

A Contextual Account of the Psychosocial Impacts of Social Identity in a Sample of Digital Gamers

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Drawing on social identity theory (SIT), the current research explored the psychosocial impacts of digital gaming, through 2 studies. In Study 1, Football Manager players ($N = 349$) completed an online questionnaire measuring their social identity, quality of friendships, self-esteem, and psychological well-being. Study 2 utilized the equivalent methodology but in relation to FIFA players ($N = 95$), in which social identity was framed by their affiliation as online versus offline players. Study 1 found that social identity was positively related to well-being. Study 2 found differential effects of social identity as a result of the context of play. Specifically, positive associations were found for players who played in offline contexts in respect of support and depth of relationships. Overall, positive associations were found between social identity and self-esteem. This research highlights the application of social identity theory through a more nuanced contextual lens, to more fully understand its psychosocial impacts.

Public Policy Relevance Statement

Digital gaming is a very popular activity, and therefore, it is important to understand the positive outcomes it may have. Our findings reveal that gamer identity plays a key role in players' sense of well-being. Also, playing offline seems to foster identity in players, and this is important in aspects of players' well-being.

Keywords: social identity, digital gaming, well-being, context, friendships

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Digital gaming is an extremely popular contemporary leisure activity, in which players derive largely enjoyable experiences. Although digital gaming is often stereotypically considered a solitary pursuit (Kowert, Griffiths, & Oldmeadow, 2012), the development of games technology and Internet connectivity has facilitated a movement toward them becoming increasingly social in nature (Information Solutions Group, 2011). For example, gaming can allow players to maintain contact with friends, develop new relationships, and experience competitive or cooperative forms of gameplay (Adachi & Willoughby, 2013; Ferguson & Olson, 2013; O'Connor, Longman, White, & Obst, 2015). Given these developments in the activity, understanding the psychological experiences and potential impacts requires further consideration, that is, recent commentary has highlighted the importance of acknowledging the dynamic and varied nature of gaming, particularly in respect of these social aspects and how these may impact differently on gaming outcomes (Kaye, 2017). For example, although there is empirical evidence to show how individuals experience gaming in groups rather than on an individual level (Kaye,

2016; Kaye & Bryce, 2012, 2014; Kowert, Domahidi, Festl, & Quandt, 2014), this has not necessarily been integrated fully into debates or theories into gaming effects. The wider contexts and communities of the activity are likely to be key to a range of different psychological experiences and outcomes (Bryce & Rutter, 2003; Hand & Moore, 2006).

Commentary on digital gaming outcomes has proposed a conceptual framework for understanding how games can engage their users through varying levels of interactivity and complexity (Granic, Lobel, & Engels, 2014). Within this, different game genres comprise different positions across a dual axis, ranging from solo to social and simple to complex. However, this relates primarily to the “in-game” experiences associated with digital games. Specifically, the “social” dimension as identified on Granic et al.'s (2014) conceptual map appears to underpin the direct social experiences associated with specific types of games such as their multiplayer or online capabilities. For example, sports games are identified on the social side of the axis, in which the game FIFA is illustrated as an example. However, other sports-type games such as Football Manager do not typically hold these equivalent functions and, by this conceptualization, would be expected to appear in the “non-social” quadrant of this model. Specifically, the classic version of the franchise primarily consists of individual play, whereby the aim is to exceed other players' league standings. Irrespective of the specific format of sports games, they appear to be popular, with recent figures showing that in 2016, 11.7% of all digital game sales in the United States were sports games (Statista,

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2017). Sport games, however, provide an interesting case in respect of their conceptualization as a “social” form of gaming. Specifically, Granic et al.’s (2014) model does not specify the degree to which one particular game genre, such as sports games, may correspond as being both “social” and “nonsocial” depending on the variations in functions between specific games. Previous research has suggested that even for games that do not have multiplayer functions, these still hold social affordances for players (Kaye, 2014). As such, an exploration of how different examples of sports games may hold differential social affordances and how these impact on gaming outcomes could help advance this understanding. Indeed, this can help fully establish the nuances of specific sports games to model how these correspond with the dimensions identified in the previous seminal work of Granic et al. (2014). That is, what specifically do we mean when defining a game as “social?” Exploring the utility of relevant theoretical frameworks to model these social affordances is warranted. Based on this, we draw on social identity theory (Tajfel, 1978, 1979; Tajfel & Turner, 1979) to underpin these insights and to establish how these social affordances may be related to the psychosocial impacts of sports gaming.

Social Identity Theory

Social identity is a psychological construct which underpins everyday experiences associated with group membership and affiliation. According to social identity theory (Tajfel, 1978, 1979; Tajfel & Turner, 1979), it refers to the extent to which an individual’s self-concept is defined by the belonging to certain social groups (Tajfel & Turner, 1979). An individual’s identity with respect to a particular social group, from this perspective, merges the distinction between their own personal sense of self with that of their sense of self as a group member (i.e., the “collective self”). This also fosters a process of social categorization, in which, a distinction between “in-groups” and “out-groups” is made, in which solidarity within in-groups is said to promote an individual’s positive sense of self through such affiliation (Abrams & Hogg, 1988). This in turn promotes self-esteem (Ellemers, Haslam, Platow, & Knippenberg, 2003; Simsek, 2013). Further, this enhancement of self-esteem can contribute to wider positive outcomes, such as life satisfaction and psychological well-being (Crocker, Luhtanen, Blaine, & Broadnax, 1994; Kong, Zhao, & You, 2013; Isiklar, 2012; Simsek, 2013), in providing individuals with positive perceptions of their overall well-being. In this way, self-esteem functions on both an individual and collective level (Tajfel, 1972). Given this, an examination of social identity to particular social groups, and its role in facilitating self-esteem, and their overall contribution to psychological well-being presents a justifiable theoretical formula. Specifically, in relation to the range of different social groups that operate within digital gaming, this suggests that social identity theory may have potential applicability in this context.

Given the strength of social identity theory as a model for explaining group affiliation and the associated impacts, this has resulted in a large amount of research highlighting its application within a range of contexts (Ellemers, Gilder, & Haslam, 2004; Hogg & Terry, 2000; Sparks & Shepherd, 1992). Indeed, this theory has merit when considering the extent to which it can underpin social processes in contemporary everyday life. That is,

given the fact that an increasing proportion of daily life consists of interacting with others via modern technologies, such as digital games, consideration is warranted for its utility to underpin the social processes associated with these experiences.

Social Identity Theory and Media Use

Previous research has demonstrated the relevance of social identity to the social processes underpinning media usage (Trepte, 2004) and has found that group memberships and identities determine specific types of media selection and behaviors such as TV viewing (Barker, 2009; Harwood, 1997, 1999; Knobloch, Callison, Chen, Fritzsche, & Zillmann, 2005; Oliver, 2000; Postmes, 2007; Postmes & Spears, 2002). Conversely, some studies have found that media can influence social identity such as through social networking sites (Reid, Giles, & Abrams, 2004; Tagg & Seargeant, 2014). Specifically, it has been suggested that individuals engage in specific types of media and that this determines the way in which they form their identities and group affiliations (Reid et al., 2004). From this perspective, this is likely to hold true for individuals who engage in digital gaming. Indeed, previous evidence shows the way in which digital games can function as a sociocultural artifact of gamers’ daily lives, specifically through the way sports-themed games function as part of gamers’ identity formation (Crawford & Gosling, 2009). These authors assert that it is impossible to isolate game-playing from the social influences in daily life, suggesting digital games operate within the social narratives of players’ daily lives. However, majority of previous literature is limited in accounting for these issues, highlighting the need for further theoretical and empirical investigation. Indeed, a consideration of the psychosocial impacts of digital gaming within the daily contexts of players’ lives is a highly relevant area of enquiry. This notion is highlighted by previous work suggesting gaming to be a stimulating leisure environment, positively associated with a range of aspects of positive development, including mental health, self-concept, and friendship networks (Durkin & Barber, 2002). In this way, social identity theory can provide an underpinning of these issues.

Given that previous research within social identity theory has typically found affiliation to particular social groups or identities to be positively related to self-esteem and psychological well-being (Amiot & Aubin, 2013; Nario-Redmond, Noel, & Fern, 2013; Packer, Chasteen, & Kang, 2011; Osborne & Taylor, 2012), it is conceivable that this holds true for individuals who engage in digital gaming. That is, the degree of social identity to specific “gaming groups” may contribute to players’ friendships with other players and enhance self-esteem, and these may have a combined influence on aspects of psychological well-being. Indeed, the issue of the influence of social relationships (e.g., quality of friendships with other players) within the social identitypsychosocial outcome link is a key consideration. A wealth of research provides evidence of the positive associations between the quality of friendships and indicators of well-being (Kipp & Weiss, 2013), suggesting its relevance within understanding the outcomes associated with identities to social groups. In respect of gaming, some games may be particularly useful for facilitating social bonding, enhancing players’ perceptions of friend-based social support (Hickerson & Mo-wen, 2012) and in developing friendships to other players (Kaye, 2014). However, it is likely that there will be variations of these

social functions between different types of games and player characteristics (Kowert & Oldmeadow, 2015; Kowert et al., 2014). Indeed, some research has not found any relationship between gaming friendships and social support (Domahidi, Breuer, Kowert, Festl, & Quandt, 2016), therefore an empirical exploration for other types of gaming, how these may foster social relationships between players, and the impact of this on players' social identity and psychosocial outcomes is warranted.

Some research has established how aspects of gamer identity, particularly in Massively Multiplayer Online (MMO) games may be related to positive well-being (Kaye, Kowert, & Quinn, 2017), but more evidence is needed to highlight how players transfer in-game experiences to "offline" relationships (or vice versa). Some research, however has found that online gamers who play with their "real" friends are able to transfer in-game experiences to their social networks outside gameplay (Domahidi, Festl, & Quandt, 2014; Snodgrass, Lacy, Dengah, & Fagan, 2011). This requires further empirical investigation, specifically in relation to other forms of game. In this way, we consider quality of relationships with other players as a potential factor to further examine the effects of social identity on outcomes for self-esteem and well-being (Parker & Asher, 1993; Tome, Gasper de Matos, Camacho, Simoes, & Diniz, 2014; Uchino, Uno, & Holt-Lunstad, 1999).

To model the applicability of social identity theory to digital games, it is important to understand how this may operate for those players who may affiliate to their different social functionalities (i.e., online multiplayer, online, etc.). That is, the strength of social identity may function differently and have differential psychosocial outcomes when relevant to "real-world" groups (through offline multiplayer) compared with those solely online (through online play). Indeed, evidence points to distinctions in group connections and processes between online and offline groups (Jones, 1998; Lea, Spears, & de Groot, 2001), specifically highlighting that increased proximity, frequency of contact, and personal acquaintanceship with others strengthen social identity in "real-world" over online-based groups (Lea et al., 2001; Reicher, Spears, & Haslam, 2010). However, this issue has not been explored specifically in respect of sports games. To date, research has distinguished between online and offline gaming friendships and the impact on social support but in reference to more general online social games (Domahidi et al., 2016). To add some degree of specificity to this issue, the current research aimed to establish whether players' affiliation to the different social functionalities of sports games (identifying as an online vs. offline player) resulted in any differential psychosocial outcomes.

To empirically explore these issues, the current research used two studies that each focused on specific games. Within this, we specifically focused on sports games, as these can vary in respect of different social functionalities for playing in different ways (solo, online, and multiplayer) and thus may serve different affordances for social identity. As such, we aimed to explore the extent to which this held differential impacts upon psychosocial well-being. Specifically, Study 1 considered the sports-related game Football Manager¹ (Sports Interactive), and Study 2, FIFA (EA Sports). Consistent with the principles of social identity theory, the current research asked the following research questions:

Research Question 1: How does social identity operate for different sports games in respect of its impact on players'

psychosocial well-being (i.e., self-esteem and psychological well-being) and quality of relationships to other players? (Study 1 and 2)

Research Question 2: To what extent do players' affiliations to sports games in respect of their different social gaming contexts (e.g., online vs. offline play) impact their psychosocial well-being and quality of relationships with other players? (Study 2)

Research Question 3: To what extent does quality of friendships to others gained through sports gaming relate to players' psychosocial well-being? (Study 1 and 2)

Study 1

The game Football Manager was selected for Study 1, as this presents an interesting case given that the direct "in-game" social experiences of play are somewhat distinct from other Football games owing to the nature of the game features. Specifically, other sports games present greater opportunities for direct competitive gameplay and interactions, in contrast to Football Manager that has a lesser focus on these "direct" social gameplay experiences. Instead, the social experiences have been found to extend beyond the boundaries of gameplay and facilitate social interactions and relations among players outside of gameplay (Kaye, 2014). As such, it would be interesting to see whether social identity to these gaming groups is prevalent and, if so, whether this has wider impacts upon psychosocial outcomes of self-esteem and well-being.

Study 1 represented a "nonsocial" sports game (by the conceptualization of Granic et al., 2014) to establish the psychological affordances of this genre that has not been previously been explored.

Method

Procedure. Following ethical approval from the Department of Psychology Research Ethics Committee, an online questionnaire was advertised to Football Manager players through discussions boards, forums (e.g., sports games websites, Sports Interactive, and Football Manager fora), and strategic social media advertising (e.g., toward Football Manager/Sports Interactive Twitter pages). In particular, a large majority of the responses derived from Sports Interactive's Twitter team, who "retweeted" the advert and link to the online questionnaire to their followers, were posted on Twitter by the research team. This questionnaire included a number of established measures, including scales mea-

¹ Football Manager is a football management simulation game franchise in which players take control of a football club of their choice and compete against other "managers" in online leagues. Additionally, players are required to make decisions surrounding tactics and player transfers. However, no control can be asserted over the players on the pitch, which makes this game somewhat distinct from other sports games in which this is the key feature of gameplay. At the time of data collection, Football Manager 13 was the most recent version of this game. However, since then, Football Manager 14 extended from its predecessors through the development of "Network play," and in 2015, Football Manager Online was introduced, in which the game can be more easily played competitively with friends in somewhat equivalent ways to other multiplayer games.

suring personal self-esteem, collective self-esteem and identity, quality of friendships, and psychological well-being. Additionally, questions on participants' demographics, gaming habits, and preferences were obtained.

Participants. A total of 658 responses were obtained, however, approximately half of these (46.96%) were incomplete and so were removed from the final data set. This resulted in the final sample consisting 349 Football Manager players. Majority of the sample was male (98.9%), with an average age of 24.48 years ($SD = 6.31$), who played Football Manager at least on an occasional basis (97.4%), on average for at least 6 hr per week (81.4%)². Within the sample, the highest percentage of players reported themselves as being "hard-core/ experienced gamers" (36.1%), followed by "casual gamers" (25.5%), "professional/ serious gamers" (18.6%), and "social gamers" (16.6%). The sample indicated that they most frequently played the game Football Manager "solo, with no in-game interactions with others" (69.3% rated that they would engage in this "a lot").

Materials.

Personal self-esteem. Self-esteem was measured through the use of the Self-Esteem Scale (Rosenberg, 1965). Participants were asked to endorse their agreement with the 10 statements using a 4-point scale (1 = *strongly disagree*, 4 = *strongly agree*) from which a mean self-esteem score was calculated. This scale has been found to be adequately valid (Hagborg, 2006) and reliable, both in relation to internal consistency and test-retest (Fleming & Courtney, 1984). This was supported by the internal consistency of the current study, revealing an alpha coefficient of .84. See Appendix 1 for a copy of all study materials for Study 1.

Collective self-esteem and social identity. For personal self-esteem as well, the Collective Self-Esteem Scale (Luhtanen & Crocker, 1992) was utilized as a measure of both collective self-esteem ("Private Collective Self-esteem" subscale) and social identity ("importance of identity" subscale) from which mean scores were computed. This measure was adapted to refer specifically to self-esteem and identity as a Football Manager player. Participants were asked to endorse their agreement with the nine statements, on a 7-point scale (1 = *not at all*, 7 = *completely*), their perceptions of their collective self-esteem and identity to Football Manager. Previous research has identified this scale as being suitably reliable and valid as a measure (Luhtanen & Crocker, 1992). Similarly, the alpha coefficients of the current study supported this by showing internal consistency for both the "Private Collective Self-esteem" ($\alpha = .72$) and "importance of identity" ($\alpha = .65$) subscales. The latter of these subscales was used for the purpose of assessing social identity.

Quality of friendships. To assess players' relationships with other Football Manager players, the Quality of Relationships Inventory (Pierce, Sarason, & Sarason, 1991) was used. Participants were asked to consider one person with whom they had played Football Manager and to rate the quality of their relationship with them on a 4-point scale (1 = *not at all*, 4 = *very much*) for each of the 25 statements. This scale consists three subscales of "support," "conflict," and "depth" from which mean scores were computed. Previous research has found these subscales to be adequately internally consistent, with alpha coefficients of between .83 and .91 for measuring quality of relationships with family members. Similarly, the current study found acceptable internal

consistency for the individual subscales, namely, .84 for "Support," .87 for "Conflict," and .86 for "Depth".

Psychological well-being. To examine players' overall sense of psychological well-being, the Oxford Happiness Questionnaire was utilized (Hills & Argyle, 2002). Participants were asked to rate their agreement with the 29 statements, using a 6-point scale (1 = *strongly disagree*, 6 = *strongly agree*) from which a mean score was calculated. Previous research has found this scale to be high in internal consistency and construct validity (Robbins, Francis, & Edwards, 2010). Similarly, a high internal consistency was found in the current study ($\alpha = .91$).

Results

Zero-order correlations were performed on the study variables of social identity, self-esteem (personal and collective), the subscales of quality of friendships (depth, support, and conflict), and psychological well-being. This was primarily undertaken to explore any potential relationships between predictor variables for the purposes of conducting subsequent regression analysis. Table 1 presents these values to reveal majority of the correlation coefficients as .70 or less. Little multicollinearity was found from the correlations between the variables, therefore, these were deemed suitable to include independently as predictor variables within the regression model (Tabachnick & Fidell, 1996).

To assess any potential impact of gaming experience (gamer type) on measures of social identity, an ANOVA was performed. This revealed no differences in the gamer types (hardcore vs. casual vs. social vs. professional) on measures of social identity to Football Manager ($F[4, 160] = 1.77, p = .138$, partial eta squared = .04)³. As such, the gamer type was not included in subsequent analyses assessing the impacts on self-esteem or psychological well-being.

A parallel multimediational analysis, based on the principles of Baron and Kenny (1986), was undertaken to assess whether the quality of relationships subscales (conflict, depth, and support) and self-esteem mediated the link between social identity as a Football Manager player and psychological well-being (see Figure 1 below for overall summary of the model). This was undertaken using the PROCESS macro in SPSS (Hayes, 2013). In Step 1, the overall model was found to be significant, $F(5, 58) = 31.68, p < .001$, in which social identity predicted psychological well-being (total direct effect c ; $B = 1.39, t = 2.23, p < .05$). Step 2 showed social identity did not significantly relate to the mediator of self-esteem (a^4 ; $B = .63, t = .20, p = .841$) nor to the subscales of quality of relationships; depth (a^1 ; $B = .07, t = .35, p = .728$); support (a^2 ; $B = .07, t = .61, p = .546$); and conflict (a^3 ; $B = -.06, t = -.23, p = .816$). Step 3 of the mediation process showed a significant

² To ensure all participants were representative Football Manager players, they were asked "How often do you play Football Manager?" (response options varied from "Never" to "Most of the time"). Participants who responded "Never" were requested not to complete any further questions and therefore were partial responders who were removed from the final data set (along with any other partial responders). As a precaution, however, the data was checked to remove any of these respondents who may have proceeded with the remainder of the questions.

³ Descriptive statistics: Hardcore/experienced gamer = 4.08 ($SD = 1.03$); Social = 3.83 ($SD = 1.08$); Casual = 3.47 ($SD = 1.23$); Professional/serious = 4.28 ($SD = 1.04$).

Table 1
Correlations of Social Identity, Quality of Relationships, Self-Esteem, and Psychological Well-Being

Variable	M (SD)	2	3	4	5	6	7
1. Social identity	3.88 (1.18)	.09	.05	-.04	-.09	-.05	.01
2. Personal self-esteem	3.01 (0.48)		.66	.11	-.05	.08	.74***
3. Collective self-esteem	3.85 (1.10)			.13	.12	.08	-.02
4. QRI-support	3.13 (0.63)				.15	.71***	.05
5. QRI-conflict	1.66 (0.51)					.32***	-.06
6. QRI-depth	2.53 (0.69)						.04
7. Psychological well-being	4.02 (0.69)						

Note. QRI = Quality of Relationships Inventory.

*** $p < .001$.

effect of self-esteem on psychological well-being (b^4 ; $B = .29$, $t = 11.90$, $p < .001$) but not for the quality of relationship subscales, namely, depth (b^1 ; $B = .347$, $t = .12$, $p = .902$); support (b^2 ; $B = .346$, $t = .22$, $p = .828$); and conflict (b^3 ; $B = 3.36$, $t = -.30$, $p = .766$).

Discussion

Social identity to the game Football Manager was not found to be related to self-esteem, although it was positively predictive of psychological well-being. This presents some initial evidence of the applicability of social identity theory, particularly to understanding the wider impacts of digital gaming. When considering that little evidence is available that identifies these wider outcomes of gaming, this highlights the utility of social identity theory in explaining these psychological and social effects.

When examining the potential mediation of the quality of friendships between social identity and psychological well-being, limited evidence was found to support this notion. One explanation of this may relate to the fact that the Football Manager franchise is typically played solo, with limited in-game social opportunities. This notion is supported by the demographic data in which the majority of the sample indicated that they most often played the game solo, with no interactions with other players. Although previous evidence suggests some Football Manager players play parallel to others and experience some forms of “indirect” social play that helps develop their friendships (Kaye, 2014), this seemed

not to be influential based on the data from the current sample. This may reflect the notion of gaming as a largely idiosyncratic experience in which players derive personal and meaningful experiences that are largely diverse and dynamic. As such, drawing conclusions on the extent to which one experience is deemed more positive than another, for example, may vary both between and within individual players. In the case of the Football Manager friendships and their influence on self-esteem and psychological well-being, it may be that there is diversity in the extent to which players attribute these friendships as being important to their Football Manager experiences and the associated psychological outcomes. To follow this up, Study 2 aimed to establish these findings in respect of other sports games. In particular, we consider social identity within another type of sports game (particularly one which fosters more interactive social opportunities) to assess how gamer identity here may be related to quality or development of friendships to other players. Specifically, whether social identity operates differently for online versus offline players in respect of the affiliations to others who may occupy these different contexts (i.e., online-only friends and “real world” friends). Additionally, this may present more specific findings of the way in which these affiliations and friendships may be related to outcomes for well-being.

Study 2

Based on the findings from Study 1, Study 2 aimed to provide further evidence of the role of different forms of social identities within gaming and the potential impacts on psychosocial outcomes. Specifically, Study 2 called into question the extent to which “online” versus “offline” gamer identity may function for these outcomes. To empirically explore any potential differential functions of online versus offline identities to digital gaming groups, Study 2 obtained samples of both online and offline FIFA⁴ players to provide a systematic comparison of these issues. This study therefore represented a “social” sports game (by the conceptualization of Granic et al., 2014) to provide an alternative approach to Study 1 that was focused on that of a “nonsocial” game but of the same genre.

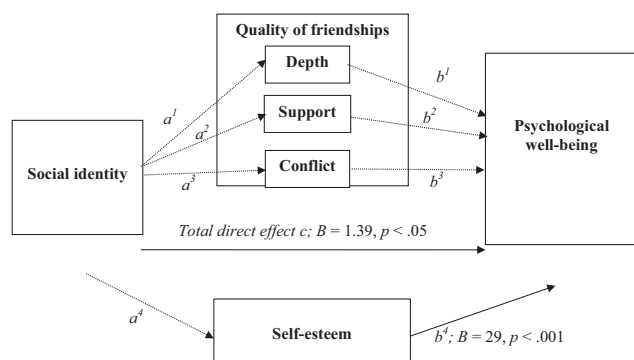


Figure 1. Regression analysis of social identity on psychological well-being, with quality of relationships and self-esteem as mediators.

⁴ FIFA is a football game in which players operate the football players of their chosen team and compete against an opponent of another team, either in offline multiplayer format or online.

Method

Design. The equivalent methodological design was utilized as previously described in Study 1. The only exception was that participants were targeted to take part in one version of the study questionnaire in respect of them identifying themselves as being an “online” or “offline” FIFA player. For the purpose of the current study, “offline” was defined in relation to whether or not players identified themselves as playing FIFA more readily with their “real-world” friends rather than with their “online-only” friends, for those who completed the “online FIFA” survey.

Materials/Procedure. An equivalent procedure was undertaken as previously described in Study 1, with the exception that FIFA fora and discussion boards were used for the purposes of participant recruitment (e.g., EA Sports FIFA Forums, FIFA 14 Forum, and Sports Gamers Online). The online questionnaire included the same scales, with the exception of social identity that utilized an alternative measure to Study 1 (Three Dimensional Strength of Group Identification Scale; Cameron, 2004). This was chosen based on the alpha coefficient in Study 1 for the identity measure being lower than what we had expected (albeit still satisfactory). This alternative measure includes three subscales of centrality (items 1–4), in-group affect (items 5–8), and in-group ties (items 9–12). Confirmatory analysis of a three-factor structure is supported by Obst and White (2005). Internal consistency supported this, with an overall social identity score across all the sample of $\alpha = .73$, and specifically .75 and .68 for online and offline subsamples, respectively. Likewise, the internal consistency for the individual subscales reached acceptable levels across the sample ($\alpha = .58-.71$). Internal consistencies for the other scales were also acceptable. Specifically, we found these to be self-esteem ($\alpha = .90$), quality of friendships subscales ($\alpha = .90-.93$), and psychological well-being ($\alpha = .94$). Mean scores were used for all scales in subsequent analyses. See Appendix 2 for a copy of all study materials for Study 2.

Participants. Participants were 95 FIFA players. Of these, 60 identified themselves as “online” and 35 as “offline” players. Majority of the sample was male (91.6%), with an average age of 21.3 years ($SD = 3.71$), who played FIFA at least on an occasional basis (88.4%), on average for at least an hour per week (85.3%)⁵. Within the sample, 31.6% identified themselves as being “hardcore/ experienced gamers,” 34.7% as “casual gamers,” with the remainder identifying as “social” (21.1%) and “professional/ serious gamers” (6.32%).

Results

Prior to any main analyses, an ANOVA was performed to assess any potential impact of gaming experience (gamer type) on measures of social identity. This revealed no differences in the gamer types (hardcore vs. casual vs. social vs. professional) on measures of social identity to FIFA in respect to either sample, specifically, online $F(3, 49) = 1.70, p = .180$, partial eta squared = .10⁶, or offline $F(4, 31) = .51, p = .732$, partial eta squared = .07. As a result, the gamer type was not included in the subsequent analyses assessing the psychosocial impacts.

Correlations were performed on the study variables of social identity, self-esteem, the subscales of quality of friendships (depth, support, and conflict), and psychological well-being. This was undertaken instead of mediational analysis as reported in Study 1, primarily based on the smaller sample sizes. Table 2 presents these

values in reference to online and offline FIFA players, which is denoted as a new categorical variable of “Context” in which a dummy code of “1” indicates “online” players and “2” as “offline” players. Analysis revealed context to be positively correlated with the depth, $r = .43, p < .01$, and support subscales, $r = .41, p < .01$ of quality of relationships, indicating higher reports of these dimensions in respect of offline contexts. Assessing the associations across the whole sample revealed a significant positive correlation between social identity and self-esteem, $r = .25, p < .05$, and a negative one between the conflict subscale of quality of relationships and psychological well-being, $r = -.33, p < .05$. Finally, self-esteem and psychological well-being were positively related to one another, $r = .83, p < .01$.

Discussion

Study 2 findings indicate the utility of exploring social identity in reference to different contexts, particularly between those online compared with the “real world.” Overall, it was found that social identity was positively related to self-esteem, and conflict in relationships was negatively related to psychological well-being. When exploring the findings by context, however, “offline” FIFA identity was positively related to the quality of relationship to other FIFA players in respect of the depth and support subscales. This supports previous research comparing online and offline groups finding that offline friendships strengthen group processes to a greater extent than online ones (Lea et al., 2001; Reicher et al., 2010). However, this has not previously been explored specifically for digital gaming groups and indeed how other factors such as quality of relationship function for the role of identity and its impacts. In this way, clearly a contextual perspective is important in understanding the psychological impacts of identity processes relevant for digital gaming. Regardless of the fact that digital gaming occurs within a virtual environment, this does not necessitate that the “real-world” identity or social processes are not influential in these contexts. In particular, social narratives such as friendships of those who share these gaming experiences have a key interaction with facets of “virtual identity” and hold implications for wider psychosocial outcomes for players.

Additionally, when considering the overall findings, these present insight into how gaming can facilitate wider social functions (i.e., in respect of friendships and group affiliation) and their instrumental role on psychosocial well-being. Specifically, the positive associations between FIFA identity and outcomes for self-esteem suggest that digital gaming identities serve a key function on the general perceptions of well-being that extend beyond gameplay. Additionally, the negative associations found between the conflict subscale of quality of relationships and psychological well-being highlight the wider social processes of gaming in respect of the friendships this activity may facilitate, and

⁵ To ensure all participants were representative FIFA players, we operationalized the equivalent system as described in Study 1 in respect of the question “How often do you play FIFA?”

⁶ Descriptive statistics: Online context. Hard core/experienced = 4.09 ($SD = .64$); Social = 3.68 ($SD = 1.04$); Casual = 3.53 ($SD = .78$); Professional/serious = 4.17 ($SD = .90$). Offline context. Hardcore/experienced = 4.20 ($SD = .80$); Social = 4.15 ($SD = .69$); Casual = 3.83 ($SD = .65$); No one reported to be Professional/serious gamer in this subsample.

Table 2
Correlations of Social Identity, Context, Quality of Relationships, Self-Esteem, and Psychological Well-Being

Variable	<i>M (SD)</i>	2	3	4	5	6	7
1. Context		.17	.41**	-.01	.43**	-.03	.10
2. Social Identity	3.89 (.79)		.18	-.05	.02	.25*	.22
3. QRI-support	2.88 (.83)			.27*	.82**	.17	.29
4. QRI-conflict	1.44 (.52)				-.09	-.05	-.33*
5. QRI-depth	2.40 (.81)					.09	.22
6. Self-esteem	3.03 (.56)						.83**
7. Psychological well-being	4.22 (.80)						

Note. Context; 1 = online, 2 = offline; QRI = Quality of Relationships Inventory.

* $p < .05$. ** $p < .01$.

their role in psychosocial functioning. A general discussion is considered in the following section.

General Discussion

Given the fact that social identity theory is well-established within mainstream social psychology and has applicable value in a wide range of contexts, an empirical examination of its relevance within digital gaming was warranted. This is particularly important given that no research to date has examined this within the context of sports gaming groups, specifically in systematically comparing between contexts. With this in mind, the current study aimed to examine the extent to which social identity theory could apply to a sample of digital gamers and whether this social affiliation was associated with psychosocial outcomes. Further, it explored how the quality of relationships with other players functioned in respect of these issues. This was also intended to provide a lens through which to understand the social affordances of different games of the same genre, to explore how there may be dimensional variations when theorizing on their “social” (vs. “nonsocial”) nature. This was achieved by targeting samples of sports gamers who represented the game franchises Football Manager (Study 1) and FIFA (Study 2).

The findings provide support for the application of social identity theory within this context and highlight the need for greater integration of core social psychology to underpin the development of theoretical and empirical understanding of contemporary issues. Additionally, this can help researchers understand outcomes beyond gameplay itself, to consider the extent to which the activity is experienced as a positive aspect of gamers’ daily social narratives. Specifically, in relation to the social identity literature, there is a clear need to ensure that context of identity is fully interrogated, particularly when considering the increasing integration of digital technologies in daily life and their role in social interactions, relationship, and communicational processes. Virtual contexts are examples of how social identity processes and associated outcomes may manifest themselves differently from other “real-world” contexts. Thus, greater critical insight into the underpinnings of social identity formation and portrayal across (virtual) contexts is fundamental in the development of gaining a more nuanced understanding of its impact on psychosocial outcomes. As such, one useful area of enquiry is the extent to which “online” versus “offline” identity is mutually exclusive or indeed whether they are better understood as comprising a more “nested” struc-

ture. To date, this is not yet established within the psychological literature, and as such, social identity theory in respect of contextual variation can present one useful framework through which to examine these issues with more scrutiny.

In respect of theorizing on sports games across a “social” dimension, our findings highlight some interesting insights here. That is, even though Football Manager was reported to be typically played “solo, with no in-game interactions with others” (69.3% of Study 1 sample indicated they engaged in this “a lot”), social identity as a metric of social affordance was still found to play a positive role on aspects of well-being for these players. Indeed, this is largely reflective of the findings of Study 2 for FIFA players, suggesting that direct social play experiences are not necessarily the only means through which social affordances may be obtained. Conceptualising games as “social” and “non-social”, in line with Granic et al.’s (2014) model is perhaps more complex, and suggests that even within game genres, these vary in their social functionalities. Indeed, the current findings suggest “social” gaming is requires greater specificity and may derive not only through multiplayer functions but also through shared identity processes that are not necessarily garnered by direct social play in the game itself. This offers a very interesting position from which to advance this conceptual understanding and suggests that “social” dimensions need more fully defining in respect of understanding the corresponding psychological outcomes. Further research would therefore benefit from establishing the range of derived social affordances that specific games may provide by applying social identity frameworks and similar perspectives to fully account for how and why these may correspond to specific psychosocial outcomes. Indeed, it would be pertinent for further research to systematically compare examples of games from other game genres, to assess the extent to which dimensions may vary within genre and how these correspond to conceptual mapping. It may be the case that the findings from sports games as per the current study may not generalize to other genres, which calls for further empirical enquiry.

Given this relatively new approach to the study of digital gaming, there are some apparent limitations. First, the issue of measuring friendships also may have resulted in some data reduction issues. That is, the data in relation to quality of friendships may have been restricted based on the fact that not all participants were able to identify a “Football Manager friend” through which to complete the friendship measure in Study 1. This may have re-

stricted the quantity of data gained and the statistical power of the analysis. Accordingly, Football Manager may have not been the most relevant game to target for particular research questions of the current research. That is, particularly in relation to the role of friendships and gameplay, it is highly conceivable that other games would be better suited to exploring these issues. In contrast, the findings from Study 2, in which the FIFA franchise was selected, presented a stimulus that consisted a more direct form of socialization with others within gameplay, and could be more readily reflected on as being related to gaming experiences and development of friendships. Indeed, Study 2 presented evidence that dimensions of relationships with other players were related to aspects of psychosocial well-being, highlighting the positive functions of these social affordances through gaming. Second, a more established scale of social identity may have been beneficial in Study 1. Although the subscale of the Collective Self-esteem Scale (Luhtanen & Crocker, 1992) has been previously used as a means of assessing importance of identity to social groups (Luhtanen & Crocker, 1992), it is conceivable that a more established measure, with more items, may have provided a better representation of social identity (Leach et al., 2008). Finally, we acknowledge that the small sample size in Study 2 may have impacted upon the value of the data, and so, the findings should be addressed with some caution.

Regardless of these issues, the contribution of the current findings to the psychological literature is noteworthy. This research can be presented as the first study to assess the efficacy of social identity theory for understanding the affordances of particular types of sports games. This is particularly important based on the current restrictive nature toward the study of digital gaming. That is, existing sociocognitive models (e.g., General Learning Model; Buckley & Anderson, 2006) that explain aggressive outcomes of the activity fail to account for a balance of positive and negative outcomes, and does not consider the activity from a broader perspective of its relevance within gamers' daily lives that makes it problematic to examine its wider psychological experiences and outcomes. Adopting frameworks such as social identity theory can offer some insight into the wider social processes associated with the activity and help researchers gain a better understanding of the more general psychosocial outcomes. This may contribute further knowledge to help resolve the contention of digital games being a societal issue, to aid the direction of future policy and indeed game development.

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