of a communication platform for DFS competitors.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Appendix

		TFS		DFS	
		M	SD	*M*	SD
Locus of Control (Murphy, Foreman, Simpson, Molloy, & Molloy, 1999)[1]					
Autonomy - *Internality (Skill)*					
1	The main thing which affects the success or failure of my [daily] fantasy football team is what I do myself.	4.22	1.58	4.56	1.41
2	I'm in control of my [daily] fantasy football team's success or failure.	3.91	1.57	4.18	1.47
3	It is my own behavior which will determine how well my most preferred [daily] fantasy football team performs.	4.07	1.46	4.32	1.49
Impersonal – *Externality (Chance)*					
1	Luck plays a big part in how my [daily] fantasy football team performs each week.	4.92	1.57	4.91	1.47
2	If it is meant to be, I'll win my most preferred [daily] fantasy football league this year.	4.96	1.46	5.14	1.37
3	No matter what I do I'm not likely to control what happens to my [daily] fantasy football team.	4.60	1.45	4.54	1.46
Controlled - Perception of Risk (MacCrimmon & Wehrung, 1986)[2]					
How would you characterize playing [daily] fantasy football?					
1	Significant threat (1) _ _ _ _ _ _ _ (7) Significant opportunity	5.19	1.35	5.50	1.05
2	Potential for gain (1) _ _ _ _ _ _ _ (7) Potential for loss (reverse scored)	5.19	1.35	5.52	1.24
3	Negative situation (1) _ _ _ _ _ _ _ (7) Positive situation.	5.28	1.31	5.51	1.07
What is the likelihood of your fantasy team winning this week?					
4	Very unlikely (1) _ _ _ _ _ _ _ (7) Very likely*	3.86	1.48	3.14	1.14
Anxiety (Leykin & DeRubeis, 2010)[1]					
1	I feel very anxious when I need to make a decision related to [daily] fantasy football	3.69	1.63	4.00	1.72
2	I feel as if I'm under tremendous time pressure when making decisions related to [daily] fantasy football.	3.56	1.61	3.87	1.66
3	I panic when I think that my decision related to [daily] fantasy football might be wrong	3.41	1.69	3.67	1.64
4	When making a decision related to [daily] fantasy football, I am afraid that I might be wrong	4.23	1.60	4.23	1.55
5	I can't think straight if I have to make [daily] fantasy football decisions in a hurry	3.64	1.68	3.90	1.68
Modified Enjoyment Scale (Kendzierski & DeCarlo, 1991)[2]					
Please rate how you feel at this moment about [daily] fantasy football.					
1	I hate it (1) _ _ _ _ _ _ _ (7) I enjoy it	5.67	1.44	6.05	1.01
2	It's no fun (1) _ _ _ _ _ _ _ (7) It's a lot of fun	5.50	1.52	5.53	1.43
3	I'm very frustrated with it (1) _ _ _ _ _ _ _ (7) I'm not at all frustrated by it*	5.06	1.54	5.29	1.47
Fantasy sport related consumption					
1	Number of contests entered per week (DFS)			3.32	4.26
2	Hours per week spent following fantasy sports via traditional broadcast and hours per week spent conducting research on fantasy sports via new media	6.11	6.57		

[1] Measured on a seven-point Likert-type scale.
[2] Measured on a seven-point semantic differential.
* Item was removed because of a poor factor loading.

References

Breen, R. B., & Zuckerman, M. (1999). 'Chasing' in gambling behavior: Personality and cognitive determinants. *Personality and Individual Differences, 27,* 1097–1111.

Broman-Fulks, J. J., Urbaniak, A., Bondy, C. L., & Toomey, K. J. (2014). Anxiety sensitivity and risk-taking behavior. *Anxiety Stress and Coping, 27,* 619–632.

Brown, T. A. (2012). *Confirmatory factor analysis for applied research*. New York, NY: Guilford Press.

Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior, 29,* 2156–2160.

Cohen, J. (1992). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Dawson, S., Bloch, P. H., & Ridgway, N. (1990). Shopping motives, emotional states, and retail outcome. *Journal of Retailing, 66,* 408–427.

Deci, E. L., & Ryan, R. M. (1985). The General Causality Orientations Scale: Self-determination in personality. *Journal of Research in Personality, 19*(2), 109–134.

Deci, E. L., & Ryan, R. M. (Eds.), (2002). An overview of self-determination theory: An organismic dialectical perspective. In *Handbook of self-determination research* (pp. 3–33). Rochester, New York: The University of Rochester Press.

Drayer, J., Shapiro, S. L., Dwyer, B., Morse, A. L., & White, J. (2010). The effects of fantasy football participation on NFL consumption: A qualitative analysis. *Sport Management Review, 13,* 129–141.

Dwyer, B. (2011a). Divided loyalty? An analysis of fantasy football involvement and fan loyalty to individual National Football League (NFL) teams. *Journal of Sport Management, 25,* 445–457.

Dwyer, B. (2011b). The impact of attitudes and fantasy football involvement on intentions to watch NFL teams on television. *International Journal of Sport Communication, 4,* 375–396.

Dwyer, B., & Kim, Y. (2011). For love or money: Developing and validating a motivational scale for fantasy football participation. *Journal of Sport Management, 25,* 70–83.

Dwyer, B., & LeCrom, C. W. (2013). Is fantasy trumping reality? The redefined National Football League experience of novice fantasy football participants. *Journal of Contemporary Athletics, 7*(3), 119.

Dwyer, B., Lupinek, J., & Achen, R. M. (2016). Fantasy v. reality: Exploring the BIRGing and CORFing behavior of fantasy football participants. *Sport Marketing Quarterly, 26,* 158–171.

Dwyer, B., Shapiro, S. L., & Drayer, J. (2013). Segmenting motivation: An analysis of fantasy baseball motives and mediated sport consumption. *Sport Marketing Quarterly, 20,* 129–137.

Ekkekakis, P., Hall, E. E., & Petruzzello, S. J. (1999). Measuring state anxiety in the context of acute exercise using the state anxiety inventory: An attempt to resolve the brouhaha. *Journal of Sport and Exercise Psychology*, *21*(3), 205–229

Eriksson, K., & Simpson, B. (2010). Emotional reactions to losing explain gender differences in entering a risky lottery. *Judgment and Decision Making, 5,* 159–175.

Fantasy Sports Trade Association. (2016a). *Industry demographics: Actionable insights and insightful data.* Retrieved from http://fsta.org/research/industry-demographics/.

Fantasy Sports Trade Association. (2016b). Why fantasy sports is not gambling: Understanding a game of skill. Retrieved from http://fsta.org/research/why-fantasy-sports-is-not-gambling.

Farquhar, L. K., & Meeds, R. (2007). Types of fantasy sports users and their motivations. *Journal of Computer-Mediated Communication, 12,* 1208–1228.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18, 382–388.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational behavior, 26*(4), 331–362.

Gouker, D. (2015). FanDuel studies: Seasonlong and daily fantasy sports players exhibit key differences. *Legal Sports Report.* Retrieved from http://www.legalsportsreport.com/370/fanduel-seasonlong-and-daily-fantasy-sports-players-differences/.

Graves, L. E., Ridgers, N. D., Williams, K., Stratton, G., & Atkinson, G. T. (2010). The physiological cost and enjoyment of Wii Fit in adolescents, young adults, and older adults. *Journal of Physical Activity & Health, 7,* 393–401.

Hackfort, D., & Schwenkmezger, P. (1989). Measuring anxiety in sports: Perspectives and problems. In D. Hackfort & C. D. Speilberger (Eds.), *Anxiety in sports: An international perspective* (pp. 55–74). Washington, DC: Hemisphere.

Hunter, M. (2016). DFS strategy: Multi-lineup generation and player exposure. *RotoGraphs.* Retrieved from http://www.fangraphs.com/fantasy/dfs-strategy-multi-lineup-generation-and-player-exposure/.

Kendzierski, D., & DeCarlo, K. J. (1991). Physical activity enjoyment scale: Two validation studies. *Journal of Sport & Exercise Psychology, 13*(1), 50–64.
Kim, J. Y., Shim, J. P., & Ahn, K. M. (2011). Social networking service: Motivation, pleasure, and behavioral intention to use. *Journal of Computer Information Systems, 51*(4), 92–101.
Kim, H. S., Wohl, M. J., Salmon, M. M., Gupta, R., & Derevensky, J. (2015). Do social casino gamers migrate to online gambling? An assessment of migration rate and potential predictors. *Journal of Gambling Studies, 31,* 1819–1831.
Koestner, R., & Zuckerman, M. (1994). Causality orientations, failure, and achievement. *Journal of Personality, 62*(3), 321–346.
Lee, W.-J., Kwak, D. H., Lim, C., Pederson, P. M., & Miloch, K. S. (2010). Effects of personality and gender on fantasy sports game participation: The moderating role of perceived knowledge. *Journal of Gambling Studies, 27,* 427–441.
Lesieur, H. R. (1979). The compulsive gambler's spiral of options and involvement. *Psychiatry, 42,* 79–87.
Leykin, Y., & DeRubeis, R. J. (2010). Decision-making styles and depressive symptomatology: Development of the Decision Styles Questionnaire. *Judgment and Decision Making, 5,* 506–521.
Lloyd, K. M., & Auld, C. J. (2002). The role of leisure in determining quality of life: Issues of content and measurement. *Social Indicators Research, 57,* 43–71.
MacCrimmon, K. R., & Wehrung, D. A. (1986). Assessing risk propensity. In L. Daboni, A. Montesano, & M. Lines (Eds.), *Recent developments in the foundations of utility and risk theory* (pp. 291–309). Dordrecht, Netherlands: Springer.
Martin, R. J., Nelson, S. E., & Gallucci, A. R. (2016). Game on: Past year gambling, gambling-related problems, and fantasy sports gambling among college athletes and non-athletes. *Journal of Gambling Studies, 32,* 567–579.
McCormick, R. A., Russo, A., Ramirez, L., & Taber, J. I. (1984). Affective disorders among pathological gamblers seeking treatment. *American Journal of Psychiatry, 141,* 215–218.
Meyer, G., von Meduna, M., Brosowski, T., & Hayer, T. (2013). Is poker a game of skill or chance? A quasi-experimental study. *Journal of Gambling Studies, 29,* 535–550.
Morrison, M., Gan, S., Dubelaar, C., & Oppewal, H. (2011). In-store music and aroma influences on shopper behavior and satisfaction. *Journal of Business Research, 64,* 558–564.
Mowen, J. C., & Minor, M. (1998). *Consumer behavior* (5th ed.). London: Prentice-Hall.
Murphy, G. C., Foreman, P. E., Simpson, C. A., Molloy, G. N., & Molloy, E. K. (1999). The development of a locus of control measure predictive of injured athletes' adherence to treatment. *Journal of Science and Medicine in Sport, 2,* 145–152.
Myrseth, H., Brunborg, G. S., & Eidem, M. (2010). Differences in cognitive distortions between pathological and non-pathological gamblers with preferences for chance or skill games. *Journal of Gambling Studies, 26,* 561–569.
Neighbors, C., Larimer, M. E., Markman Geisner, I., & Knee, C. R. (2004). Feeling controlled and drinking motives among college students: Contingent self-esteem as a mediator. *Self and Identity, 3*(3), 207–224.
Nesbit, T. M., & King, K. A. (2010). The impact of fantasy sports on television viewership. *Journal of Media Economics, 23,* 24–41.
Rodriguez, L. M., Neighbors, C., Rinker, D. V., & Tackett, J. L. (2015). Motivational profiles of gambling behavior: Self-determination theory, gambling motives, and gambling behavior. *Journal of Gambling Studies, 31,* 1597–1615.
Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will? *Journal of Personality, 74,* 1557–1586.
Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion, 30,* 344–360.
Sitkin, S. B., & Weingart, L. R. (1995). Determinants of risky decision-making behavior: A test of the mediating role of risk perceptions and propensity. *Academy of Management Journal, 38*(6), 1573–1592.
Solberg, P. A., Halvari, H., & Ommundsen, Y. (2013). Linking exercise and causality orientations to change in well-being among older adults: Does change in motivational variables play a role? *Journal of Applied Social Psychology, 43,* 1259–1272.
Stanton, J. M., Sinar, E. F., Balzer, W. K., & Smith, P. C. (2002). Issues and strategies for reducing the length of self-report scales. *Personnel Psychology, 55,* 167–194.
Steinberg, L. (2014). The fantasy football explosion. *Forbes.* Retrieved from http://www.forbes.com/sites/leighsteinberg/2014/08/29/the-fantasy-football-explosion/#bbb574b5458d.
Suri, S., & Watts, D. J. (2011). Cooperation and contagion in web-based, networked public goods experiments. *PLoS ONE, 6*(3), e16836.

Troy, D. (2014). Is fantasy football stressing you out? *Advocate Health Care*. Retrieved from http://www.ahchealthenews.com/2014/12/02/is-fantasy-football-stressing-you-out/.

Westbrook, R. A., & Black, W. C. (1985). A motivation-based shopper typology. *Journal of Retailing, 61,* 78–103.

Wulfert, E., Roland, B., Hartley, J., Wang, N., & Franco, C. (2005). Heart rate arousal and excitement in gambling: Winners v. losers. *Psychology of Addictive Behaviors, 19,* 311–329.