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What does she see in him? Hybristophiles, and Spree Killers

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Abstract

Purpose

To further understanding of spree killers, we explored fan communities of same on Tumblr. We aimed to fit their expressed paraphilic desires with earlier typologies of aggressive/passive hybristophiles (women who fetishize killers) and a previously proposed typology of spree killers themselves.

Design/methodology/approach

Tumblr fan sites content (text and pictures) were investigated using a combination of visual and textual content analysis, latent class analysis, and hierarchical cluster analysis, using other celebrity fan sites as controls.

Findings

The general trend was for hybristohiles to have surprising levels of self-knowledge with a small sub-set expressing worrying tendencies to fetishize the killings themselves over and above sexual desires towards the perpetrators.

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Although the division of hybristophiles into active and passive has been previously shown, we believe we are the first to link this to spree killers who are more or less explicitly advertising their behaviors to their fan base.

Social Implications

Much attention has been directed to issues of so-called toxic masculinity and incels, but it is important to appreciate that they do not exist in a vacuum. This material contributes somewhat to understanding the toxic soil in which killers flourish.

Keywords: Spree killing, mass murderers, evolutionary psychology, amok, school shooting, fan communities,

Introduction

Sitting at his desk, examining an unusual orchid sent from the other side of the world, Charles Darwin was able to predict the existence of a previously undescribed moth, nearly 6000 miles away, with unusual characteristics, that must exist to feed off it. In 2019, King and Butler (benefitting from insights bequeathed by Darwin) documented a bimodal pattern of male spree killers. This division contained a group of younger ones who exhibited signs of pathological attempts to obtain a certain form of status. Like that orchid, the set of peculiar patterns the killers exhibited implied a co-evolved audience, but, in this case, one of heterosexual females receptive to those signals. This paper documents some features of that audience.

Spree Killings and Spree Killers

Spree killings are defined as the willful injuring of five or more persons, of whom three or more are killed in a single incident (Dietz, 1986). Leaving out those mass murders involving politics or religion, there remains a subset that appear to be motivated by a pathological male response to status. Status is connected to male reproductive success across both time and space, a fact reflected in female desiderata in partners (Buss, 2015). Thus, we might expect that males are subject—at the extreme end of the bell-curve of measured traits--to potentially pathological defenses of it, or reactions to its absence.

Previous research (King & Butler, 2019) found that the older spree killers (mean age 41 years) differed markedly in profile to the younger ones (mean age 23 years). While older ones tended to have had successful relationships and careers—that they were now in danger of losing—the moneyer ones fitted the profile of being on the road to reproductive oblivion. For example, they were significantly more likely to have a history of mental health issues, school refusal, and trouble with the law. It is important to note that the older type were not simply an aged version of the younger ones. They typically had families and careers, but had recently lost, or were in danger of losing them. The notion of an average spree killer would, therefore, be highly misleading. The younger and older ones have severely bimodal traits.

Like Darwin's orchid, if the younger spree killers represent, in part, a pathological response to low status, and the resultant poor reproductive opportunities, this implies a potential female audience.

Evolutionary Frameworks for Understanding Behavior

Evolutionary insights are not alternatives to existing psychological explanations. They incorporate the recognition that all traits came to be through a non-magical process of evolution by natural selection which is one set of their properties (Tinbergen, 1963). This realization provides constraints on what is psychologically possible, and offers additional testable hypotheses about otherwise atheoretical psychological constructs. A mention of some key evolutionary concepts may clarify here:

In brief, unavoidable asymmetries in minimum parental investment (Trivers, 1972), drive human males to honestly signal (Zahavi, 1975) a particular set of attractive (as mates) qualities. Human infants are highly demanding, and altricial, meaning that, in some ecologies, these male-displayed qualities include status, dominance, and formidability (the differences do not need to concern us as yet) and, furthermore, in ways that cluster at particular life stage choke points (Stearns, 1976).

As an aside, it should be noted that there has been some recent criticism of applying life history theory to within-species differences (Stearns, & Rodrigues, 2020). However, it is our contention that such calls are for

conceptual clarification, regarding single axis measures of (say) the fast/slow spectrum, rather than rejection of the concepts as applied intra-species (Del Giudice, 2020). Such clarifications are welcome, and not central to the argument presented here. The key issue here is that the pressures of selection do not fall evenly throughout the human life course, but, tend to bottleneck at reproductive choke points. In human males these choke points include timings of pubertal onset, the gaining of social status and recognition, and the maintenance of same against rivals. It is precisely these last two (age-related) choke points—non coincidentally linked to status acquisition and (potential) loss, which, we argue, can generate pathological responses in some males. In the modern era, signalling goes beyond the immediate reach of one's tribe as it would have existed on the savannah plains of Africa. Lethality and visibility can also be increased by modern technology.

Online Communities

Spree killings generate considerable media attention (Rocque, 2012; Larkin, 2009) and public fear. Less obvious is the increasingly large subset of internet users who express a romantic interest in high profile spree killers (Chen, 2012; Warren, 2012; Ramamoorthy, 2013). There exists a plethora of websites devoted to revering the actions of such criminals, that are not unlike the fan pages of pop celebrities. They are full of romanticized GIF's, comics, collages, and manipulated images (Romano, 2013). These web-groups construct small world networks, similar to those of other politically, and socially, fringe, social groups (Oksanen, Hawdon, & Räsänen, 2014). Small world networks are social systems comprising groups of individuals who may have little or nothing in common, but whose interaction is facilitated by a unifying factor such as a shared interest in a particular individual or incident, mutual enemies, or friends (Oksanen et al., 2014).

It is a cliché that criminals represent the proverbial bad boy, and that this is why they garner attention (Romano, 2013). However, in absence of theory, it is less clear *why* women, or a subset of them, should find extreme rule breaking, often combined with violence, sexually attractive. The fact that this attraction is so widespread suggests the trait may be (or may have been in some circumstances) adaptive. In evolutionary terms, the ability and willingness to flout rules can be interpreted in part in terms of status acquisition. Individuals who exhibit an attraction for such bad boy types are likely to exhibit overt sexual behaviour, use an unrestricted socio-sexual strategy, and exhibit an increased interest in images showing heightened sexual arousal (Herold & Milhausen, 1999; Simpson & Gangestad, 1992; Tombs & Silverman, 2004). Females showing these preferences are perhaps seeking partners who are capable of facilitating reproductive success in the short-term, as opposed to seeking parental investment.

One possibility is that the patterns of attraction exhibited by hybristophiles, are similar to those patterns of attraction that would ordinarily be exhibited by fans of celebrities (Romano, 2012). This maps on to the concern expressed by some commentators that media figures may exert harmful influences over their respective follower networks (Zhou & Whitla, 2013; Brown & Fraser, 2004; Pleiss & Feldhusen, 1995).

Celebrity Culture, and Individual Personality

The idolization of persons in the media seems to be an extension of identity-development through adolescence, offering individuals myriad possible selves to observe and potentially replicate (Maltby, Day, McCutcheon, Houran, & Ashe, 2006; Davis, 2013; Larson, 1995). Adolescence is marked by transition from parental identification, towards the emergence of a personally significant, and socially endorsed, identity (Steinberg & Silverberg, 1986; Cramer, 2001; Erikson, 1968; Davis, 2013). Para-social relationships, asymmetric between an individual and media figures, may perform important social and emotional functions (Greene & Adam-Price, 1990). Indeed, behavior exhibited during para-social relationships is often reflective of behavior exhibited during social relationships, in reality (Tuchakinsky, 2010; Cowley, 2011).

In respect of adults' attachment to celebrities, Lasch (1991) argues that society is becoming increasingly supportive of narcissistic individuals, and that this leads to the emergence of celebrities as icons (who at least display, if they do not possess such qualities) with whom people seek to identify. In addition, Riesman (2001) suggested that (western) society was transitioning to a stage of other-directedness, where individuals are increasingly need the approval of others (Zinkhan & Shermohaman, 1986). If this picture is broadly true, then it implies that mass media in contemporary society has created individuals whose glory and fame are utilized by their audience as a source of self-satisfaction, or life direction (Lee, Scott, & Kim, 2008). Such narcissistic internal models of self might act as supernormal stimuli to the human self-image, in much the same way as a long yellow stick with a red spot generates a disproportionately responsive behavior in the chick (Tinbergen & Perdeck, 1950). An evolutionarily adaptive trait—such as a signal to response interface--will produce *proximate* mechanisms to make said trait manifest in each organism (Tinbergen, 1963).

Hybristophilia

What is happening to the individual at this proximate level—in terms of feelings, desires, behaviors and cognitions—as regards female desire for bad boys? The term *hybristophilia* has been applied to women who are attracted to violent criminals (Sharma, 2003; Gurian, 2013). *"Hybristophilia is a paraphilia of the marauding/ predatory type in which sexuerotic arousal and attainment of orgasm are responsive to and contingent upon being with a partner known to have committed an outrage or crime, such as rape, murder or armed robbery"*

(Money, 1986, p. 263). Hybristophilia admits of degrees, and is far more prevalent in women (Vitello, 2006; Purcell & Arrigo, 2006). Hybristophiles may be the victims of physical or sexual abuse, resulting in low self-esteem and feelings of insecurity, predisposing the individual to deviant sexual preferences, and criminality (Gurian, 2013; Vitello, 2006). However, support for such a hypothesis is far from compelling. Isenburg (1991) suggested that women who engage in relationships with criminals evaluate their relationship as a companionship, rather than a sexual, or romantic, coupling. Hybristophiles may also wish to collaborate with a violent offender to express their own violent tendencies, or because (at a conscious level) they want to rehabilitate the criminal (Vitello, 2006; Parker, 2014).

This mixed picture of attraction has led to a two-fold typology of hybristophiles (Parker, 2014). Passive hybristophiles have little interest in committing criminal behaviour, but derive sexual pleasure from seeking relationships with specific individuals who have committed criminal acts (Parker, 2014). Aggressive hybristophiles derive sexual pleasure from the criminal act itself and, sometimes, may coax a partner into committing a crime with them (Parker, 2014).

As yet, there is limited consensus about the diagnosis, aetiology, and symptomology of hybristophilia (Slavikova & Pansa, 2014). It could be that it forms the extreme end of a continuum of sexual desire, rather than being viewed as a disorder. That many authorities have regarded hybristophiles as similar to fans of celebrities (Slavikova & Pansa, 2014; Böckler & Seeger, 2013) is, perhaps, because of a lack of attention to possibly adaptive nuances of the trait. Literature addressing the emergence of virtual fan communities of hybristophiles is likewise limited (Böckler & Seeger, 2013, p. 309). Relevant literature has neglected to mention any possibility of paraphilia being present, and has, instead, focused on examining the physical attributes of the fan network as a whole (e.g. Oksanen et al., 2014). In light of the aforementioned shortcomings, the current study aims to investigate the possibility of hybristophilia being present in fan networks, and to compare any such hybristophiles to fans of celebrities. These separate strands of psychological research—clinical and organization—will be considered under an evolutionary framework, which we hope to have established that we see as a perspective that adds value to, rather than seeks to replace, existing ones.

The current study compares the fan bases of two prominent spree-killer events, in order to test the idea that hybristophilia, in some contexts, has the quality of being a sexually receptive response to male murderous displays in a cohort of females.

Method

Data Collection: Context of the Fanbase for Spree Killers

The Columbine Massacre was a spree-killing that occurred in April 1999. In the course of it Eric Harris, and Dylan Klebold, shot 12 students, and one teacher, to death before committing suicide. James Egan Holmes was the perpetrator of a spree-killing in July 2012 that resulted in the deaths of 12 people at a Century movie theater in Aurora, Colorado. We selected these two cases for study because both attracted considerable media attention, resulting in the formation of large fan-bases. In both cases, a specific, and expressed, desire for notoriety was noted as a motive for the attacks. Finally, they were selected because upon preliminary investigations it was revealed that the fans of the Columbine massacre are typically between the ages of 20 and 25 and the fans of the James Holmes massacre are typically between the ages of 15 and 20, allowing for age-based comparisons.

The Internet has enabled dissemination of sexually oriented material, allowing for the easy informal exchange of text, images, and videos (Gackenbach, 2011). The creation of web forums that allow individuals to remain anonymous has encouraged the spread of material previously thought of as taboo (Gackenbach, 2011; Oksanen et al., 2014). In particular, female generated pornography, and erotica (much of which is written) has become much more available for scrutiny (Salmon & Symons, 2003). Many of the supposed hybristophiles have turned to the micro blogging site Tumblr to express their desires (Chen, 2012).

In the current study, the aggressive/passive typology is investigated using an evolutionary framework. Further, it will also explore implications of the theory that individuals incorporate negative attributes of a desired partner into their self-concept. (Slotter & Gardner, 2012)

We focused on female hybristophiles who expressed an interest in the case of James Holmes (aged 15- 20 Group *JH*) or those who expressed an interest in the Columbine massacre (aged 20 - 30, Group *CB*). To control for the celebrity element we used, for comparison purposes, the Tumblr blogs of fans of standard celebrities, namely fans of One Direction (aged 15- 20, Group *1D*) and fans of Ryan Gosling (aged 20- 25, Group *RG*). The goal was to generate descriptions of themes and attributes, from collections of images which would allow for quantification and comparison of data sets (Leeowen & Jewitt, 2001). To this end, a mixed method approach was used. Data were initially analyzed using both latent, and traditional, content analysis. In the former, the

patterned (content) and projective (interpreted meaning) of the manifest elements of the data was examined (Potter & Levine-Donnerstein, 1999). In the latter instance, the focus was on counting occurrences of different elements (Stepchenkova & Zhan, 2013).Thereafter data were subjected to Latent Class Analysis (LCA). Visual depictions were analyzed using hierarchical cluster analysis.

Procedure

Following institutional ethical approval for the study, data were collected from the online micro-blogging site Tumblr (www.Tumblr.com). Tumblr allows its users to create short-form blogs comprised of photos, GIFs, videos, and written entries. Tumblr was (at the time) the most suitable site for this study in terms of size and accessibility relative to other micro-blogging sites such as Twitter and Instagram.

A pilot investigation identified the tags which produced relevant results. A search was conducted using the following tags and search words: The tags for group JH were “James Holmes” and “Hybristophilia”, the tags for group CB were "Columbine" and "Hybristophilia". The tags for group 1D were "Onedirectioners" and "obsessed" and the tags for group RG were "Ryan Gosling" and "obsessed". The units of image analysis and text analysis were defined as images, and text passages, of approximately 400 words appearing on the Tumblr blogs of self-confessed “hybristophiles”, who professed an attraction to:

i.) James Holmes, and between the ages of 15 and 20

ii.) Eric Harris and Dylan Klebold, and between the ages of 20 and 25

iii.) One Direction, and between the ages of 15 and 20

and

iv.) Ryan Gosling, and between the ages of 20 and 25.

The users’ age was determined by examining the written biographical content on their blog. Only those with verified (by Tumblr itself) ages were used. A two-stage data-identifying process was followed. First, the 200 most recent images, that could be defined as units of analysis, were selected independently for each group. Second, a random number table was then used to select 50 images for analysis from each group. This process was repeated for the text data. Specifixally, the 30 most recent passages, that could be defined as units of textual analysis, were selected independently for each group, and a random number table was used to select five passages for analysis for each group. In total, 200 images and 20 passages were selected for analysis. A full protocol is available from the authors on request.

Four analysts, naïve as to the research questions, were recruited to complete data analysis.

Approximately four hours of each analysts' time, across two separate occasions, was required. Two were male (aged 34, and 39 respectively) two were female (aged 19, and 27 respectively). They were not paid for involvement, but were warned about the possibility of viewing disturbing material. They were reminded of their right to withdraw at any time.

Data Analysis

Data analysis had four phases, with a similar process in place for both media and text data. The primary researcher undertook a literature review, through which they developed a theory driven coding scheme. During this phase variables were discussed and defined with a second member of the research team, before codes were agreed. Codes were developed into categories by organizing the initial codes under higher order headings, agreed through discussion, and revision. This process resulted in five categories which accounted for all the variables of the data and, which appear to be mutually exclusive (Van Leeuwen & Jewitt, 2001). Category 1 was '*sexual content'* with nominal values being explicit, implicit and none. Category 2 was '*violent content'* with nominal values being *depicted, implied,* and *none*. Category 3 was '*tool of notoriety'* with nominal values being *yes* (present) and *no* (absent). Category 4 '*subject of image'* was concerned with whether the image's primary focus was on the individual, or on the act that led to the individual achieving notoriety. The nominal values here were *act* and *individual*. Category 5 was *'realism'* with the ordinal values being *very realistic*, *realistic, moderately realistic* and *not realistic*. Pilot tests were conducted to establish reliability, and Krippendorf's alpha (KALPHA) values were accepted.

[**Table 1** Inter rater reliability goes here]

In the initial phase of textual analysis, theory and literature again played an inductive role, resulting in 31 codes being identified. All of the variables were concerned with latent pattern content, with the exception of variables 5, 7, 10, 11,31 and 33 which examined latent projective content and of variables 3, 23, 28, 29 and 32, which examined manifest content. Each of the codes were assigned a distinct label to make analysis and interpretation of the data easier. A pilot test was run to increase reliability levels with the results shown in **Table 1**. See **Table 3** for details of variables, examples of content, and comparisons between fan groups.

[**Table 1**: Inter-rater reliability Goes here]

In phase two, the primary researcher trained the four analysts to ensure that the coding scheme and process were fully understood. In phase three, inter-rater reliability was determined through use of a pilot study. Specifically, the analysts were instructed to code, independently, and without consultation, a sample of 30

images, and 5 text-based data that were similar to, but not part of, the actual research corpus. KALPHA value of 0.80 was accepted. In the final phase, each analyst viewed 100 individual images separately, with analysts one and two coding all of the images from groups *JH*, and *RG*, while analysts three and four coded all of the images from groups *CB*, and *1D*. For every image, the analyst noted a value for each of the five variables. Each analyst coded all 20 of the text data passages. Each analyst was then required to identify the presence or absence of the 31 codes in each passage as a whole, resulting in each code being assigned a "yes" or a "no". Codes 1-23 were examined across the data set, while codes 24-31 were examined in relation to passages for the *JH* and *CB* groups as these codes are directly relate to the topic of hybristophilia (e.g. crimes committed or imagined) and are not relevant to the analysis of group *1D* and group *RG*.

The image-based data were then subjected to Latent Class Analysis (LCA) to identify discrete, mutually exclusive, latent classes of hybristophiles/celebrity fans based on how their images and passages were categorized into categorical variables forming multivariate data (Costa, Matos, Rosario, Ceu-Salvador, Luz Vale-Dias, & Zenha-Rela, 2016). See **Table 2** for the results of the latent class analysis.

Textual analysis.

To validate and further explore the findings from the image analysis, 23 variables were investigated in relation to the passages from all of the groups using Hierarchical Cluster Analysis. 9 variables were exclusively investigated in relation to the passages from groups *CB* and group *JH* using Fisher's Exact Test.

Given the small sample, it was reasonably assumed that the sampling distribution of the test statistic was deviant from a chi-square distribution, rendering chi-square analysis not applicable to the data (Field, 2013). However, the clusters were qualitatively described using the results of the CA coding, and quantitatively described using Fisher's Exact Test.

Results

Latent Class Analysis

In an effort to identify types of hybristophile shown by online content, the variables pertaining to *sexual content, violent content, tool of notoriety, subject of image,* and *realism* were subject to latent class analysis, using the latent class analysis software *Latent Gold* (Vermunt & Magidson, 2000). Latent-class analysis can be considered a probabilistic extension of K-means cluster analysis, with the advantage that it is model-based, thereby affording use of statistical criteria for determining various different cluster solutions. The analyst can use the Bayseian Information Criterion to choose between differing models. The one with the lowest

BIC is generally preferred, as indicating a good balance between model fit and parsimony (defined in terms of relatively few parameters). Models can be created through sequentially relaxing assumptions regarding the covariance structure of the indicators. Given that it had the lowest BIC of alternatives, a two-class model appeared to be the best fit for the data

[**Table 2**: latent class analysis goes here]

Latent class profiles.

Upon investigation of the class specific trajectories, class 1 was labeled "Celebrity Fans" and class 2 was labeled "Rampage Shooter Fans" (See **Fig 1**.). The Celebrity Fan class accounted for 61% of the sample, while the Rampage Shooter Class accounted for 39% of the sample.

A large proportion of the Celebrity Fan class was comprised of images pertaining to the James Holmes fan group (Group *JH*) (37.05%), the One Direction fan group (Group *1D*) (28.69%) and the Ryan Gosling fan group (Group *RG*) (28.69%). By comparison, only 8.19% of the Celebrity Fan class was comprised of images pertaining to the Columbine fans (Group *CB*). Images categorized into the Celebrity Fan class tended to exhibit both implicit, and explicit, sexual content. Furthermore, they tended to focus primarily on the act itself, rather than the perpetrator. Additionally, images categorized into the Celebrity Fan class had a high probability of not featuring the subject's tool of notoriety, and of not exhibiting violent content. Finally, the Celebrity Fan Class exhibited a relatively stable amount of very realistic, realistic, moderately realistic, or not realistic content (See **Table 3**).

[**Table 3**. Latent Class profiles of Visual Fan Content goes here]

A large proportion of the Rampage Shooter Fan class was defined by group *CB* (51.28%). 7.69%, 21.79%%, and 19.23% of the rampage shooter fan class was comprised of images relating to group *JH*, group *1D* and Group *RG* respectively. Images categorized into the Rampage Shooter Fan class had a high probability of exhibiting both depicted, and implied, violent content, and had a high probability of being focused on the act, rather than the individual. Additionally, and perhaps surprisingly, images categorized into the Rampage Shooter Fan class tended to display no sexual content. Finally, images categorized into the Rampage Shooter Fan class had a high probability of being either realistic, or very realistic, and tended to feature the subject's tool of notoriety. For full latent class profiles see **Table 3**. For a visual representation of results see **Fig 1**. For the sake of visual representation, all of the coding categories were converted

into nominal variables.

The presence (*yes* values) of these variables were represented on a graph

(**See Fig 1**).

[**Figure 1**: Class specific trajectory summaries goes here]

Hierarchical cluster analysis: Variables 1-23.

A hierarchical cluster analysis using Ward's method was run on 20 cases of textual representation of fandom. Each of these were categorized using the coding categories (1-23) previously discussed (and displayed in **Table 4**). The number of clusters that best represented the data was determined by examining the agglomeration schedule (See **Table 5**.). A clear demarcation point in distance coefficients was observed, suggesting that a 3-cluster solution best fit the data. Specifically, the 3-cluster solution represented the largest decrease in Squared Euclidian Values, which indicated that the three clusters described by the solution were relatively dissimilar. This variety of grouping is commonly referred to as agglomerative hierarchical clustering.

[**Table 4**: Textual Variables from Tumblr Posts, and illustrative fan types goes here]

[**Table 5**: Agglomeration schedule goes here]

Cluster profiles: Variables 1-23. The first cluster was entirely defined by passages from group *CB* and was subsequently labeled the "Columbine" cluster. The second cluster represented all 4 passages from group *JH*, and 1 passage from group *1D*, cluster 2 was labeled the "Holmes" cluster. Finally, the third cluster represented all 4 passages from group *RG*, 3 passages from group *1D* and 1 passage from group *CB*. Cluster 3 was labeled the "Celebrity" cluster. Fisher's Exact Test was used to examine whether or not the clusters differed significantly with respects to the variables examined (See **Table 3**).
It is worth noting that the type of explicit sexual content exhibited by the Columbine cluster, and that by the Holmes cluster, was qualitatively different. The Holmes cluster typically exhibited explicit sexual content pertaining to the individual's physical attributes, while the Columbine cluster typically exhibited explicit sexual content pertaining to the individual's crime, with many passages describing a sexual attraction to the rampage shooting itself rather than to the individual.

The results of the hierarchical cluster analysis are illustrated by the dendrogram in **Fig 2**. The cut line indicates the 3-cluster solution selected for examination. The General Squared Euclidean Distance Coefficient was used to create the proximity matrix that constructed the present analysis. The dendrogram was then constructed using the increase in sum of squares method. Five passages from each group were analyzed, represented on the Y-axis. The X-axis represents the squared Euclidean distances at which the clusters were

combined during each step of the hierarchical cluster analysis.

Fisher's Exact Test: Variables 24 to 31.

The presence or absence of variables 24 to 31 were investigated in relation to the passages pertaining to group *JH* and group *CB* using Fisher's Exact Test (recall that these variables pertain to the explicitly criminal aspects of the fan appreciation and thus are not relevant to the mere celebrity groups). The results of these tests are shown on **Table 3**, with some key findings reiterated below.

[**Fig 2**: Dendrogram of hierarchical cluster analysis goes her]

Four of the passages from group *JH* made reference to the theme of redemption in relation to the subject, while none of the passages from group *CB* made such reference. reference to the theme of redemption. This difference was statistically significant (Fishers exact test, $p<.05$). The writers of four passages from group *JH*, and four passages group CB were observed to recognize that the criminal act was morally wrong, a non-statistically significant difference.

All five passages from group *CB* exhibited knowledge of the subject's ideology, and the writers of four of those passages were observed to identify with the subject's ideology. In contrast to this, none of the passages from group *JH* were observed to exhibit knowledge of the subject's ideology or to identify with the subject's ideology. These differences were both statistically significant (Fisher's Exact Test $p < .05$).

The writers of four of the passages from group *CB* expressed a desire to commit a rampage shooting attack themselves, and three of the passages described their own criminal impulses. None of the writers of the passages from group *JH* expressed either a desire to commit a rampage homicide attack, or described having criminal impulses. Both these differences were statistically significant (Fisher's exact test, $p < .05$ in each case.

All of the passages from group *CB* were observed to describe an attraction to multiple criminals, and, additionally, all of the passages from group *CB* were observed to have a romantic attraction towards the criminal acts committed by these criminals. In contrast to this, none of the passages from group *JH* mentioned other criminals, and none of those passages referenced an attraction to the actual criminal act. Both of these differences were statistically significant (Fisher's Exact Test, $p<.05$).

Discussion

Findings

Independent confirmation of psychological constructs from multiple perspectives adds to the validity of said constructs. The clinical literature has described a phenomenon—a typology of hybristophiles divided into those who eroticize the perpetrators, and those who wish to emulate them. It is notable that a typology of spree

killers, framed in evolutionary life history terms, reveals a pattern that similarly predicts and helps to explain this pattern. In this study we investigated self-described hybristophiles on Tumblr. These hybristophiles expressed a romantic interest in high profile rampage shooters were compared to celebrity fan communities in order to explore some of the expressed erotic/fantastical content with respect to same. Hybristophilia is not mere celebrity worship, although some forms of it do share common elements. Interestingly the more aggressive hybristohiles—those who are aware that their erotic fixation centers on murderous acts, at least those who express themselves as such on social media, show a level of self-awareness about the phenomenology and sequelae of their erotic fixations.

Hybristophiles are not a homogeneous group. Our exploratory typological investigations suggest that the Columbine (*CB*) fans differed significantly from the fans of James Holmes *(JH*), One Direction (*1D*), and Ryan Gosling (*RG*). Perhaps surprisingly, the fans of *JH* exhibited similar patterns of visual representation—eroticism centered on the perpetrator-- to the fans of *1D* and *RG*.

The fans of the Columbine Massacre, presented here, seem to represent the more aggressive hybristophile type (Parker, 2014), and the evidence for this, comes from both the image, and textual, analyses. These findings support the theory advanced by Vitello (2006) that individuals' violent tendencies, as portrayed through images and text, underlie and contribute to, the development of hybristophilia. The images from this group tended to be high in violent realism, but with relatively low sexual content. The hybristophilia here does center more on the crime than the perpetrator, who appears more as a mediating object of the fetish, rather than the focus itself. For example, there is no talk with this group of changing the perpetrator, and often open acknowledgement that they would not desire them *but for* the crimes committed.

Compared to all the celebrity fans, the passages of the Columbine and John Holmes (*JH)* fans articulated strong and more frequent romantic emotions directed at the subject of their attraction. However, unlike the *JH* fans, the Columbine fans tended to describe these emotions as long lasting, innate, and expressing admiration for the subject of their attraction. This theme also occurred with the celebrity cluster. This suggests that the Rampage shooter fans (e.g. the aggressive hybristophiles) do possess a potent romantic attraction for their subjects, that is not ordinarily associated with celebrity worship, and, in the case of the Columbine fans, that this attraction is long-lasting and innate (Money, 1986; Purcell & Arrigo, 2006). The writers of the passages in the Columbine cluster were observed to express a negative self-concept more often than the writers of passages in the Holmes cluster or in the celebrity cluster. This finding suggests that low self-esteem and the possession of a negative self-concept

can contribute to an individual developing hybristophilia (Gurian, 2013).

Finally, the Columbine fans displayed significantly more knowledge of, and identification with, the shooters' ideology, demonstrating the Columbine fans' interest in the true nature of the criminal acts and which suggests that these individuals may represent an audience responding to the Columbine shooters' communicative strategy (Larkin, 2009). Increasingly some shooters are leaving behind manifestos of their beliefs, attitudes, and rationalizations (Minihane, Dempsey, & King, in revision) and it is likely that this particular type of hybristophile will be particularly engaged with this sort of material.

The visual representations utilized by the James Holmes fans were similar to the visual representations utilized by the celebrity fans—with low levels of violence and high levels of sexualized depiction. However, this was not the whole story. The textual analysis revealed that the passages written by the fans of *JH* differed significantly from the passages written by the celebrity fans. The *JH* fans would appear to fit the pattern of passive hybristophilia (Parker, 2014, Woodworth, Freimuth, Hutton, Carpenter, Agar, & Logan, 2013). The textual passages from the Holmes and Celebrity cluster tended to have themes of redemption and change, with the fantacist in the role of redeemer. This pattern did not emerge with the *CB* hybristophiles, and these would fit with Vitellos' (2006) description of hybristophiles who believe that they can rehabilitate the perpetrator. The more aggressive hybristohiles harbored no such fantasies. The more passive hybristophiles had more in common with the celebrity worshippers in this respect: with heightened interests in images implying sexual arousal (Romano, 2012; Herold & Milhausen, 1999).

There were emotional differences between the celebrity fans and the more passive *(JH*) hybristophiles. This manifested in passages describing an imagined emotional connection more often than either the celebrity cluster and the Columbine cluster. This may be a function of the difference in age groups. Adolescent fantacists have different uses for celebrities in their idealization than do more mature—e.g. of possible reproductive age—fans. While the fans of *1D* and of *JH* often addressed their respective small network in a positive way, and used their network names (Oksanen et al., 2014), the fans of *RG* and *CB* did not, suggesting that only the younger fan groups form small world networks. However, it is worth appreciating that there may be still cause for concern, even if age differences, and not hybristophilia, describe the differences between the CB and the JH fans, because the illusion of intimacy between media consumers and media professionals may enable adolescents to develop their own personalities and identities that are then used in future social relationships (Giles &Maltby, 2004). Additionally, adults also use celebrities as a source of life direction, often emulating the behaviour of their

celebrity icons (Lee, et al., 2008). If adolescents use their parasocial relationship with a rampage shooter to form blueprints for their future relationships, or if adults use the behaviour of a rampage shooter as inspiration for their own behaviour, this is worthy of concern, albeit of different types.

Limitations

This study had several limitations. First, it should be regarded as a preliminary scouting out of the territory of hybristophile typology, as represented in social media and thus is subject to the usual exhortations about larger data sets and replications. It is worth noting that, although Tumblr operates an age verification system, it is likely not beyond the capabilities of some tech-savvy individuals to circumvent this. While true, the likely result of any such actions would be people claiming to be older than they are, to access 18+ material, so the effect on our age controls would be minimal. It is worth noting that the task of integrating clinical, criminal, and theoretical (e.g. the various types of causation outline by Tinbergen, 1963) is still in the early stages as regards hybristophilia. While it is encouraging that the beginnings of an adaptive story along with a personal ontogenic (e.g. individual development differences) and mechanistic (e.g. mediating thoughts and fantacies) account of the types of hybristophilia are being constructed, they are far from complete.

Future Directions

Future directions could include investigating the existence of hybristophile communities using other social networking sites such as Facebook ™, Instagram ™, and Tiktok™, although it is likely that these sites will (and with justification) shut down such access. A very small number self-identified homosexual hybristophiles were encountered in the course of this study. There were too few, and with insufficient material ton add them meaningfully to the analysis, but this could change in the future.

The feasibility of constructing aggregated profiles of subgroups of individuals using the pictorial and literary has, we think, been established here. It is perfectly appropriate, and possibly useful in terms of risk assessment to conduct analysis of online visual and literary

communication materials, messages, and symbols. These seem legitimately objects of study, revealing information that outreaches their intended purpose; most notably

communicating information about the cognitive and sociological state of their creators

(Krippendorff, 2004).

Recently, some spree killers have begun to issue manifestos about their self-described motives. It is highly likely that these will have measurable effects on their fanbase and should probably be a source of concern for law enforcement and clinical intervention, and risk assessment.

Conclusion

We have identified a group of Internet users expressing a romantic attraction for individuals who commit condemnable acts of rampage homicide. Through explorative investigations, these fans are measurably distinct from celebrity fans, suggesting that the behaviors in question are not simply celebrity worship. Furthermore, variability among these individuals has been observed, suggesting that there are two broad types of rampage shooter fans, potentially representing either passive, or aggressive hybristophilia. The aggressive ones may well represent a risk on their own, as their obsession with the acts, rather than redeeming and reforming the perpetrators, could be of concern to law enforcement or mental health professionals. A convergence of theoretical (e.g. evolutionary and clinical) and practical (e.g. forensic and law enforcement) models of spree killings seems attainable and desirable.

Conflicts of Interest

Not applicable

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Table 1 Image Analysis Alpha Coefficient Values of Inter-Rater Reliability

Variable	Krippendorf's Alpha		
	Pilot Test 1	Pilot Test 2	Test 1
Sexual Content	1.000	---	1.00
Violent Content	0.834	0.966	0.969
Realism	0.755	0.872	0.931
Subject of Image	1.000	----	1.000
Tool of Notoriety	0.866	----	1.000

Table 2: Latent Class Analysis Model Fit Statistics

Model	BIC	Log Likelihood	N Parameters
1-Class Model	1734.2075	-843.2613	9
2-Class Model	**1637.9389**	**-773.9337**	**17**
3-Class Model	1647.8558	-757.6989	25
4-Class Model	1673.6596	-749.4076	33

BIC refers to Bayesian information criteria, the lowest number os preferred for model fit. Here the 2-class model has the lowest BIC.

Table 3: Textual Variables from Tumblr Posts, and illustrative fan types

		Themes Illustrated by Sample Tumblr Posts	Representative of which clusters? (*r/n*) Significance (Fishers exact test $p<.05$)*= significant difference from non-starred clusters. Clusters demonstrating trait are **bolded**
Variable name	Theme	Sample illustrative passage	
1.Net-pos	Addressing network in positive way	"I know you all feel the same, we all love James and that's what has brought us together! I'd do anything for you guys because I love you all more than anything or anyone I've ever loved before and I finally feel accepted"	Columbine (0/4)* **Holmes (6/6)** **Celebrity (4/10)**
2.Net-Neg	Addressing network in a negative way	"What pisses me off though, are these teenage groupies who fake "hybristophilia" to look "cool" and that probably includes you reading this - idiot."	**Columbine (2/4)*** Holmes (0/6) Celebrity (0/10)
3.Net-name	Referencing network name.	"I am the queen Holmie so bow down and follow bitches jk I love you all <3 <3 <3" , See also "One Directioners", "Columbiners", "Goslings".	Columbine (0/4) **Holmes (6/6)*** Celebrity (4/10)
4. Phys-Attract	Expressing interesting in Ss physical attributes	"They are literally the hottest things on the planet, especially harry with his soft brown locks and those muscly arms!"	Columbine (0/4)* **Holmes (5/6)** **Celebrity (8/10)**
5. Person-pain	Identifying with Ss personal pain	"The truth is I'm misguided I know ... I feel different but I know James did too, we both hurt"	Columbine (0/4) **Holmes (5/6)*** Celebrity (1/10)

6.Emo-support	Expressing desire to act as emotional support for Ss	"I know we'd be able to help each other through life and be happy together."	Columbine (0/4)* **Holmes (6/6)** **Celebrity (6/10)**
7. Recog-Beh	Recognising that behaviour could be considered unusual.	"I know it's fucking weird but I just feel this way"	Columbine (2/4) Holmes (2/6) Celebrity (4/10)
8. Label-Rel	Fantasising about being in labelled relationship with Ss.	"I will one day be united in wedlock (in heaven) with those two beautiful beings."	Columbine (2/4) Holmes (2/6) Celebrity (6/10)
9. Rom-Emo	Expressing strong romantic emotions for Ss.	"I LOVE YOU SO MUCH IT HURTS"	Columbine (1/4)* **Holmes (6/6)** **Celebrity (8/10)**
10. Pos-Self	Expressing a positive self-concept	"You were witty, maybe a little quirky, but overall, just really, really cute..."	Columbine (1/4) Holmes (3/4) Celebrity (9/10)
11.Neg-Self	Expressing a negative self-concept	"GOD I WISH I WASN'T SO WEAK, I wish I was like them"	**Columbine (4/4)*** **Holmes (4/6)*** Celebrity (1/10)
12. Exp-SC	**Describing explicit sexual content.**	"Next thing he's inside you filling you up".	**Columbine (2/4)** **Holmes (4/6)** Celebrity (3/10)*
13. Imp-Sc	Describing implicit sexual content.	"to absolutely kiss ryan to death!! And other things... if you get my drift ehheeh ;)"	Columbine (2/4) Holmes (5/6) Celebrity (7/10)
14. Day-Fantasy	Fantasising about everyday interaction with Ss.	"I just stayed in bed fantasizing about what it would be like to actually be with him in bed"	Columbine (0/4)* **Holmes (4/6)** **Celebrity (6/10)**

15. Specific-Disint	Expressing disinterest in specific Ss.	"I don't really care about the individual to be absolutely honest it's the crime"	Columbine (4/4)* Holmes (0/6) Celebrity (9/10)
16. Specific-Int	Expressing interest in specific Ss.	"I just absolutely love James with all my heart, he's the only one I want"	Columbine (2/4) Holmes (6/6) Celebrity (10/10)
17. Emo-Conn	Describing emotional connection.	"I kind of like to think that that connects us in some way"	Columbine (2/4) **Holmes (6/6)*** Celebrity (4/10)
18. Career-Attract	Demonstrating attraction to Ss' career.	"Seriously I mean come on academy if any man deserves an Oscar it is definitely him!!!"	**Columbine (4/4)** Holmes (0/6)* **Celebrity (8/10)**
19. Troubled-Ind	Imagining individual as emotionally troubled	"I kind of feel like he's moody and troubled I don't know why??"	Columbine (0/4)* **Holmes (5/6)** **Celebrity (7/10)**
20. Admiration	Exhibiting admiration for Ss.	"Few people have had the courage to do what they did after but let me tell you I admire every single one of those bastards"	**Columbine (4/4)** Holmes (0/6)* **Celebrity (7/10)**
21. Real-const	Accepting that relationship is beyond the constraints of reality	"[L]ke what the fuck hunny he's ten billion miles away from you and even if you did meet him there is no guarantee that he would ever actually like you!!"	Columbine (1/4) Holmes (0/10) Celebrity (4/10)
22. Pub-Opinion	Referencing Public's opinion	"Everyone would literally be like what the fuck is wrong with you, there would probably be a lot of press"	Columbine (0/4) **Holmes (5/6)*** Celebrity (5/10)

23. Long-Lasting	Accepting attraction as long-lasting and innate quality	"You know I've been feeling like this for so long, my attraction to school shootings actually started before I had even heard of the columbine shooting"	**Columbine (4/4)*** Holmes (1/6) Celebrity (1/10)
24. Redemption	Belief in redemption	"I know it's insane to think that I could be the one to fix him and that sounds so stereotypical but in some ways I do think that all he needs is someone to focus his energy on."	Columbine (0/4) **Holmes (4/6)***
25. Crime-Wrong	Recognising that criminal act was wrong	"I can't imaging [sic] what you must have been going through to walk into the cinema and do such an awful thing"	Columbine (4/4) Holmes (4/6)
26. Identif-Ideo	Identifying with ideology	"And of course there's the huge fact that I agree with everything they say, I agree with the whole idea of natural selection but check out my other blogs for my rants on that."	**Columbine (4/4)*** Holmes (0/6)
27. Multip-Crim	Expressing interest in multiple criminals	"Same goes for David Berkowitz, Jeffrey Dahmer (although I won't lie, he was pretty fucking good looking), Westley Allan Dodd, Kip Kinkel, and the list goes on."	Columbine () Holmes ()
28. Know-Ideo	Knowledge of ideology	"You see, I have never understood why girls spend more time with guys who just look good and flirt a lot than with guys who actually have something intelligent to say and are a little "deeper" than most other guys."– Eric Harris	**Columbine (4/4)*** Holmes (0/6)

29. Crim-Imp	Expressing criminal impulses	"[A]nd why perhaps I'm a little more violent than I would like to admit."	**Columbine (3/4)*** Holmes (0/6)
30. Desire RS	Expressing desire to commit rampage shooting	"God to have that feeling … to be given the title of a school shooter!!"	**Columbine (4/4)*** Holmes (0/6)
31. Crim-Attract	Expressing romantic attraction towards criminal acts	"There is something that just gets me so hot and bothered when I think of them in that school with all those people terrified for their life"	**Columbine (4/4)*** Holmes (0/6)

Table 4. Latent Class profiles of Visual Fan Content.

Latent Class Profiles

Variable		Celebrity Fan Class % (n=122)	Rampage Shooter Fan Class % (n=78)
Sexual Content			
	None	44.12	89.09
	Implicit	16.84	0
	Explicit	39.03	10.81
Violent Content			
	None	91.38	48.86
	Implicit	7.88	28.97
	Explicit	0.74	22.17
Tool of Notoriety			
	No	90.66	32.77
	Yes	9.34	67.23
Subject of Image			
	Individual (perpetrator)	97.80	29.82
	Act	2.20	70.18
Realism			
	Not realistic	21.76	5.23
	Moderately realistic	35.41	18.51
	Realistic	22.25	25.31
	Very Realistic	20.59	50.96

Table *5*:

Agglomeration Schedule for Hierarchical Cluster Analysis

No. of Clusters	Coefficients Last step	Coefficients this step	Change
2	96.20	70.81	25.39
3	**70.75**	**58.75**	**12.06**
4	58.75	50.96	7.79
5	50.96	40.08	5.88

Fig. 1.

Class specific trajectories.

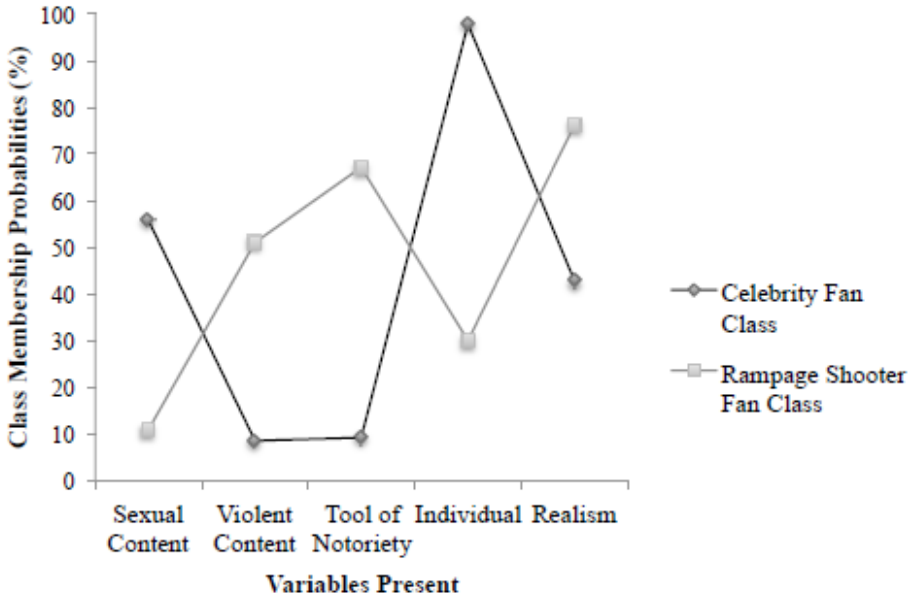
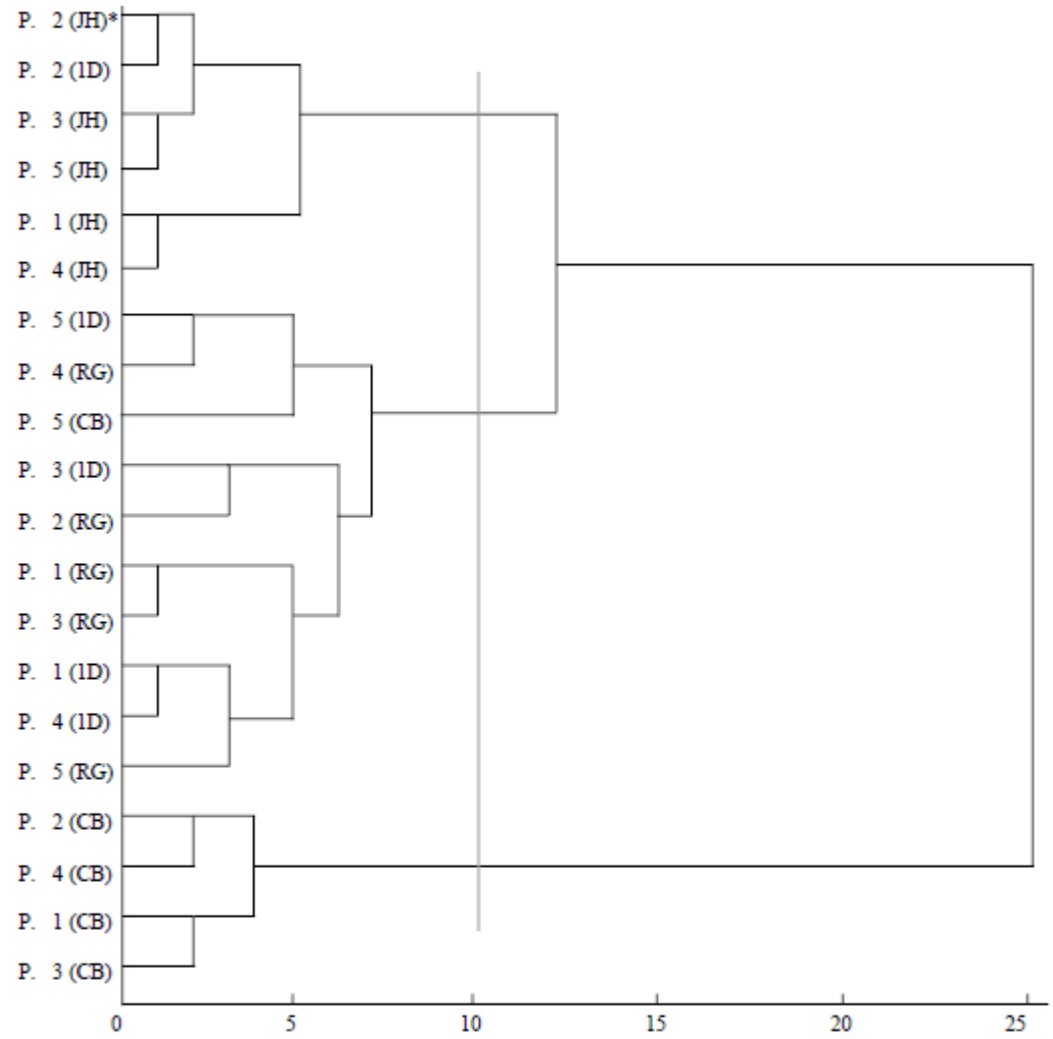


Fig 2.

Dendrogram



P* Denotes passage number accompanied by group identifier. For example, 'P. 1 (JH)' indicated Passage 1. From group JH