Objects of Affection:
Kissing Games on Mobile Devices

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ABSTRACT

This brief paper provides general context in the emerging mobile game type, affection games. Affection games require players to flirt, hug, or kiss to meet their goals in the game. To date, the largest subset of these games is kissing games. The paper provides a general analysis of the 10 most widely distributed kissing games in 2013 and 2014, which account for more than 3,000,0000 mobile game installations. To add detail to the overview, two case studies are provided which exemplify physical device kissing and virtual in-game kissing. The download activity, player comments, and history of the games are used to provide a simple overview of affection game characteristics as they relate to human-computer interaction and play. Such analysis provides a peek into the mildly taboo space of affection games and the ways in which mobile developers are effecting the genre.

Categories and Subject Descriptors

K.8.0 [**Games**]; K.4.2 [**Social Issues**]

General Terms

Design, Economics, Experimentation, Human Factors

Keywords

Affection games; digital affection; mobile games; Human Computer interaction; diagetic game interactions, kissing games

1. INTRODUCTION

User relationships to the smart devices they carry have bounced between love and hate [18]. With their growing ubiquity, the nature of that relationship has changed. In many countries smart phones are no longer convenience, they are necessity. Whether used to pay parking meters or check in to flights, they function as daily assistants. With that growth, a fascinating change has occurred in the way we play on these phones. Beyond the 30-year history of casual games that have propagated varied versions of Snake, Pac Man, Angry Birds, and Flappy Bird – a new genre is rising in the mobile game community. The newly popularized

Affection Game has arrived as a form of human computer interaction. Affection games require players to flirt, hug, kiss or make love to meet their needs [8]. Affection games are not dating simulations, as affection games don't focus on establishing relationships, simply on the act of affection.

It is not clear if the growth in these types of games is the result of shifting demographics or emerging patterns in the relationship between digital play and social interaction [11] [12]. It can be hypothesized that affection is yet another dimension of the social self that has been usurped into the digital paradigm. It could also be hypothesized that the low cost of such devices has widened the demographic, creating a demand for a wider variety of playable experiences. It might also be hypothesized that the fundamental human relationship to ubiquitous mobile devices has changed, potentially making the expression of affection through these devices less awkward.

This paper does not aim to answer such questions in the absolute, but instead provides an overview of such games and offers two case studies in affection games. To do so, the paper provides a simple background in affection games and reports on the most widely distributed kissing games. It then analyzes the primary source content, user comments, and historical play record of two popular affection games for mobile devices. The result is a detailed view, extending the previously published research conducted through broad content analysis [8] and social-cultural examination [10].

There has been little research into digital affection games. Historically, the highly resonant play researcher Brian Sutton-Smith's 1959 examination of physical kissing games provides some of the foundation. He understands affection play from an anthropological perspective, expressing the social value of examining affection play [20]. As Sutton-Smith explains, like the examination of other forms of play, affection provides an inroads into cultural phenomenon as well as providing demonstrative artifacts of taboo and standards. In short, affection games are yet another lens to understanding the meaning of human interactions. Surprisingly, there has been little research into the human-computer interactions of digital affection games. Given the rich gender typing, unique HCI, and confluence of techno-cultural attributes, such analysis seems overdue.

Several researchers have investigated gender preference [15] and sexual representations in games. These include [3] and [4]. Others have looked at gender roles [16] [22], important to the historically female marketed Affection Games.

2. BACKGROUND

Affection games are produced by a variety of independent developers across the world. The dominant developers are based in the United States, the Netherlands, South Korea, China and Japan [8]. They are likewise consumed by a variety of international community members, as they are offered on clearinghouse websites and mobile retail stores worldwide. The characters and languages vary, but the general mechanics are largely the same, despite regional socio-cultural differences. When taboo and communication of affection varies between these players, the digitally mediated affection games are largely unified [10].

It is estimated that there were at least 500 digital affection games available in 2014. A 2013 comprehensive content analysis indicated 299 distinct kissing games, 78 flirting games, and 4 hugging games [8]. In the Google Play store, the largest mobile repository of affection games, a simple search for "kissing games" yields more than 250 apps. These include games depicting in game affection and games designed to facilitate such affection between two or more players. That largest set of these are games with in-game affection as primary game verb. While seasonal marketing focused (e.g. Valentine's Day or regional High School Prom Seasons) or mildly effects the number of these games, all manner of kissing is offered.

Pinning down the number of affection games on the mobile space is particularly problematic, as many games are delisted or discontinued daily. For example, at its height, in September 2013, 10 kissing games featured the child star Justin Bieber. The Google Play store listings for these games are demonstrated in figure 1.
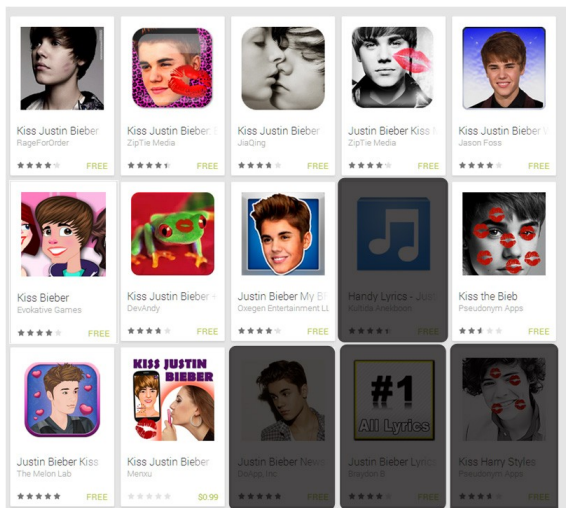

Figure 1. Justin Bieber Kissing Games result set from Google Play, August 2013

There is no indication that any of these Justin Bieber games were officially licensed by the celebrity. As such, each of the 10 is no longer available for play. Their history is only preserved in Internet archives and dead links. Affection games have had a history of coming as quickly as they go. They also tend to be short experiences, with an average level play length of less than 3 minutes across kissing, hugging and flirting games [8].

Focusing solely on mobile play, the most compelling experiences for academic study in the affection game space are kissing games. They are the most widely distributed games in the genre and are the only one to offer the hybrid human-computer affection on mobile devices. Admittedly astute researches will identify the brief history of teledildonics, which experienced its rise and fall well before the ubiquity of mobile games.

2.1 Diagetic and Non-Diagetic Affection

In general, kissing games can be divided into two categories; diagetic and non-diagetic play. Diagetic kissing games require players to kiss the screen of their mobile device to replicate kissing an onscreen character. Non-diagetic games require players to manipulate their avatar and a non-player character to express affection. Diagesis, in these terms, refer to the player's (not the player character's) action in playing. The player must either kiss literally (diagetic) or kiss virtually (e.g. a non-diagetic button press). Non-diagetic kissing games were the standard model for web-playable affection games. The ubiquity of touch sensitive screens has made diagetic kissing games more practical.

Previously, diagetic affection game experiences were limited to custom hardware solutions. These include the Kiss Controller, previously demonstrated at CHI in 2010 [17]. The diagetic hugging game, Big Huggin' [9] and Musical Embrace [13] are also one of the few non-kissing diagetic hugging games offered. The growth of diagetic affection games can be interpreted as offering new opportunities for human-computer and human-robotic interface.

3. Research Methodology Overview

To provide a topographical view of affection games and extend previous research, this study analyzed the estimated 500 affection games provided on Google Play. Google Play was chosen because its game content restrictions support the dissemination of affection games. Other large scale monolithic retailers of mobile games, such as Apple have explicit restrictions that substantially limit the number of affection games they provide. Apple has explicitly rejected diagetic affection games for the physical risk human saliva poses to the surface of Apple mobile devices.

From the research it is clear that affection games are a relatively private type of human computer interaction. Few of these games are played in large groups or in public. Some players are also reluctant to admit that they have played such games, as the affectionate interaction between human and computer is somewhat taboo across multiple cultures. As such, identifying and recruiting players of affection games is particularly troublesome. Instead, this research uses download statistics, comment parsing and close-reading to better understand the player's experience. The benefit of such an analysis is that players provide candid responses through the Internet's relative anonymity and far from the potentially imposing sterility of a research laboratory.

To provide an accurate and useful case study, two of the most popular kissing games were chosen for analysis. Their app activity as recorded on Google Play is analyzed as a way to understand the general character of affection.

4. Overview of Widely Distributed Kissing Games

The 10 most widely distributed affection games account for more than 3 million installations via Google Play's app store. This research tabulated distribution statistics trapped by the App Annie commercial analytics aggregator and corroborated through public data from the Google Play store.

Table 1 outlines the general characteristics of ten of the most widely distributed kissing games. Each of these games recorded more than 100,000 installations since their initial release date. All of the games are free, although 1 of them supports in in-App purchasing. The others are ad-supported, offer paid analogous versions or earn no income through traditional app financial models (e.g. they may be using the affection game to promote the developer's other products). From an even wider view it is clear that some of the games within the genre are simply made and distributed without any intention of profiting.

Table 1. Characteristics of 10 widely distributed Kissing Games

Game Name	Diagetic	Recorded Installs	Initial Release Date	Supports in -App Purchases
Kissing Test Prank	Yes	1,000,000+	2/23/2012	No
Mermaid Kiss	No	500,000+	2/9/2014	No
Give a Kiss	Yes	500,000+	12/6/2012	Yes
Summer Kiss Test	Yes	500,000+	7/20/2013	No
Kissing Games	No	500,000+	3/25/2014	No
Princess Kissing on Beach	No	100,000+	9/19/14	No
Kissing Game: First Date	No	100,000+	4/11/2014	No
Kissing Test (free)	Yes	100,000+	12/29/2009	No
Kiss Me! Lip Testing Game	Yes	100,000+	3/21/2014	No
Classroom Kissing	No	100,000+	8/8/2012	No

This data indicates a few commonly understood, but not explicitly proven characteristics of mobile kissing games. The games are generally free and diagetic games are at least as popular as non-diagetic kissing games, accounting for 50% of the top 10 or more than 2 million installs. This last observation is important, as the previous generation of kissing games, as web games, offered no opportunity for diagetic kissing.

Installations are not the only important factor in understanding popular affection games. The developer profiles and ranks also provide insight into who makes such games. From table 2, two things are made clear. Affection games are largely made by independent developers and these relatively niche games do rank in their respective categories. Missing from the list of the top affection game developers are the names of mobile game juggernauts like Rovio or Electronic Arts. Instead, the developers are app and game makers from around the mobile app portfolio ranges from 5 to 528 games. This demonstrates the range of developers and the relative accessibility of the genre for independent game makers.

Examining the rankings also helps contextualize these games in the wider space of mobile play. Kissing Test (free) outshines all others in garnering a top 100 rank in more than 118 countries. The average game from this earned a top 100 rank in 20 countries.

Admittedly, 2 of these widely distributed games have never spent a single day in a top 100 list. Mobile rankings can be manipulated by well structured marketing and alliances commonly employed by major game developers. What's shown here is likely the product of limited or no marketing budget, given the small size of many of these developers.

Table 2. Overview of country ranking history and game developers

Name	Number of Top 100 country listings	Developer Name	Number of other Apps by Developer
Kissing Test Prank	15	Dexati	528
Mermaid Kiss	6	Abc Casual Games	6
Give a Kiss	3	Exa Mobile SA	67
Summer Kiss Test	7	Photo Editors and Picture Effects	30
Kissing Games	4	Enegon	28
Princess Kissing on Beach	2	mGamey	63
Kissing Game: First Date	0	Vizzgames	18
Kissing Test (free)	118	Bell Standard Inc	5
Kiss Me! Lip Testing Game	18	Top Trending Apps	24
Classroom Kissing	0	Girls Games 123	25

It can be argued that the previous data only provides an overview of the distribution of the such games. To better understand the content of such games and players respond to the games, table 3 is provided. It describes the content rating and indicates how frequently people cared enough about the game to provide a qualitative review. Scale is also suggested by the install files size. This research does not attempt to correlate file size to popularity, desirability or player satisfaction. Suffice to say large file sizes do not indicate more satisfied players or more attractive games.

Table 3. Overview of developer supplied content rating, number of reviews and file sizes of popular affection games

Name	Content Rating	Number of Reviews	Size in MB
Kissing Test Prank	Medium Maturity	2964	14.3
Mermaid Kiss	Everyone	5376	13.4
Give a Kiss	High Maturity	4498	8.2
Summer Kiss Test	High Maturity	3206	1.7
Kissing Games	Everyone	4504	5.9
Princess Kissing on Beach	Medium Maturity	2425	11.4
Kissing Game: First Date	Everyone	1801	14.3
Kissing Test (free)	4+	68, 121	5.4
Kiss Me! Lip Testing Game	High Maturity	3000	3.7
Classroom Kissing	Everyone	1483	3.9

Lastly, it useful to consider the general trends in such games. The most popular games include 4 kiss testers. These are similar to the kissing test machines that function as carnival, midway and bus station novelties. Players kiss the device and through the supposed science embedded in the technology, a score is tabulated

reflecting the quality of the kiss. The other 6 games are conventional player character to non-player character affections. What's important to note however, is that while the mechanics and dynamics for these games are relatively consistent, the major shift is in environment. Players can kiss as a princess, a mermaid or in the classroom. These content cues help illuminate for whom these games are marketed.

To understand how these games have grown in distribution over the years, figure 2 illustrates the number of affection games with at least 100,000 installs over time.
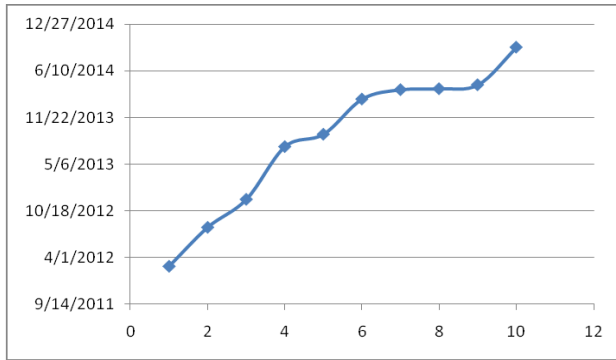
Figure 2. Number of Affection Games with at least 100,000 installs on Google Play or Apple iOS over time

Affection games are not a super-genre, like sports or simulation, but they do demonstrate an increase in popularity. Using Summer Kissing Test and Princess kissing as case studies the research helps provide a more detailed understanding of content, environment and player reception of such games. The value of this more detailed analysis is in understanding the characteristics of the typical diagetic and non-diagetic kissing game. Given that many of these games provide a kind of procedural rhetoric about the purpose and value of affection they are worthy of critical analysis.

5. CASE STUDY 1

5.1 Summer Kissing Test- Diagetic Affection

Summer Kissing Test provides an ideal case study from which to understand diagetic kissing games. The game is a modern interpretation of the late 19th century convention of love testers. Players are required to touch their lips to the screen and practice kissing. The game's main attraction comes from its description - "Are you a good kisser? Download this new kissing game for girls and boys and find out! [19].
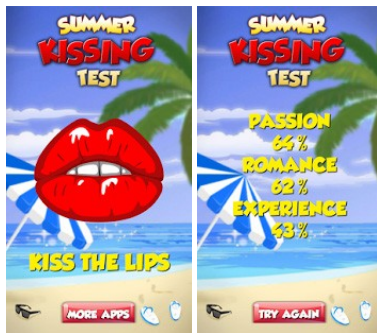

Figure 3. Screenshots of Summer Kiss Test

Initially released on July 20th, 2013, to date the free game has received more than 500,000 downloads.   Its highest ranking on Google's charts was achieved in September 30th, 2013, when it ranked #44 of all personalization apps on Google Play in Spain. It has achieved a top 100 ranking in the personalization category in 7 countries. The highest daily ranks for the app were in Spain (#44), Greece (#68), Romania (#69), Hungary (#76), Finland (#80), Austria (#88) and Slovakia (#88). The app was also just short of that marker in Brazil (#109) and Portugal (#110). In terms of downloads, a top 100 ranking places the app in the top 1% of downloads in its category. There are 87,378 apps in the personalization category [2]. 8% of those, or 6,918 have achieved more than 50,000 downloads [2].

It is also important to note that the app is not offered in a game category. Instead, it is offered as a personalization app, which may be the result of selective marketing, algorithm discovery sales choices or a nod to the rather personal interaction of this affection game.

Reviews for the game are typical for an affection game. Players either love or hate it, with a nearly even dichotomy between 5 start and 1 star reviews.   The app has received 2,794 reviews. 1,179 players gave it 5 stars, 885 gave it one star and the 4 to 2-star ratings were divided evenly with a mean of 233. Historically, this balance of high and low ratings persists from the game's introduction. Of all months' the game was offered, December 2013 yielded the most reviews, with 48 5-star reviews, 7 4-star, 3-4 star, 10-2 star and 27 1-star reviews. December was also the month with the largest proportion of 5-star reviews. Through September 2014, the proportion of 5 to 1 star reviews has been even, although the proportion of 1-star reviews has been increasing since December 2013. Since its introduction, the app has experienced in a decline in average rating.

Player reviews serve as a practical resource for understanding the attraction or aversion to the game. The 27 qualitative English language comments about the game were evaluated. Anecdotally, high ratings praise the game's ability to provide practice kissing. As one user wrote, "I love it me and my bf [boyfriend] did this then after we had our first ever kiss." Likewise another user claimed "I'm better" and "Me and my bf done love game so good." On the other end of the spectrum players complain about the concept entirely, noting "Grose [Gross]", "I hate it", "This is a stupid app!!!!!!".

The developer of the app, named Photo Editors and Picture Effects, has 30 other titles on Google Play. None of the other apps are considered games. All their apps are initially free of charge.

5.1.1 Analysis

As the title suggests, Summer Kissing Test is obviously a season game. Anecdotally, as understood from more substantial content analysis, it's novel to note that affection games generally do not depict cold weather.   More important to understanding affection games, the app is ephemeral.   Affection Games are short experiences, both in play and availability.   There were, for example, 6 active games involving babies and kissing on Google play in September 2014. There are 12 such apps that have been discontinued or delisted with the same foci. The life of many affection games is short, lasting a summer at best.

The love hate dichotomy of affection games is also important. Other games in the affection space, such as Kissing Games [5] share this split. Like Summer Kissing Test, affection games are

rarely mediocre in the eyes of players; they are either worthy of high praise or high disdain. As the qualitative feedback indicates, this is often a result of player's comfort with the game experience. Players seem to either find the concept loveable or detestable.

It is worth noting the decrease in favorable reviews over time. The lower ratings may be the result of lost novelty, as the app itself has changed little in the nearly 1.5 years it was been available. It also may be a result of an experience bias, as new players approach the game with higher expectations. It's also reasonable to expect, that like players of other game types, affection game players come to expect more from affection games than they have in years prior. No matter the source, it is clear that Summer Kissing Test is tracking toward its season's end.

6. CASE STUDY 2

6.1 Princess Kissing Non-Diagetic Affection

Princess Kissing is an excellent case study in non-diagetic kissing games. The mechanic is the very common kiss and evade mechanic. The player must kiss a non-player character, but avoid being caught by an authority forbidding their kiss. It also relies heavily on marketing decisions to propel its success. As demonstrated in its description, it relies heavily on keyword manipulation and questionable use of intellectual property.

"Princess Kissing – care game for girls in the hospital. It is one of the princess games for little girls! Help the princess in Barbie doll game ... Help the princess to return to her magic kingdom disney and live happy with fairy tale unicorns and ponies. Kiss the girl and the flying hearts will improve her mood and make her healthy... Are you ready?" [19]

Figure 4. Screenshot of Princess Kissing midgame

The game ranks #1 for the keyword "princess kissing" and number 8 for "French kissing." The publisher is also not shy in using intellectual properties like "Barbie" and "Disney" to increase the app's ranking in search results. The result is the number 1 search in Google Play searches "Disney kiss" and the number 10 result for "Barbie princess game." This is important given that the developer does not seem to have any relationship to the Mattel Company, maker of Barbie dolls, nor Disney brands.

Introduced first in Canada on February 14th, and then widely on March 18th, 2014, Princess Kissing was an immediate download success. When it was internationally released it started as a top 100 game. There are 3,011 apps in the role playing category with 32% of those apps earning more than 50,000 downloads. In its first day on Google Play, Princess kissing was ranked in the top 100 in Canada (#20), the Netherlands (#48), France (#52), Spain (#58), the United States (#70) and Great Britain (#78). The game

has ranked in the top 100 Google Play charts in 45 countries, representing major markets on every continent [1]. The game has been a top 100 downloads in countries as different as Kuwait (highest rank #37), South Africa (highest rank #64) and India (highest rank #69) in role playing games.

The game has received 2,605 reviews. The average rating is 3.5 stars, with the somewhat characteristic dichotomy in scoring. 1,312 players gave the game 5 stars, 545 gave it 1 star. Other ratings include 322 4 star reviews, 216 3-star reviews and 210 two-star reviews.

The 404 qualitative reviews observations are more inconsistently matched to ratings than other affection games. One reviewer, for example, writes "Hate it! Hate it!" and provides the app a 5-star rating. Others offer relatively unrelated reviews such as "Hi Me and my boyfriend carlos are planning to kiss" or "I like you people." While some of these ratings are the result of automated bot rating and mis-steps in rating user interfaces, they remain noteworth.

Dislike of the game was clearer. Players complained about interface, "It keep the temp.in the samespot and didn't move" and "it is designed for phones and it won't let me play it on my tablet." They also complained about complexity "Because you can only play 3 levels" and "DON'T GET IT. This game sucks all you do is make them kiss .you can't get past level 2 boooooooorrrrriiiiiiinnnnnnnggggggg!" The term boring and all permutations of it (e.g. the aforementioned review) occur 9 times in the 131 1-star reviews. An estimated 80 of these 1 star reviews were English language, although because of typos, poor language, emoticon usage and other communication noise it was not always clear whether a review using an English character set was in the English language.

It's also worth noting that Princess Kissing is a clone of many other such games, most notably an app by the same name [14] which is a clear conversion of the web predecessor Barbie Healing Kiss [21]. The game seems to benefit from the overlap and ambiguity in search results. The maker of the app, has 63 apps on Google Play, all of which are initially free.

6.1.1 Analysis

The popularity of Princess Kissing is clearly buoyed by its clever, if morally questionably, marketing tactics. This is emblematic of a variety of web and mobile affection games that use celebrity likenesses and brands to promote their games. It is of course important to recognize that different countries and cultures have unique perspectives on the concept of intellectually property and representation of others. Since these games are made by developers all over the world, not all intellectual property violations are executed in earnest. It is clear, however, the Google Play does police such activities, offering reprimand for intellectual property violations (often delisting them).

Few apps are launched with top 100 rankings. This is typically the result of a concerted pre-launch effort. As the Canadian preview of Princess Kissing indicates, affection games are no different. In this respect affection games are subject to the same general market forces and usability constraints as other apps. The qualitative reviews emphasize this, providing complaints about interface and playability that apply across many human-computer interactions.

It's also important to note that the review inconsistency may be an artifact of player misunderstanding of the feedback mechanism, a technographic issue or may simply an indication an immature user base. Perhaps most resonant is that fact that no English language reviewers complained about the categorization of the game. The most popular role playing games are often a mobile version of their console based equivalents. A game like Princess Kissing is listed among the long lasting Final Fantasy franchise or Dragon's Quest games. In short, such play is an outlier in a well-established game category with a long standing set of tropes and expectations. Despite possessing few attributes of traditional role playing games, few reviewers complained about its authenticity as role play.

7. CONCLUSION

The most fundamental question is a reasonable one – what attracts players to affection games and what repels them from them? From the two case studies it is clear that players either love or hate the experience. There doesn't seem to be a mediocre affection game interaction. It is also clear that affection is somewhat marketed. Effective keywords, and the resulting discoverability, certainly buoys a top 100 affection game as evidenced by Princess Kissing. Intellectual property rights and the exploitation of resonant brands and celebrity figures also plays prominently into the successes of some such games. Most interestingly, these games have an international prominence when they do catch the attention of players. They rank among the most popular apps in a crowded app marketplace.

A few patterns are clear. Affection games, like many games in the mobile space do violate intellectual property to gain popularity. Whether it is the use of a celebrity's image or the use of disney (not the proper noun Disney) - there are clearly questionable moral uses. It's also clear that such games offer a love it or hate is experience, with the minority in the middle. It's also clear that independent developers have bolstered this space, producing the largest set of the most popular titles.

This study may also start to reveal cultural differences between the nations that favor their play. Further research may expose cultural biases toward or against affection play. It's tempting to assume, for example, that cultures that are more commonly affectionate (e.g. kissing as a greeting) are also more apt to play affection games. Yet, it may also prove that games that have explicit taboos against such play inspire players to install such apps as release or revolt to the status quo.

There also remains some unanswered questions which have socio-cultural resonance. How do these games enforce gender and racial stereotypes? Do they afford for play in the same ways that traditional affection games, as recorded by Brian Sutton Smith have done historically?

In short, affection games are ripe for more substantive analysis. It's important to note that a game as simple as Princess Kissing has ranked among the best selling role playing games on mobile devices. This seems to indicate that despite a well established tradition of role playing games, Princess Kissing and similar games are attractive to a large audience. If only for a single day, the fact that more people installed an affection game over a a multi-million dollar franchise game indicates some novelty of the genre. At the least, affection games combat the stereotype of digital play as violent play, offering a make love, not war solution set unique to the emerging Affection Game genre.

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