Avoidance of the real and anxiety about the unreal: Attachment style and video gaming

In this article we discuss the light and dark side of attachments and attachment style in physical and digital worlds. We argue that many games offer opportunities for the generation of new and meaningful attachments to both physical and digital others. We discuss two 'Fundamental Attachment Errors', and show how these can lead to both 'light' outcomes, in terms of opportunities to learn more secure attachment patterns, and 'dark' outcomes where existing dysfunctional behaviours become more pronounced. We argue that the avatars which children adopt online have important consequences for their psychosocial development, and that these are mediated through the degree to which the real self is differentiated from the avatar. We propose that attachment is a key force in understanding play, and that studying its manifestations and effects in digital playscapes may contribute to our understanding of the effects of life online, and how insecure attachments may become secure.

In this paper we begin by discussing the relationship between children's patterns of attachment to caregivers and how they play, establishing a mutual interdependence between the two. We then raise two ways in which attachments can result in errors of perception, and how these may become exacerbated in digital playscapes - our interpretation of 'dark play'. This is followed by an analysis of the ways in which we relate to our digital avatars, and how the complex relationship between the offline and online self mediates how attachment affects play. The final section focuses on the novel contribution which taking an attachment perspective offers to the study of digital existence, and how time spent in digital playscapes may offer a powerful means of transforming insecure childhood attachments into secure adult ones.

The digital playscapes we consider cover a wide range of possibilities, but share one thing in common – the potential for interaction. While many digital environments exist that offer little or no opportunity for interaction, these are not the focus of our interest. The interactions we consider may be with physically real people who are present, such as when we play a digital game with someone in the same room. They may be with real people who are not present, such as when the person is in another place and whose physical form may be unknown to us. Or they may be entirely digital, as with computer-generated characters (referred to as non-player characters or NPCs). The nature of the interactions and playscapes may also vary tremendously. Interactions may be critical to a storyline or entirely optional, and this may depend in part on the motivations of the player. The playscape itself may be small and self-contained, or, with the advent of procedurally generated playscapes which do not exist until a player enters them, effectively infinite.

Turning to attachment, attachment behaviour is defined as “the various forms of behaviour that a child commonly engages in to attain and or maintain a desired proximity” to a specific figure (Bowlby, 1969, pp. 371). Being ‘attached’, in childhood

or beyond, requires that proximity and contact is sought to a specific figure in certain situations, for example when a child is frightened, ill or tired; in other words, when safety is threatened. It is this safety-regulating function that makes an ‘attachment’ relationship different from a ‘social bond’. A social bond refers to a relationship with shared dyadic interactions whereas attachment involves a system of activities to reduce the risk of an individual coming to harm, and consequently increases a sense of security (Bowlby, 1969). Attachment is a central component of social and emotional development in early childhood (Zeanah et al., 2016). It has been considered the heart of human development, as the early attachment relationship between child and caregiver is seen as the most important organiser of the self (Sroufe & Waters, 1977).

Through play, an individual is provided with the opportunity to discover the self (Winnicott, 1971), and the capacity for play is thus viewed as the gold standard for determining what it is to be alive, and what it is to be human (Tuber, 2008). In the human lifespan, play is implicated in major developmental achievements, for example, the capacity to sustain a true, authentic self, the capacity to use objects in the environment, the capacity to generate space between inner life and external reality, and the capacity to be alone. The latter is considered a particularly important sign in the maturation of emotional development and the development of a secure attachment, as it involves confidence that the caregiver will be available and responsive should safety be threatened. Play continues to be important throughout the lifespan, in cognitive, developmental and relational domains, and impacts positively on our psychological health (Aune & Wong, 2002; Lillard et al., 2013). In Baxter’s taxonomy of play functions (Baxter, 1992), the promotion of relational intimacy is cited as a major function of interpersonal play.

Attachment and play

The attachment behavioural system is activated as part of a process that begins with the experience of environmental threats, either physical or psychological in nature. As stated, this leads to the hallmark attachment behaviour; that of seeking proximity to a differentiated and preferred individual in an attempt to manage this distress (Bowlby, 1982). Thus the attachment figure is used as a safe haven, someone "stronger and/or wiser" (Bowlby, 1973) in whom the child seeks safety and soothing when feeling threatened. In addition to this safe haven to go to for comfort and assistance in times of stress, the child needs a secure base to go out from and to support autonomous exploration of the environment (Crowell et al., 2002). Empirical support for the secure base has been provided by the Strange Situation (Ainsworth & Bell, 1970), which uses a laboratory setting to examine a child’s response to separation and reunion, demonstrating the child’s capacity to use the caregiver as a secure base, and examining individual differences in how children cope with the stress of temporary separation from the caregiver. The procedure involves observing

a child playing in a room of toys in both the presence and absence of their caregiver (and also, at various points, a stranger). Children with a *secure* attachment are usually distressed by separation, but on reunion greet their caregiver, allow themselves to be comforted if required, and then return to continue their play. *Insecure avoidant* attachment is identified when the child shows few signs of distress on separation, exhibits little emotion on reunion, and is inhibited in his or her play and exploration of the environment. Those with an *insecure anxious-ambivalent* attachment to their caregiver exhibit high distress on separation and an inability to be soothed on reunion. In line with the ambivalent label, these children seek contact with their caregiver but then resist and reject it, alternating between displays of anger and clinginess. They are also too anxious to engage in exploratory play. Although not the focus of the experiment, work using the Strange Situation has contributed to the idea that establishing a secure base is considered the most important developmental milestone of early childhood (Ainsworth, 1979). The Strange Situation also provides a unique opportunity to examine the roles of caregiver and playmate; sometimes, but not always, the 'stronger and wiser' attachment figure will also occupy the role of playmate for the child. However, unlike the caregiving role, which must have safety-regulation at its heart, the specifics of the role of playmate are not defined.

Work in the field of adult attachment, specifically on the structure and function of the secure base in romantic relationships, may shed some light on the optimal characteristics of a playmate in childhood. In adults, attachment is traditionally thought of as a ‘style’, defined as a systematic pattern of relational expectations, emotions and behaviour, based in part on an individual’s history of experiences in significant relationships (Bowlby 1982/69; Fraley and Shaver, 2000; Shaver and Mikulincer, 2002). The methodological approaches to the measurement of attachment style and the exploration of attachment-related phenomena are diverse, but social psychological research has largely centred on two underlying attachment dimensions of attachment-related anxiety and attachment-related avoidance, which remain conceptually linked to the original patterns of avoidance and anxious-ambivalence first outlined by Ainsworth and Bell (1970). Individuals who score low on both dimensions are typically described as being securely attached, with progressively higher scores on each of the two dimensions resulting in insecure attachments styles characterised by high levels of anxiety and/or avoidance (Brennan, Clark, & Shaver, 1998). Exploration in adults varies as a function of attachment style, with attachment-related avoidance being predictive of less availability to partners, and attachment-related anxiety predicting greater interference in, and less encouragement of, partners’ explorations (Feeney & Thrush, 2010). In line with the results of their study, Feeney and Thrush (2010) consider that in adult relationships the secure base has three important characteristics; supporting exploration by being available when needed, not interfering with exploration, and providing encouragement and acceptance of exploration.

Thus, adult research highlights the secure base as the hub of exploratory behaviour, which links to the attachment system as part of a complex interplay of biologically-based behavioural systems. In young children, the attachment system is particularly related to the exploratory behavioural system and the fear behavioural system (Cassidy, 2016). There is constant tension between “I want to feel secure” (attachment system), “I want to fight or flee” (fear system) and “I want to play and explore” (exploratory system). Generally, activation of the fear system serves to heighten activation of the attachment system and in contrast, activation of the exploratory system under certain circumstances reduces activation of the attachment system (Cassidy, 2016). The exploratory system confers survival advantages by providing important information about how the environment works, however if the child explores too much without giving heed to potential environmental hazards this could put them in danger (Ainsworth, 1972). This is why exploration must be done *from* somewhere - in other words, from the secure base.

Work on exploration and relationships in children's digital gaming suggests a number of important factors account for the popularity of digital games, including character identification (van Reijmersdal, Jansz, Peters, & van Noort, 2013), psychosocial adjustment (Przybylski, 2014), status and identity (Crowe & Bradford, 2006) and many more (Granic, Lobel, & Engels, 2014). Play and exploration generally only happen in the absence of negative emotions such as fear, anxiety, depression and guilt, and Fredrickson (2001) has argued that when there are no specific threats in the environment, organisms are motivated to engage in activities specifically designed (by evolution) to broaden their behavioural repertoires and build resources (both physical and psychological) that can be drawn upon in the future. In Fredrickson's broaden and build theory, the purpose of positive emotions is to act as signals that it is safe to play, and play serves the function of providing opportunities to explore new ways of acting and responding. The rough and tumble play of the young of many species is not youthful exuberance or an abundance of energy (although these may be necessary), but is actually the blind guiding hand of evolution, providing lessons in stalking, striking, and escaping in contexts where these skills can be experimented with, acquired and perfected, where the costs of failure are cheap. It has been shown that rough and tumble play facilitates attachment bonds, albeit in different ways for boys and girls (DiPietro, 1981)

As the child develops, the need for physical proximity is augmented by a need for psychological proximity, and the caregiver’s accessibility, availability and reliability become as important as their physical presence. In the same way that the need for physical security is augmented by a need for emotional security, play as a proximate mechanism changes across the lifespan. In adults, play is used as a means of regulating emotional distance in intimate relationships (Baxter, 1992). Some have taken this to suggest a link between play and emotional vulnerability. Mount (2005) suggests that as emotional vulnerability becomes more important in attachment relationships than physical vulnerability, this in turn may lead exploratory behaviours

to focus more on emotional than physical exploration, such as confiding. It is interesting that the features that are strongly predictive of exploratory behaviour in adults, in terms of availability, non-interference and encouragement, have been shown to be important in confiding in late childhood/adolescence (Oskis, Clow, Loveday, Hucklebridge, & Sbarra, 2015) and adults (Bifulco et al., 2002).

Fundamental Attachment Errors and Dark Play

Bowlby (1982) considered that in children, feelings play an adaptive role in the attachment process, stating that they are part of appraising oneself in relation to the environment. In line with this appraisal process, the danger with insecure attachment lies in what does and does not get noticed, and how this translates into emotions which may exacerbate the insecurity (Mikulincer & Shaver, 2003). In what follows we outline two 'Fundamental Attachment Errors', show how these relate to digital play, and explore their consequences.

In any relationship there exist multiple cues as to whether greater or less proximity might be appropriate - sometimes people need to be close, and sometimes they wish to be more distant. This distance should not be seen as undesirable or damaging to the relationship per se, as it overlaps with autonomy. To the extent that autonomy is a fundamental human need as specified in Self-Determination Theory (SDT; Deci and Ryan, 2008), maintaining a balance between intimacy and autonomy is critical to psychological good health. SDT proposes three fundamental motivational factors; autonomy, competence and relatedness, and all three appear to be potentially satisfied by digital games. Much of the appeal of games, therefore, may lie in their offering alternative avenues through which basic human psychological needs can be met (Andrew K. Przybylski, Rigby, & Ryan, 2010).

Securely attached individuals (i.e. those who are low in both anxiety and avoidance) are comfortable with both intimacy and separation, as shown by work in adults (Bifulco et al., 2002, 2009; Fraley et al., 2013, 2015), adolescents (Oskis et al., 2013) and children (Ainsworth et al., 2015). In contrast, the anxiously attached child sees problems which are not there. They fret about whether they are loved, see the caregiver's needs for distance and autonomy as abandonment, and have a low proximity threshold meaning that relatively minor separation results in protest. On the outside, these individuals present as enmeshed, clingy, attention-seeking, demanding and ambivalent (Bifulco, 2002). They may use anger when their dependency needs are not met. Borrowing terminology from statistical hypothesis testing, we label the anxiety error as a Type 1 error due to the belief that something is happening (in this case, being abandoned by the other caregiver) when in fact it is not.

On the other hand, the excessively avoidant child fails to perceive signals which are in fact present, assuming all is well when it may not be. Their proximity threshold is

sufficiently high that it may not be triggered until it is too late. Typically, avoidant individuals appear self-reliant, disengaged, and have low sociability needs. At the more extreme end they can appear rigid and cold (Bifulco, 2002). We label the avoidant error as a Type 2 error, which arises statistically when an effect may be present (in this case, a desire from the other for greater proximity) but is not detected or responded to.

These errors are frequently self-fulfilling and self-perpetuating in real-life. They have been acquired at a time when we had few alternative behavioural strategies. Young children can protest or withdraw when their proximity threshold is exceeded, but can do little else to ensure the return of the caregiver. According to Bowlby (1973), by late adolescence early patterns of interaction have become organised into a generalised style of interpersonal interaction which is quite resistant to change. There is therefore a time-limited window within which to repair the damage accruing from early anxious or avoidant attachments. Opportunities to experiment with one's style are limited, and while teasing, joking, and bullying may be means of playing with relationships, such are the complexities of human interaction that they are dangerous places to tread, and we learn from an early age that these are 'bad' things to do. Furthermore, change in attachment style is a slow process, akin to unlearning an habitual way of thinking and replacing it with something more fit for purpose. There may be neither the time nor the opportunity in the physical world to enable this change, potentially damning the child to years of insecure relationships.

Attachment, digital play and the Undifferentiated Avatar

Winnicott (1971) considered play as something that happens in the interface between our inner world and external reality. This 'in-between' space or transitional area is a meeting place for fulfilling one's potential and feeling authentic. The view that play within digital playscapes leads to social isolation has been largely overturned by research suggesting that gaming can enhance psychosocial functioning (Przybylski, 2014), and that the causal relationship between gaming and psychosocial functioning is probably due to the migration of those with psychosocial problems into digital words, rather than digital worlds leading to psychosocial problems (Kowert, Vogelgesang, Festl, & Quandt, 2015). A key aim of future research should be to examine precisely how those with psychosocial difficulties, which we contend may frequently include insecure attachments, may find their specific needs met within digital worlds.

While attachments are difficult to change in the physical world, digital playscapes offer safer places where people can experiment with relationships. We have previously shown (Author et al., 2012) that players can like and even love NPCs, and form genuine attachments to them. Digital relationships are therefore real relationships, and online interactions matter (Granic et al., 2014; Kowert, Domahidi, Festl, & Quandt, 2014). Furthermore, the actions we undertake in digital worlds are

not simply about the imposition of our self on the digital avatar we inhabit and control. As Castronova (2005) has pointed out, when we play a character in a game, we may become that character, and its (our) actions feed back into our offline selves, changing us is many of the same ways that actions in the physical world change us. The notion of the self as a complex psychological construct, defined by the roles we play and the people we play them with, has to be extended in the 21st century to include other worlds and other forms of existence (Author, 2015). Our sense of self is no longer limited to the actions carried out by our physical body, as we can adopt other bodies, ethnicities, sexes, and species, and our self changes as a function of what all these other bodies do (Banks & Bowman, 2013).

The degree to which we become our digital avatars is something which depends on the individual. While early work on this topic suggested the importance of identification with the avatar, more recent developments suggest that player-avatar relationships are multifactorial, and what matters is the degree to which the avatar is seen as differentiated from the self. Players relate to their avatars in at least four ways, including the amount of emotional investment in the avatar, the degree to which the avatar is seen as autonomous (having its own thoughts and feelings), the consistency of the avatar's existence within the game world, and whether the avatar's actions are seen as being controlled by the player (Banks & Bowman, 2016). The differentiation of offline and online selves is therefore not a simple measure of distance, but a complex integration of different thoughts and feelings. Avatars are not simply digital objects being driven around synthetic worlds, fulfilling the aims of their corporeal creators. They are much more like real people, and much more like us. As a result, it might be possible on the one hand to form an attachment to an avatar, but also, by not differentiating self from avatar, to form attachments *through* the avatar. The 'differentiated avatar', where the player remains separate from the avatar, with the latter seen as 'other', renders the player somewhat immune to its actions. The effect of the ‘undifferentiated avatar’ who becomes part of the player's self concept, is almost certain to be far more wide reaching.

A player's attachment style may be mirrored in their avatar; the secure player has a secure avatar, while anxious or avoidant players have anxious or avoidant avatars respectively. To the extent that the avatar is undifferentiated from the player, anxious and avoidant players may repeatedly commit fundamental attachment errors through their avatar's interactions with other players and NPCs. The anxiously attached player/avatar 'sees' abandonment and mistrust in others, is uncomfortable with what appear to them to be unacceptably low levels of intimacy and commitment. For the avoidant player, these same levels of intimacy and commitment are uncomfortably high, as they 'see' little to be gained from forming relationships with other players or NPCs. Interactions are consequentially superficial, perhaps to the point of objectivising, where other players/NPCs are seen merely as means to the player's own ends. While it might be suggested that with regards to NPCs this is often entirely the point (they are resources on which to draw as the story unfolds),

many games offer the opportunity for richly detailed interactions with their digital characters, offering players experiences that are amusing, touching, and emotionally engaging (Author et al., 2012). Furthermore, we may learn to trust NPCs, and while game mechanics or story progression may lead to this being violated, it nonetheless provides a space for safe exploration, the opportunity to experiment and play with relationships which may be so lacking in the physical world.

Second life, second chance? The Undifferentiated Avatar as digital playmate and saviour

Bowlby's conviction was that our real relationships in early childhood fundamentally shape us, an observation reinforced by the results of more than 60 years of research. However, individuals change. In line with developments in the digital world, attachment theory may also need to become more malleable. Some have stated that a greater emphasis on the interpersonal sources of adult attachment security is necessary (Cook, 2000), as internal working models of relationships may be more than just 'internal', constantly being revised in line with external, especially group, social processes. This is a hopeful message, because if these first relationships have been problematic, then subsequent ones offer us second chances (Wallin, 2007).

This area of research in the attachment field is still limited, but digital playscapes offer us a unique tool to advance the area. The problem remains that studies exploring the similarities between child and adult attachment tend not to utilise comparable methodologies. The classic tradition in the field of childhood attachment research is behavioural observation in either naturalistic or laboratory situations (Ainsworth, 1979). Behavioural observations however, are rarely used in work with adults, where interviews and self-report are the methods of choice (Bifulco, 2002; Hazan & Shaver, 1987; Main, Kaplan, & Cassidy, 1985). Digital playscapes may provide a useful way of bridging this methodological gap, not least because here we are able to fully appreciate and explore play, its centrality to the secure base, and the ways in which motivations and attachments affect relationships and individuals.

Games in the digital world offer us second chances, and the opportunity to 'earn security' (Paley, Cox, Burchinal, & Chris, 1999). We prefer, in line with attachment theory being underpinned by affects, cognitive appraisals, control systems and memory systems, to label this a chance to 'learn' security. The process of learning security in a digital playscape involves the same dynamic and repeated sequences of monitoring and appraisal as in real life attachment. In other words, appraising threats in environmental events, the availability and responsiveness of attachment figures, and the possibility of proximity-seeking as a means of coping with insecurity and distress. Individuals can play with these very processes in the context of a digital game, and the frequency and safety of these exploratory attachments may greatly accelerate the rate at which secure attachment can be acquired. A game might

permit a child to experience all manner of interactions, dependent only on the child's desire to experiment and the game designers' ingenuity. For instance, interactions with digital characters often present players with a series of response options including questions, opinions, and statements. These may have implicit or explicit effects on the relationship with that character, for instance by making them more or less favourably inclined towards the player. Games offer almost limitless variation of experience. They may have no end point and therefore no event which marks completion, victory or the end of the story. They may have little or no structure, relying on the player to create their own meanings and narratives (and in some cases their own content as well). Injury may be fleeting and easily overcome, or permanent and debilitating. Death is frequently just part of the fun.

Viewing this through an attachment lens raises interesting questions. Arguably there *is* a goal when it comes to attachment behaviour; to obtain a feeling of security. Similar to games, the “search for the secure base”, in a therapeutic sense, and in human relationships (Holmes, 2001) involves constructing a meaningful narrative of attachment experiences. As outlined above, this narrative may contain fundamental attachment errors, and will occur under the auspices of a more or less differentiated avatar, but it may still feel secure and meaningful to the individual and will determine how they will go about their quest to ‘win’ (learn) security.

While differentiated avatars permit second hand observation of relationships unfolding, the undifferentiated avatar may offer hope to the insecurely attached player. While the fundamental attachment errors see insecure attachments reinforcing themselves, driving players to ever more anxious or avoidant styles ('dark play'), the opportunity to play with attachment and relationships in an environment where the consequences are not costly offers the opportunity of redemption. Trusting someone in real life can have painful consequences, while deciding whether or not to trust an NPC in a game may have no consequences beyond reloading the game should the trust turn out to be misplaced.

Although attachment as originally conceptualised was not meant to be taken as a simple synonym for the term ‘social bond’, the theory reaffirms a movement from a one-person psychology to a multi-person psychology. For this reason, multiplayer digital games offer unique opportunities to explore attachment processes. Bowlby (1982) considered the roles of attachment figure and playmate to be conceptually distinct. The attachment figure will be sought when a child perceives threat in their environment, whereas they will seek a playmate when they are in good spirits. Because the two roles are not incompatible, it is possible for one person to fill both. Research suggests that fathers more often occupy a playmate role in the child’s early life, typified by physical rough and tumble play, and that this is important for the later formation of a positive father-child attachment (Paquette & Dumont, 2013). Likewise in games, a playmate relationship may be more likely initially, but there is potential for this to develop into an attachment bond. In the context of the digital

playscape, exploring whether the undifferentiated avatar's role is that of attachment figure or playmate, of safe haven or secure base, may shed light on processes of trust and vulnerability, and the relationship between attachment style and playstyle.

Conclusion

Play has evolved to teach young organisms the physical and cognitive skills needed to survive in dangerous environments. The digital landscapes which we and our children now inhabit offer psychological forms of play which can help us survive in the equally perilous interpersonal environments we all inhabit. The future of research in this area should embrace the centrality of attachment, investigating its direct and mediational effects, and using it as a lens through which to view all interactions, be they online or offline, physical or digital.

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