

FRIENDS IN HIGH PLACES:
U.S. CANNABIS COMPANIES' MANAGEMENT OF STAKEHOLDER RELATIONSHIPS

By

Melody J. Draeger

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ABSTRACT

In this thesis, the cannabis industry was examined with the understanding that it and its actions are put under additional public scrutiny from engaging with a controversial product. Despite numerous barriers that are not present for non-controversial industries, using content analysis, this research will explore which strategies cannabis companies use on their social media platforms, specifically Instagram. This investigation will explore how cannabis companies manage their relationships with necessary stakeholders via social media. A collection of 100 top cannabis companies were compiled using a Pioneer Intelligence “Heat Index” list. A total of 1,275 Instagram posts from 76 major companies during the year 2020 were coded to find relationship cultivation and visual communication strategies and their impact on Instagram engagement metrics. The strategies found exemplified the state of the world during the COVID-19 pandemic and the numerous social justice movements taking place during 2020. However, the use of relationship cultivation strategies on the posts were predicted with multiple regression to negatively impact likes and comments. On the other hand, the inclusion of cannabis products in visuals were found to positively predict likes and comments on posts, suggesting that cannabis companies can overcome negative social opinions to market their company to success.

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For the person I was before 2020. You have no idea how much the world will change, but hopefully this is proof enough that your world will change for the better.

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Enjoy this study on the cannabis industry's handling of social media relationships and Go Green!

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INTRODUCTION

Marijuana, weed, grass, Mary Jane, pot, ganga, and more. All of these names describe one plant that has taken the U.S. economy in recent years by storm: cannabis. The industry has been through decades of ups and downs to reach a point of partial legality at the state level (Dufton, 2017). Social opinions of the drug itself are as varied as its names, ranging from extreme opposition of all things cannabis to pushing for the legalization of cannabis at all levels of government (Mosher & Akins, 2019). With as much media attention and pop culture references as cannabis has, there is very limited literature available for the industry aside from legal scholarship. This study serves as a starting point for the conversation about cannabis to begin in public relations and advertising. Literature from a variety of fields was collected to form a brief history of public perception of cannabis and its legal standing from a public relations and marketing perspective. Findings from this study will offer valuable insights for public relations practitioners within and outside the cannabis industry to gain a better understanding of the connections between cannabis and non-controversial marketing.

The controversial nature of the cannabis industry presents numerous barriers for cannabis marketers to navigate as they attempt to promote their business. Advertising on traditional advertising channels is strictly prohibited due to its status as a United States Drug Enforcement Administration (DEA) status as a Schedule I drug, meaning the product is highly addictive and dangerous (United States Drug Enforcement Administration, n.d.). Social media companies strictly control cannabis's access to their platforms, listing the product as restricted under their respective terms of service (Griffith, 2019; Meta, n.d.a). Despite those restrictions, cannabis organizations have managed to create public profiles on certain platforms via a loophole of stating no sales take place on the platform in use (Bartlett, 2019). The owned content may be

taken down or reported at any time, but the organizations are still reaching their audience with those dangers present (Bartlett, 2019).

The main goal of this thesis is to evaluate the use of relationship cultivation strategies developed from relationship management and organization public relationship theory.

Organizations forming relationships with their publics has been proven time and time again to be beneficial for the company's brand recognition and the public's opinion of the organization (Cheng, 2018). The use of certain relationship cultivation strategies influenced the outcome of relationships in both interpersonal communication and organization public relationships (Ledingham & Bruning, 1998; Ki & Hon, 2009). While this research did not focus on the qualitative outcomes of the cultivation strategies, researchers evaluated the social media engagement metrics to determine the quality of relational actions. Using content analysis to examine cannabis companies' Instagram profiles, researchers looked for the frequency of identified relationship cultivation strategies and basic visual communication strategies. Then multiple regression models were created to determine how each strategy influenced the engagement metrics (i.e., likes and comments) on the Instagram posts.

This study did not shy away from the context surrounding the cannabis industry. It remains a fact that cannabis is a controversial industry, similar to alcohol and tobacco (Weitzman & Lee, 2020). To better understand how companies' social media practices would be affected by the environment, this status as controversial was crucial to gain a complete understanding of the data. Another key context piece was the time period during which data was collected. Posts were sampled from the year 2020. Therefore, the COVID-19 pandemic must be considered as a key environmental factor as well. A look into the environment researchers immersed themselves in began with a deep dive into cannabis's legality and history in the United States.

LITERATURE REVIEW

Cannabis Industry and Promotion

Cannabis is a product with a deep history in the United States. Its legal track record emulates a roller coaster, and its name spurs reactions of all sorts when mentioned. The drug itself has been the target of legal scrutiny since the early 20th century, despite being one of the largest agricultural products behind cotton just a century before (Patton, 2020). This scrutiny continues to hinder cannabis's success (Hudak, 2020). A brief history of the plant and its regulation in the United States will be explained now.

Before regulation took hold at the federal level, cannabis had several medicinal applications. Recreational cannabis was not yet popular until the early 1900s when Mexican immigrants and Caribbean merchants began importing the practice (Patton, 2020). It was in this time period that the racialized demonization of cannabis began when tensions between Americans and Mexicans escalated during the Spanish-American war (Hudak, 2020). Racism heavily impacted people's interpretation of the drug (Hudak, 2020). For example, minorities were stereotyped as heavy marijuana users by upper-class and white Americans (Dufton, 2017). Despite cannabis's increasing popularity with the public, prohibition activists powered through to lobby government officials of the harm cannabis could cause. Activists claimed that using marijuana had the ability to transform "a group of otherwise upstanding young white people into a laughing cabal of maddened criminals" (Dufton, 2017, p. 4). Production of hemp, the fibers of the plant typically used to create textiles (Cohen & Bleicher, 2021), was encouraged for supplying naval ships during wartime (Hudak, 2020). The plant was considered a "patriotic and necessary crop" as a supply of rope for the U.S. Navy (Dufton, 2017, p. 4). However, once the war ended, the fear of cannabis returned to dominate public opinion and policy (Dufton, 2017).

Harry Anslinger, the first director of the Federal Bureau of Narcotics, led the charge on cannabis regulation for thirty years, holding high prejudice for the drug and its users (Solomon, 2020; Hudak, 2020). From 1930 to 1963, his actions to regulate cannabis guided policymaking until the end of the century (Weinred, 2018), including lobbying for several federal acts outlawing cannabis use (Hudak, 2020). After Anslinger retired from the Bureau, the demonization of cannabis only continued to grow.

A major historical marker in the history of U.S. cannabis is President Richard Nixon's War on Drugs. Nixon stoked fears of societal change that threatened the power held by white Americans by targeting racial minorities and other out-groups (Hudak, 2020). White House counsel member John Ehrlichman confirmed in a quote that the new policies were racially motivated (Baum, 2016). Within the first year of his presidency, Nixon established several laws and committees to oversee the crackdown on marijuana use (Hudak, 2020). The most influential policy to come out of the Nixon presidency was the Comprehensive Drug Abuse Prevention and Control Act of 1970 (Dufton, 2017). There were two main parts of this act: Title II and Title III (FindLaw, 2018) Title II was referred to as the Controlled Substances Act, or CSA (FindLaw, 2018). This gave the U.S. government full authority to regulate "the manufacture, possession, distribution, and use of nearly every licit and illicit drug available in the United States" (Dufton, 2017, p. 46). It also created a schedule of drugs, classified based on medical use and potential for abuse or dependence (FindLaw, 2018). Schedule V drugs are the least dangerous, which include common cough medicines or medications with moderate amounts of codeine. Schedule I drugs are those substances that have a high probability for abuse (United States Drug Enforcement Administration, n.d.). Marijuana falls under the Schedule I category as it had no federally accepted medical use. Other drugs that share this classification include heroin, lysergic acid

diethylamide (LSD), and methylenedioxymethamphetamine (ecstasy) (United States Drug Enforcement Administration, n.d.). Its status as a Schedule I drug is a subject for debate at the state and federal government levels (Sacco, 2022). However, with no changes being anticipated in the near future, cannabis remains strictly regulated in the eyes of the Food and Drug Administration (Food and Drug Administration, 2021).

Cannabis's Schedule 1 status determines the industry's ability to advertise on a national level. Cannabis companies are prohibited under the CSA to advertise Schedule I substances in "any newspaper, magazine, handbill, or other publications, any written advertisement knowing that it has the purpose of seeking or offering illegally to receive, buy, or distribute a Schedule I controlled substance" or "use the Internet, or cause the Internet to be used, to advertise the sale of, or to offer to sell, distribute, or dispense, a controlled substance" (21 U.S.C. 843; Beane et al., 2021). Despite this code controlling cannabis advertisement, to date the U.S. has not taken any action to enforce this code in states that have legalized cannabis and all other derivatives (Cohen & Bleicher, 2021). States can enforce their own laws regarding the advertisement of cannabis or other related paraphernalia, including on digital media platforms. As every state has their own specific regulations for cannabis as a product, the laws around advertising are quite diverse and are constantly changing to reflect changing media (Beane et al., 2021). For this study, digital media and social media (i.e., Instagram) will be the main focus for analyzing cannabis marketing. Regulations and policies specific to social media will be discussed in the next section of this literature review. As vague as the line between state and federal jurisdiction is for the cannabis industry, the policies surrounding social media for cannabis and other controversial products are even more vague.

Social Media and Controversial Businesses

Traditional advertising in the U.S. is tough on age-restricted products. For example, the FDA has several regulations restricting tobacco retailers, manufacturers, and distributors from participating in sponsorships and selling products without the proper warning labels (Food and Drug Administration, 2020). Other industries like alcohol, firearms, and sex work all are also heavily restricted in their traditional advertising (Davidson, 1996). The rationale for such restrictions is to “shield certain members of society, most often children, from whatever influence the ads would have” (Davidson, 1996, p. 132). Due to limited neurological development in children and adolescents, their ability to comprehend how dangerous the outcomes of certain actions have not yet fully developed (Weitzman & Lee, 2018; Babor et al., 2017). Adolescents specifically pose a greater risk of falling to substance addiction or participating in socially unacceptable actions. According to Babor et al. (2017), teenagers and young adults start developing a greater understanding of societal norms and how to “fit in” with their peers. Should their peers—or other people they may be exposed to—be perceived as participating in these controversial industries, teenagers may incorrectly assume that the actions are socially normal, thus threatening their health and development (Babor et al., 2017). Therefore, regulators and advertisers alike must maintain high moral standards in order for those controversial businesses to stay afloat (Aqueveque et al., 2018).

The closure of traditional advertising channels for products in the same category as alcohol and tobacco has opened new doors into social media content creation (Liang et al., 2015). Until recently, social media advertising was unregulated to a point that harmful products and companies were able to advertise freely just like non-controversial companies (Cavazos-Rehg et al., 2014). It still remains difficult to regulate owned content on public and private pages

(Alhabash et al., 2021), but measures have been taken by social media companies to regulate advertisements to match some traditional marketing rules (Liang et al., 2015). For example, according to Meta's advertising policies it is prohibited to advertise illegal products or services, tobacco and related products, weapons, ammunition, explosives, and all adult content (Meta, n.d.b). All advertisements that support the listed industries are not allowed to be sponsored. As these are Meta advertising policies, they apply to all companies owned by Meta, including Instagram, Facebook, and Messenger (Meta, n.d.a).

Thus remains the narrative for cannabis. As marijuana and all other cannabis related products are illegal at the federal level (United States Drug Enforcement Administration, n.d.), traditional advertising and marketing is strictly regulated (Food and Drug Administration, 2020). Any business connected to the drug is extremely limited in what they can present in print, radio, and television advertisements (Griffith, 2019). Online ads are completely prohibited on sites like Google and major social media platforms (Griffith, 2019). However, the restriction for online advertising on social media does not cover basic content created by cannabis companies. Therefore, cannabis companies can create posts "organically" to share (Griffith, 2019), as evident by the amount of product-related content found in the data collected for this study.

Digital media platforms could be considered a safe haven for companies restricted by traditional advertising regulations. However, this is not the case for cannabis. According to MJBizDaily, a newsletter for cannabis industry stakeholders, social media organizations are cracking down on illegal or controversial products like cannabis (Robertson, 2021). Public and private pages alike are still subjected to user reporting, meaning general platform users can report individual posts and pages for the content they put out (Robertson, 2021). Social media

platforms also flag cannabis-related accounts frequently, leading to these accounts and pages being suspended or banned, sometimes without notice (Gunelius, 2022).

It is important to note that social media pages of cannabis companies cannot specifically follow a single state's legal standards. As social media pages can be accessed in any state and can be shared across state lines, it is difficult for policy makers to regulate social media pages on a state-by-state basis (Moreno et al., 2021). Content regulation is left to the specific social media platform, which typically errs on the side of what is legal and socially acceptable at a national level (Food and Drug Administration, 2020).

Stepping away from the controversial nature of cannabis companies, the focus of literature will now shift to a public relations theory that, in the eyes of communication researchers, has a solid foundation. The theoretical framework of relationship management theory and its relationship cultivation measures will be applied to cannabis businesses' social media strategies in order to evaluate their connection to stakeholders and other social media users.

Relationship Management Theory

Roots of Relationship Management Theory - Organization-Public Relationships

In 1984, Mary A. Ferguson pushed the public relations field to consider relationships as a primary focus in the development of theory. She argued that scholars could look beyond metrics for media strategies and draw from other fields outside of public relations to inspire future research (Ferguson, 2018). Relationship management theory is an ideal example of this fusion of paradigms. Relationship management theory and its cultivation strategies, which will be discussed later, were established as practical applications of organization-public relationships

(OPR). For this reason, the history of OPR and how it is studied is essential to understanding how relationships between companies and the public are managed.

The attention on OPR has increased dramatically in the four decades since Ferguson's 1984 panel discussion. However, little was done to conceptualize OPR until Grunig et al. (1992) completed the Excellence study. There is limited consensus on a conceptual definition of OPR. Definitions may change from scholar to scholar (Ki & Shin, 2015). Some definitions center around relationships solely between parties without acknowledging organizations (Berko et al., 1997), others focus on the actions taken by parties involved in the relationship (Thomlison, 2000). Ledingham and Bruning (1998) defined the relationship as "a state which exists between an organization and its key publics" in which all actions affect both parties (p. 62). Broom, Casey and Ritchey (1997) made a case for universal definitions of relationships and organization-public relationships in order to study it properly. For the purpose of this research, the definition that will be used was created by Broom, Casey, and Ritchey (2000, p. 18; Hung, 2006, p. 444):

Organization-public relationships are represented by the patterns of interaction, transaction, exchange, and linkage between organization and its publics. These relationships have properties that are distinct from the identities, attributes, and perception of the individuals and social collectives in the relationships. Though dynamic in nature, organization-public relationships can be described at a single point in time and tracked over time.

Relationships

Relationship management theory (RMT) contains literature from several paradigms. Ledingham and Bruning (1998) determined five dimensions of relationships that were relevant to public

relations: trust, openness, involvement, investment, and commitment. In their research, surveyed participants considered these dimensions as “critical in the process of creating, developing, and maintaining an organization-public relationship” (Ledingham & Bruning, 1998, p. 59). All five of these dimensions were extracted from interpersonal communication literature completed by Julia T. Wood (2016). Trust is a feeling that those involved in the relationship can rely on each other (Ledingham & Bruning, 1998). Openness, which evolved into a relationship cultivation strategy that will be discussed later, involves the disclosure of information between parties (Stafford & Canary, 1991).

Involvement serves as an umbrella term for the combination of investment and commitment. On one side, investment is described as the time, energy, feelings, and other resources offered to build the relationship and maintain it (Ledingham & Bruning, 1998). On the other side, commitment is one’s desire to remain in the relationship (Canary & Stafford, 1992). It is a “product of one’s investments in the relationship” (Canary & Stafford, 1992, p. 247; Rusbult, 1987). Therefore, involvement is a collection of resources one has invested in the relationship with the commitment to stay in the relationship.

Relationship Cultivation Strategies

Strategies to recognize positive relationship development and management draw directly from interpersonal research, including romantic relationships, familial relationships, friendships, and organizational-public relationships (Stafford & Canary, 1991; Ledingham & Bruning, 1998; Hon & Grunig, 1999). This research relies on a collection of six strategies for analysis. Hon and Grunig (1999) conceptualized relationship cultivation through these six strategies: (a) access, (b) assurances, (c) openness, (d) positivity, (e) networking, and (f) sharing of tasks.

Access

This cultivation strategy is unique to public relations, meaning that it is not found in interpersonal relationship literature. Allowing access in an organization involves allowing information to be available for parties wishing to communicate with one another (Hon & Grunig, 1999). It is an important strategy for organizations to gain trust from their publics. As Hon and Grunig stated, “either party is willing to go to the other when they have complaints or queries, rather than taking negative reactions to third parties” (1999, p. 14). Both sides of the relationship can use this strategy, whether it be the organization or its publics (Ki & Hon, 2008). For this study, access is defined using Ki and Hon’s (2008, p. 6) conceptualization: *the degree of effort that an organization puts into providing communication channels or media outlets that assist its strategic publics in reaching it.*

Assurances

In interpersonal communication research, assurance actions lead to maintaining a future for the relationship. These may include “stressing commitment, showing love and demonstrating faithfulness” (Stafford & Canary, 1991, p. 227). The person stresses the importance of the relationship to their partner. It demonstrates the person’s willingness to continue to be in the relationship (Canary & Stafford, 1992). In the interpersonal relationship studies, this strategy is found to be the most effective predictor of trust in the relationship (Canary et al., 1993).

Hon and Grunig (1999) define assurance strategies as “attempts by parties in the relationship to assure the other parties that they and their concerns are legitimate” (p. 15). It establishes “how [the organization] values its key publics” (Ki & Hon, 2008, p. 9). For this study, the assurance strategy is defined as: *actions from one party that prove commitment to the continuation of a relationship with another party.*

Openness

Openness refers to the disclosure of information in discussion (Stafford & Canary, 1991). It has a long history of citations in dialogue and interpersonal literature. In Stafford and Canary's research, the information being disclosed typically has to do solely with the relationship and its nature (Canary & Stafford, 1992). Other researchers (e.g., Guerrero et al., 1993) add that openness displays "proactive and constructive maintenance actions" over time (Ki & Hon, 2006, p. 30).

Related to the access strategy, Hon and Grunig (1999) define openness as discussing "thoughts and feelings among parties involved" (p. 14). Parties being open with each other allow space for discussion to form that parties can share more information in. For example, if a public feels comfortable speaking with an organization, they are more likely to share concerns, opinions, and experiences that could help the organization (Grunig et al., 2002). Ledingham and Bruning (1998) identified openness as an indicator of "relationship quality." Both individuals and organizations feel more satisfied with the bond if communication is kept open as much as possible (Ki & Hon, 2008). This study defines openness as: *the sharing and disclosure of information relevant to the relationship and its participants.*

Positivity

Canary and Stafford conceptualize positivity as "attempts to make interactions pleasant" (1994, p. 15; Ki & Hon, 2006). This involves a person perceiving their partner as "cheerful" (Canary & Stafford, 1991). In their research, Canary and Stafford found that positivity consistently predicted control mutuality, likeability, and trust levels (Ki & Hon, 2006; Canary & Stafford, 1993; Stafford & Canary, 1991).

Hon and Grunig (1999) expanded this definition in their application of positivity to identify this strategy as “anything the organization or public does to make the relationship more enjoyable for the parties involved” (p. 14). As a primary predictor of trust, it behooves an organization to make their interactions with publics as pleasant and happy as possible to raise the level of trust the publics have for the organization. For this study, positivity is defined as: *actions taken by an organization to make online interactions with publics pleasant and beneficial for the relationship.*

Networking

The use of social networks is the “use of friends and common affiliations to maintain the relationship” (Stafford & Canary, 1991, p. 227). Having mutual friends, relying on relatives of both partners, and maintaining common affiliations is key to the functioning of the relationship (Canary & Stafford, 1992). Networking can also be used to “nurture beneficial maintenance behaviors” as practice for the main relationship being focused on (Ki & Hon, 2006, p. 32; Guerrero et al., 1993). Guerrero et al. (1993) explained that networking should be done proactively in order to maintain the relationship.

Hon and Grunig (1999) applied networking to public relations by defining it as “organizations building networks or coalitions with the same groups that their publics do” (p. 15). The number and quality of contacts between groups and people manifest this strategy (Grunig & Huang, 2000). For this study, networking is defined as: *organizations’ efforts to build relationships that are mutually tied to their publics.*

Sharing of Tasks

Partners in many relationships must uphold their responsibilities to the other partner (Canary & Stafford, 1992). While this is generally understood in academia as exactly equal

sharing of responsibilities (Stafford & Canary, 1991), it is commonly understood in the public that this sharing can have different meanings depending on the agreements made by the couple. Another form of task sharing is equal responsibility in “tasks facing the couple,” such as relational issues and joint decisions (Stafford & Canary, 1991, p. 227).

Sharing of tasks in an organizational-public relations setting is defined as “organizations and publics sharing in solving joint or separate problems” (Hon & Grunig, 1999, p. 15). This can be done to benefit the organization, the publics, or both parties (Hon & Grunig, 1999). It can be assessed through social responsibility reports or extensive social media campaigns that showcase the actions taken to solve the issue (Ki & Hon, 2008). This study defines sharing of tasks as: *efforts taken by the organization to assist publics in solving issues or problems that affect all parties to benefit either the organization alone, the publics alone, or both parties.*

Significance of Relationship Cultivation Strategies

Hung, Grunig, and others have found that organizations employing relationship cultivation strategies can lead to more amicable relationships with their publics (Ki & Hon, 2009). Surveys organized by Ki and Hon (2009) predicted that applying relationship cultivation strategies in communication between organizations and their publics positively impacted the relational outcomes for the parties involved. Publics perceived that the company was making efforts to cultivate a relationship. The study found, also, that different strategies affected different relational outcomes (Ki & Hon, 2009). Depending on which relational outcome a company wants to improve or focus on impacts which cultivation strategy they should use.

The use of relationship cultivation strategies has been cited to increase in positive emotion in public responses to some company’s social media activity, especially in times of crisis (Huang et al., 2021). For example, organizations based in China that used relationship

cultivation in their public messaging had better relational outcomes with their publics during the COVID-19 pandemic (Huang et al., 2021). As this study was conducted using data collected during the COVID-19 crisis, finding how relationship cultivation strategies were used by cannabis companies may offer valuable information for future research on the relational outcomes between the cannabis industry and its publics.

Visual Communication

The common phrase “a picture is worth a thousand words” succinctly describes the benefits of visual communication. One picture can explain a situation or product more than a simple caption or textual post can. This is why visual communication is such a successful public relations tactic (Seifert & Chattaraman, 2020). The positive impact of visual stimuli on communication has been well documented since the beginning of human history (Luttrell et al., 2022). More importantly, the impact of visual elements makes it easier for humans to remember the information they receive. Instead of trying to process information with just text language that could be misinterpreted, visuals offer enough information to provide facts with room for interpretation that doesn’t stray from the story (Walter & Gioglio, 2015; Seifert & Chattaraman, 2017).

Visual media has been studied in traditional media for many years (Moriarty, 1997). Commonly examined from an education perspective, researchers verify that including illustrations in textual information “facilitates learning” (Levie & Lentz, 1982, p. 213). In an examination of historical research, text and images have a mutually beneficial relationship. Halbert (1943) states that “the superiority of the story with pictures over the story alone seems to increase with an increase in relevancy of the pictures” (p. 57; Levie & Lentz, 1982). Superior stories increase the influence of the images present, and, in turn, images increase the

understanding and recall of textual information (Findahl, 1981). These learning findings are similar across subject age ranges, provided the information presented to study subjects was appropriate for their mental development (Levie & Lentz, 1982). Learning with visuals was also shown to increase for poor readers as well, although increases were not as significant as good readers (DeRose, 1976; Rusted & M. Coltheart, 1979; Rusted & V. Coltheart, 1979; Bluth, 1972; Moore, 1975; Wardle, 1977; Levie & Lentz, 1982). It is important to mention that illustrations should serve a purpose for the textual information (Levin, 1981). Otherwise, the positive learning gains mentioned above will not occur. With this in mind, businesses should make efforts to generate meaningful visuals to accompany their textual information. The high engagement of visual stimuli also explains why social media platforms with visual content gain higher engagement metrics than platforms that don't have visual capabilities (Singh, 2020; Malhotra et al., 2013). If brands wish to reach more of their publics, pushing for engagement numbers by posting visual content is a solid strategy (Brubaker & Wilson, 2018).

Public Engagement on Social Media

In order for companies to honor two-way communication necessary for relationships to develop with their stakeholders, companies must engage actively with those stakeholders. The social media ecosystem creates a unique opportunity to accomplish this goal (Men and Tsai, 2013). Social media has revolutionized how corporate content is “created, distributed, and consumed” (Men and Tsai 2013, p. 13). But how does one quantify that level of communication and its effectiveness? The answer comes through measuring the engagement that occurs with content.

While there is no universally accepted theory of engagement in public relations research (Johnston, 2018), the term engagement has circulated as a “buzzword” in the public relations

field for many years (Dhanesh, 2017). Each type of stakeholder engagement (i.e., consumer, employee, civic, community, brand, etc.) has their own conceptualization of engagement (Dhanesh et al., 2022). Attempts to create a unified definition have found at least two common pedagogies of public engagement (Dhanesh et al., 2022; Zhang et al., 2022). The first area of engagement research explained by Dhanesh et al. (2022) involves outlining a hierarchy of social media metrics that use “first-level engagement metrics of social media” (p. 2). The metrics of likes, comments, views, clicks, shares, reviews, and other user-generated content represent a hierarchical range that travels from exposure, engagement, and influence to impact and advocacy (Smith, 2017).

The second course of engagement research outlined by Dhanesh et al. (2022) is scholarship that moves beyond basic metrics to consider “cognitive, affective, and behavioral dimensions” (p. 2) of public engagement that fosters relationships between an organization and its publics. This hierarchy increases in levels of participation as it travels (Zhang et al., 2022). There are three different forms of engagement. *Cognitive* engagement refers to the overall mental activity needed to focus on an action and absorbing information (Dessart et al., 2016; Dessart, 2017). *Affective* engagement involves enthusiasm for the activity the user is participating in (Dessart, 2017). Finally, *behavioral* engagement is the “active manifestations of the concept” (Dessart, 2017, p. 377). According to Johnston (2018), behavioral engagement is where action takes place. This level of engagement relates to the higher levels of interaction metrics, such as sharing the content or commenting on a post (Zhang et al., 2022). These levels of engagement differ based on which social networking platform is being analyzed (Men and Tsai, 2013). Just as platforms are more suited for specific public relations content (Zhang et al., 2022), each platform excels at different forms of engagement (Voorveld et al., 2018). For example, Voorveld

et al. (2018) found that Facebook and Twitter excel at sharing content among users while YouTube and Pinterest offer passive entertainment options where active engagement is not necessary. Some platforms do not have features that offer useful insights on active engagement. For example, Instagram has no feature for sharing content directly to a user's personal page. A user must repost the image manually with screenshots or use a third-party app to share the post (Bernazzani, 2022). Thus, public engagement looks different on Instagram than it does on platforms with sharing capabilities. For this study's goal of analyzing how organizations and their public connect and interact with each other on social media, the definition of engagement follows the second course of engagement outlined by Men and Tsai (2014). Engagement is defined as "a behavioral construct with hierarchical activity levels, from passive message consumption to active two-way conversation, participation, and online recommendation" (Men & Tsai, 2014, p. 419).

Instagram and Public Engagement

Instagram is an online social media network that allows users to take and edit their own mobile photos and videos. It has over one billion global monthly active users (Kemp, 2019) and 500 million daily active users (Dean, 2022.). Users can apply digital filters to images and share them directly to other social media sites (Quesenberry, 2021). Short 15 second clips and long videos can also be added thanks to the feature IGTV added in 2018 (Matsakis & Goode, 2018). Instagram users can also share content via Reels, a feature similar to the original premise of TikTok, by creating 15 second videos that are editable (Instagram, n.d.). Short videos can also be added to the Stories feature that was created to compete with Snapchat's 24-hour posting (Wagner, 2018). Posts can be shared between users, but not reposted like users can on Twitter and Facebook. Hashtags can be added to posts to track engagement and reach (Quesenberry,

2021). Instagram excels at engagement because of its solely visual nature, raking in 10 times more engagement on posts than Facebook and 84 times more than Twitter (Singh, 2020). This relates well with the benefits of visual communication and storytelling explained in the previous section of literature. Businesses and its marketers can tap into that engagement to create solid customer and stakeholder relationships online that could translate to financial success later on (Singh, 2020).

In regard to brand management, Instagram's highly visual nature "allows marketers to convey their brand story differently" (Singh, 2020, p. 379). New audiences can be reached that previously were not accessible with traditional media (Asrul et al., 2022), especially millennials who are statistically more likely to support the cannabis industry and legalization (Daniller, 2019). Instagram also excels at conveying emotion through visuals, which is cited as crucial in forming brand opinions (Singh, 2020; Lim & Childs, 2020). By allowing viewers to be immersed in the content and in the platform itself, brands can strengthen their connection with viewers through positive emotion (Lim & Childs, 2020). In other words, the relationship between a brand and its stakeholders can be impacted by the visuals presented on an Instagram post.

Users can also choose to have their likes hidden on posts to alleviate anxiety about gaining popularity (Punj, 2021). It is important to note that Instagram offers opportunities for businesses to advertise and sponsor posts. However, because that feature is prohibited for cannabis companies, it will not be discussed further in this study. Should regulations or policies change, the information will be revisited and revised to reflect the new norms. Along these lines, the engagement metrics available to cannabis companies are also highly limited. The cannabis profiles cannot maintain business status on Instagram in order to fit Community Standards (Griffith, 2019). Therefore, they cannot track the same level of metrics as a normal business

profile can. Cannabis companies can, however, still track basic engagement metrics that are available for individual, non-verified accounts. Metrics can also be tracked using third-party software (e.g., Brand24, Hootsuite, Sprout Social)

Taking the benefits of visual social media and Instagram's high engagement rates into consideration, this study deemed Instagram to be the primary medium for analyzing cannabis businesses' social media strategies. Although there is a substantial amount of red tape to cut through, cannabis companies meeting their stakeholders on this platform may prove beneficial for all sides of the organization-public relationships.

Research Questions

The public relations field moving towards a focus on relationships between organizations and its publics on social media offers a unique opportunity to apply this focus to organizations that depend on social media to share their story in their own way. This study aims to begin that conversation in public relations research by applying the relationship focus to the cannabis industry. In order to accurately determine how these companies are relating to their audience and the success of their actions, the following research questions were proposed.

RQ1: What relationship cultivation strategies are used in cannabis companies' textual social media content?

RQ2: What are the key visual strategies used in cannabis companies' social media content?

RQ3: How do relationship cultivation strategies and key visual strategies impact the public engagement (i.e., likes and comments) with the cannabis companies through the social media posts on Instagram?

METHODS

Content analysis was performed on a collection of Instagram posts by cannabis companies. As described by Riffe et al. (2019), this tool allows for “systematic and replicable examination of symbols of communication” (p. 23). While it may be misunderstood as a catch-all term for communication research, quantitative content analysis reliably explains relationships and significance of collected data (Riffe et al., 2019). The key benefit in using content analysis here is its replicability. As research on cannabis businesses and their social media practices is relatively new, the use of a codebook created for this investigation will also increase research validity.

Data Collection

Cannabis company selection took place in February 2021. Brands were selected from a list created by Pioneer Intelligence, a group of data analysts that specialize in reporting on the North American cannabis industry (Pioneer Intelligence, 2022a). The “Pioneer Heat Index” is maintained to monitor brand marketing performance for 650 companies in the U.S. This list is updated weekly to offer current information on social media and digital media performance of 100 cannabis companies (Pioneer Intelligence, 2022b). The particular list used for this dataset was taken for the week of February 7, 2021, through February 13, 2021 (Pioneer Intelligence, 2021). The 100 companies featured in the index for that week hailed from 15 U.S. states. Out of those 100 companies, 96 had active Instagram accounts.

The main tool used to pull historical data from these accounts was CrowdTangle, an API tool owned by Meta (Miles, 2022). CrowdTangle has the capability to access public pages and posts on Facebook and Instagram. However, as this research deals with an age-restricted product, it was not able to access all 96 accounts (*Data policy*, 2022). After selecting a timeframe of

February 7, 2017, to July 22, 2021, the final list of accounts CrowdTangle was able to access totaled 83 companies. This timeframe offered 48,767 posts.

Sampling

Instagram Posts

In this study, researchers focused on the posts of 2020 for two reasons: 1) cannabis's status as an essential business during the COVID-19 crisis and 2) the massive increases in sales during 2020. The COVID-19 pandemic presented a unique opportunity for the cannabis industry. Along with businesses like grocery stores and pharmacies, all recreational and medical cannabis markets were allowed to stay open during their state's stay-at-home orders (Sacirbey, 2022). Many retained the title of essential business during extended lockdown periods (Marijuana Policy Project, n.d.b). Regulators and those involved in the industry claimed this added credibility to the drug as a "legitimate form of medicine" (Sacirbey, 2022). Furthermore, naming cannabis as an essential business paved the way for a massive increase in cannabis sales for 2020 (Sacirbey, 2022). Revenue totals were already growing at a steady pace from 2014 and beyond (Marijuana Policy Project, n.d.a) However, 2020 brought on a 58% increase in tax revenue at the state and local levels (Davis, 2021). Tax revenue from the 10 states that had legalized recreational cannabis facilities totaled over \$3 billion (Davis, 2021). Given the two reasons listed above, the year of 2020 was selected as the data filter. From January 1, 2020, to December 31, 2020, 12,745 posts from 76 companies were sampled. A complete list of companies exhibited in the sample is offered in Table A.1 in Appendix A.

Given the large number of tweets and reasonable workload for manual coding, the dataset was further narrowed down. About 10% of the original 12,745 posts from the year 2020 were randomly selected. The randomization process, which will be explained in detail below, returned

a sample of 1,275 posts from 76 cannabis companies. This sample size is reasonable because it meets the standard of previous studies using the manual content analysis method for social media studies in the field of strategic communication (e.g., Ju et al., 2021; Riffe et al., 2019; Huang et al., 2021).

To generate summary data, the list of year 2020 posts was organized in Excel alphabetically and by date from oldest to newest. In order to overcome the bias present from the data organization, two steps were taken to get a single random sample. First, a list of random numbers was generated between 1 and 12,745. This list was directly copied to the year 2020 posts as number assignments. The second step in randomization involved pulling 1,245 posts from the year 2020 data with Excel functions. All identified posts were separated from the original sample for convenience. Therefore, the total sampled dataset included 1,275 posts from 76 cannabis brands from the following 12 U.S. states: Arizona, California, Colorado, Florida, Georgia, Illinois, Maryland, Massachusetts, Michigan, New York, Oregon, and Washington.

Instagram Images

The historical data pull did not offer complete images for any post. Rather, it offered the URL for the original post, creating a necessity to download the images manually. From March 17, 2022, to May 26, 2022, all images from the sampled posts were compiled by the main author. Some posts contained multiple images. Only the first image was included in each post for the image analysis. Due to technological limitations, some post images were automatically inaccessible when collection started. There are several reasons for this lack of original data, including single posts or entire accounts being taken down. Some images were also restricted by age (Meta Business Help Center, n.d.). In other words, a user would have to list an age above the legal requirement to consume cannabis recreationally, typically set at 21 years old (Highway

Loss Data Institute, 2022). In total, 807 posts contained images that were retrievable by the author in this investigation.

All images were categorized into three types: (a) static image with no movement, (b) GIF or self-playing moving visual, and (c) IGTV video. To limit confusion for coders about moving visuals, all posts that contained GIFs or videos were cut from the image sample. This created an opportunity for coders to immerse themselves in every detail of the image without the risk of altering engagement (i.e., views) to code the content. A total of 161 posts contained these moving visuals. Removing those from the total image sample of 806 retrievable images left a sample of 645 codable posts.

Codebook Development

The codebook includes two main sections: (a) relationship cultivation coding, and (b) image coding.

The relationship cultivation coding focused on six relational strategies of RMT: access, assurances, openness, positivity, networking, and sharing of tasks. Each strategy was assigned various identifiers to determine if the strategy was present in a single post. Following the guidelines of previous literature (Ki & Hon, 2008; Huang et al., 2021), the codebook of relationship cultivation strategies was created with the contextualized understanding of the cannabis businesses. Please see the full codebook in Table 1.1.

Table 1.1
Relationship Cultivation Strategies Codebook

Variables	Operationalization	Code	Example Post
<u>Themes</u>			
Company/Product	Identifies posts solely made to promote the company, its products, or its marketing campaigns	Yes=1; No=0	<i>Serra gumdrops: real fruit, vibrant flavor, dynamic doses and excellent photo props. Playful sophistication at its most mouthwatering. Available throughout Oregon and California through our quality stockists and at Serra stores. Visit our link in bio to learn more.</i>
Social issues	Taking stances on social issues includes portraying support for social movements like Black Lives Matter and LGBTQIA+ issues. It could also include political scenarios, such as encouraging followers to check voter registration, reaching out to politicians on specific issues, promoting legalization of cannabis in general, etc.	Yes=1; No=0	This day is important because 1 in 4 eligible voters aren't registered, 60% of eligible voters aren't even asked to register, and because this year.. well, there's a lot at stake. It's time to work together to help our friends, our family members, and our community make registering to vote a top priority. <i>Check in on your people and make sure they're ready for November 3rd. You can register and more over at nationalregistrationday.org. Fun fact: It takes less than 2 minutes 😊</i>
Scientific research	In an effort to legitimize their business, some cannabis companies will share scientific or research-related information that is related to the cannabis industry. To qualify for this category, it is recommended that the post include references to the original material, although it is not required.	Yes=1; No=0	The perfect pair. ✨ #LIVELIFEWYLD Wyld CBD products are intended only for use by individuals aged 18 and older, and should only be used as directed on the label. Wyld CBD is not intended to diagnose, treat, cure, or prevent any disease. Consult your doctor before using this product in combination with any other dietary supplement or medication. <i>These statements</i>

Table 1.1 (cont)

			<i>have not been evaluated by the FDA.</i>
*COVID-19 topics	The posts collected for this study were created all in the year 2020. Therefore, the context of the COVID-19 pandemic must be considered in order to accurately interpret cannabis companies' visual communication strategies. If a post referenced any of the terms flagged in the main COVID-19 dictionary attached to the codebook, this category will be used.	Yes=1; No=0	<i>quarantine day 68: blood orange is officially over it</i>
Other theme/Not clear	If a theme cannot be matched to the above four categories or if the image is too vague to accurately determine the theme, this category will be used. It cannot contain cannabis products or companies, references to social issues, or scientific information.	Yes=1; No=0	<i>Happy Mother's Day to all the moms and mother figures out there!</i> 🌻 🌸 🌼
<u>Hashtags</u>			
Presence of hashtags	Social media posts may contain hashtags to track engagement. This code determines if there are hashtags noticeable in the post.	Yes=1; No=0	Just tap our bio link, and you'll be in-and-out in no time. 🧩 #GetFluent #weekendvibes #fluentcannabiscare
Number of hashtags	This code is used to count up all the hashtags present in the post.	List total number	Total count of hashtags for post = 3 Just tap our bio link, and you'll be in-and-out in no time. 🧩 #GetFluent #weekendvibes #fluentcannabiscare

Table 1.1 (cont.)

Access

Contact information	Directly or indirectly sharing information meant for two-way communication.	Yes=1; No=0	We are here for you if you have any questions. 😊 <i>Swipe left to find the three different ways to contact us.</i>
Store hours	Any mention of retail store hours, whether it be reminders of the hours or notice of a change in store hours.	Yes=1; No=0	Happy #Independence Day us from all of us at #Fluent! . Don't forget to get yourself a FREE Fluent Koozie in-store, all weekend long, while supplies last 🌟 . <i>We are #open until 5pm (est) today. . #GetFluent #July4th #StaySafe #CannabisCommunity</i>
Website links	Sharing a website link that is controlled by the posting company or featured for partnerships with the posting company .	Yes=1; No=0	We're in full bloom for #TruFlowerFriday! 🌸 New or classic, what is your favorite TruFlower strain? 🌿 Have a grape day at <i>Trulieve.com</i> 🐕 🍇

Assurances

Expressions of gratitude, thankfulness, happiness for customer support	Stated in the image caption, positive comments that are directed towards customer stakeholders of the company.	Yes=1; No=0	We ❤️ you Maryland. <i>We're beyond humbled by everyone that showed up to support @cultaig and @cookiesenterprises.</i> The team from Culta and Cookies couldn't have been more excited. Thank you, thank you, thank you #culta #Cookies #craft #cannabis 🇺🇸 @mikemakes
Expressions of gratitude, thankfulness, happiness for other stakeholders besides customers	This strategy covers all other stakeholders that are not considered customers of the retail company. Examples of these stakeholders are employees, local community members, activists who support the	Yes=1; No=0	If the pandemic has taught us anything, you the people are the backbone of any business. <i>Today we recognize everybody's hard work day in and day out.</i> Without you we wouldn't exist, thank you all for the support in our short life so far. We hope to keep

Table 1.1 (cont.)

	company's industry from a social justice or legislative standpoint, company owners, etc.		growing as a community even more!
Confirmation of concern for customer questions, issues, or requests	Statements that encourage the creation or continuation of two-way communication pathways. This could be proactive or reactive in nature.	Yes=1; No=0	This could be exactly what you are looking for this weekend as 4/20 is just around the corner!! 👁️👁️ ⬇️ 💻 seedandsmith.com/scoop <i>Don't hesitate to contact us with any questions!</i> 📞 #SeedAndSmith #PremiumComesStandard 🏠 @jweeds_420

Openness

Statistics for business or industry success	These statistics or statements display scientific information that is directly linked to the industry or the business. Posts that reflect this identifier should include numerical indicators of success, such as percentages or basic integers.	Yes=1; No=0	Amazing news!! <i>Our CEO @libbycooper made Green Market Report's annual list of the 100 Most Important Women in Weed!</i> On this International Women's Day, we are celebrating every woman on our internal team, our distribution & sales team, and all of our artists & collaborators. Thank you for everything you do for the Space Coyote family every day 🐾❤️ #internationalwomensday
Evidence of negative side effects/risks of marijuana (i.e., health concerns, risk of addiction, etc.)	Disclaimers of the harm of cannabis and related products may be present in posts. This can include calls to educate oneself on cannabis's effects before use, warnings for minors, possible side effects for general users, and references to recalls of possible defective products.	Yes=1; No=0	<i>For use only by adults 21 years of age & older. Keep out of the reach of children. Do not operate a vehicle or machinery under the influence of cannabis.</i> Please use responsibly & stay safe! Email contact@winberryfarms.com for full 4/20 Sweepstakes rules.

Table 1.1 (cont.)

Positivity

Conversation starters (i.e., questions, greetings, etc.)	Related to "small talk" in interpersonal communication, posts in this category offer polite greetings to followers and opportunities for followers to engage with each other and the organization in a lighthearted way.	Yes=1; No=0	We've heard blondie's have more fun... <i>what do you think? Fudge brownie or Blondie?</i> 💎🌿 Check out our stories or our blog for the full recipe!! 💚🌿😊
Human voice present (we, us, etc.)	Posts are friendly in nature, like the poster is speaking with close friends. Pronouns in the post should reference the company or page in the first person with plural pronouns.	Yes=1; No=0	For the first time ever, we've <i>decided to do a giveaway with some of our exclusive merch to the people who matter the most, you guys. Without our customers we wouldn't be able to do what we love.</i> All of the items in this box have never been for sale, and we want to give them away to one of you. Share this post to your story, tag Connected, and then tag a friend in the comments. <i>We'll pick a random winner next week, 8/5.</i> Let's get to it!
Delivers positive emotion in text (i.e., joy, happiness, humor, sarcasm, etc.)	Emotion is clearly visible in the post content. This includes referencing specific emotions or words commonly used to describe human emotion in nouns, adjectives, or verbs.	Yes=1; No=0	Vegas here we come!!! Her Highness is <i>over the moon excited</i> to announce our expansion into Nevada through a collaboration with Body and Mind. 🚫 Come find us in <i>fabulous</i> Vegas, baby! @bodyandmindbam
Positive emojis in text	This includes any addition of emojis in the post caption. The emoji must be explicitly positive in nature, such as a smiley face or hearts. Emojis linked to this category are limited to human body emojis (i.e., face, arms, hands) or hearts .	Yes=1; No=0	Whether you prefer concentrates or distillates, our award-winning oils are produced with care using a combination of the latest extraction technology and expert craftsmanship 😊 <i>Happy 710 cannabis community!</i>

Table 1.1 (cont.)

Networking

Collaborations with community members or mentioning the local community.	This category identifies the use of the word "community" in any context of the text.	Yes=1; No=0	As we all navigate this uncharted territory, we strive to keep the health and safety of our <i>patients, staff, and community</i> our first priority.
Collaborations with other business partners, NPOs, or groups within the cannabis industry	These collaborations occur within the cannabis industry with officially licensed businesses or individuals that are directly linked to the industry.	Yes=1; No=0	Happy birthday @parishilton 🍷 Thank you for having us @sweetflowershops #wheredoyourove #rovebrand #realrove #sliving
Collaborations with other business partners, NPOs, or groups outside the cannabis industry	These collaborations occur outside the cannabis industry with officially recognized for-profit or non-profit organizations. If tagged accounts are no longer active or not retrievable, they will go under this category.	Yes=1; No=0	1 out of 5 adults in America suffer or have suffered from mental illness at some point in time. Know the warning signs of mental illness and seek help! 💚 You can call the @namicommunicate helpline at 800-950-NAMI, or text "NAMI" to 741741.

Sharing of Tasks

Asking general users to engage with the post to spread engagement with any other user	In this identifier, the posting organization must ask users to tag other Instagram users in the post in any fashion share the post to any number of other users or comment an answer to a question. This identifier also covers posts mentioning the words "join us," "check it out," etc. for offline engagement from stakeholders.	Yes=1; No=0	We're grateful for those on the front lines and want to make their day a little bit better. <i>Tag an essential worker in the comments, and we'll send the first 25 a little love in the form of a \$25 food delivery gift card (from a non-cannabis 3rd party).</i>
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Table 1.1 (cont.)

Calls to action for issues within the cannabis industry	Posts in this category are calling for action from followers to engage with issues directly related to cannabis and the industry. This could be political activism for legalizing marijuana, social activism for decriminalizing marijuana-related drug charges, supporting cannabis businesses in need, etc.	Yes=1; No=0	We are beyond excited to share that the BLM blend from @smokeladyjays is officially sold out at Serra! <i>100% of profits are going to @lastprisonerproject in support of releasing and rebuilding the lives of those who have suffered from cannabis criminalization - so thank you to all who have purchased and contributed so far.</i> Though we're sold out at Serra, you can still purchase this pre-roll pack from our friends at @electriclettuce_ - hurry over as there are limited quantities available.
Calls to action for social issues	These calls to action remain completely outside of the cannabis industry. Any issues counted in this identifier should not be linked to cannabis or drug-related issues. For example, posts made in 2020 that may fit this category include referencing taking action with the Black Lives Matter movement, general social issues, supporting local businesses through the pandemic, etc.	Yes=1; No=0	<i>We must demand the Florida Sheriff's Department Tallahassee Station and the City of Tallahassee conduct a full, thorough investigation into Toyin's death, as well as identify the man who sexually assaulted her.</i> . People to contact: Office of Governor Ron DeSantis 850-717-9337 Tallahassee Police Department 850-891-4200 Senator Janet Cruz 850-487-5018 . artwork by @broobs.psd

*Key words used to identify the COVID-19 theme are as follows and interpreted from Lamsal (2021): Corona, coronavirus, COVID, COVID-19, quarantine, flatten the curve, lockdown, social distancing, hand washing, work from home, PPE, masks, vaccine, health workers, health care, stay home stay safe, frontline workers, stay at home, self-isolating, isolating, essential business, essential service, essential workers.

The image coding focused on visual components in the Instagram posts. A quantitative approach was used to describe the posted images. Five categories of visual content were created based on both the content appealing to youth index, or the CAY Index (Alpert et al., 2021), and Instagram marketing practices literature (Laestadius et al., 2019). Some posts contained multiple images, creating an album within the post. In these cases, only the first image was coded as it serves as the thumbnail for the post. These five categories are: theme, production, branding, person, and product. Please see the full codebook in Table 1.2.

Table 1.2
Visual Communication Strategies (Images) Coding

Variables	Operationalization	Code
<u>Production</u>		
Image type	Images are basic pictures taken with cameras and other imaging tools. Illustrations are graphical images created with computer animations that contain only text. If the post contains a mixture of real-world photography and computer-generated graphics, it will be considered other.	Photograph=1; Graphical illustration=2; Others=0
Text included in image	Images may contain text as the main feature or a sub feature. If text is used in the posted visual, this category will be used.	Text in visual=1; No text in visual=0
Main color	Categorized for having multiple colors present, one distinguishable color as the theme, or being black and white.	Single color=1; Multiple colors=2
<u>Branding</u>		
Logo or company name	Posts may contain the name of the company in branded font (i.e., visible on products, event fliers, clothing, etc.) or simple text without the branded font (i.e., screenshot of textual post, simple message, etc.). This category is used if the name of the company making the post is visible in any fashion on the image.	Name present=1; Name not present=0

Table 1.2 (cont.)**Person**

Number of human subjects	Categorized as having a single person, multiple people, or no human subjects present in the image. If no human subjects are present, coding for this category is complete.	Single person=1; Multiple people=2; No human=0
<i>Gender of the subject(s)</i>	<i>Categorized as assumed female subject(s), assumed male subject(s), a mix of genders present, or no human subjects/no assumed gender</i>	<i>Female=1; Male=2; Mix of genders=3; No human=0</i>
<i>Race of the subject(s)</i>	<i>Categorized as six races listed by the U.S. Census. Races include Black/African American, Asian/Pacific Islander, Caucasian, or other races among multiple subjects.</i>	<i>Black/African American=1; Asian/Pacific Islander=2; Caucasian=3; Other races=4; Mixed races/multiple people=5; No human=0</i>

Product

Product shown	If the image contains any products from the company, then coding may proceed in this section. If there is no product shown, coding for this category is complete.	Product shown=1; No product=0
<i>Type of product shown*</i>	<i>Products each have their own specific category: one type of product, multiple products, other products not categorized.</i>	<i>Grown plant=1; Harvested flowers, buds=2; Concentrates=3; Vapes=4; Blunts=5; Smoking accessories=6; Food=7; Beverages=8; Skin care products=9; Multiple products shown=10; Other=11</i>

**Product type descriptions:* Full explanations of each product are listed in Table 1.3

Explanations of the cannabinoid products were also generated for coders. In total, nine products were identified in literature and Instagram data as the most popular products sold by cannabis retailers. A breakdown of the products and their explanations are listed in Table 1.3.

Table 1.3
Cannabis Product Descriptions

Product	Product Description
Grown plant	A cannabis plant that has yet to be treated for consumption, either partially grown or fully grown.
Harvested flowers, buds	Pieces of the cannabis plant that have started the preparation process or have completed the process to be dried.
Concentrates (oil, wax, etc.)	Cannabinoids that have been treated to become solid or liquid in nature.
Vapes	Electronic products that vaporize either THC or CBD derivatives to be inhaled.
Blunts, rolled dried plants	Treated buds and flowers that have been prepared for smoking consumption.
Smoking accessories	Examples of these smoking accessories are devices that grind dried products, bongs, dab tools, product containers, etc.
Food	Edible products that contain cannabinoids such as THC or CBD.
Beverages	Drinkable products that contain cannabinoids such as THC or CBD.
Skin care products	Beauty care products that contain cannabinoids such as THC or CBD.

Coding Procedure

Coder Training and Intercoder Reliability (IR)

As the codebook is separated into two sections for the text posts and the images, so was the coder training and intercoder reliability broken into two stages. There are two coder training sessions that focus on relationship cultivation strategies and image coding respectively.

Training and IR for Relationship Cultivation Strategies. The author (coder 1) and another graduate student (coder 2) participated in this coding session from May 6, 2022, to June 1, 2022. The first meeting on May 6, 2022, included a brief history of the cannabis industry and popular U.S. products that may be present in the sample and explanations on the codebook focusing on text posts. In the meeting on May 8, 2022, the two coders practiced eight posts

together to get familiar with the codebook, to discuss differences in opinion, and address any questions that remain after codebook revision. After this session, both coders independently coded a random sample of 30 posts in the week of May 10, 2022 and met to discuss any discrepancies as well as resolve confusions about the coding themes until complete agreement was reached. This sample was not used for calculating intercoder reliability. After the meeting, the two coders independently coded 128 posts from May 10, 2022, to June 1, 2022, for the intercoder reliability check. This ICR check was performed using ReCal (<http://dfreelon.org/utlis/recalfront/>). Results showed that most of the items reached satisfactory scores in Krippendorff's alpha (Krippendorff, 1980; Krippendorff, 2004; Riffe et al., 2019). Three items did not meet the 0.75 threshold because of their absence in the coding procedure. In other words, these items were consistently coded as 0 by the two coders in the IR sample. Thus, the variables were removed from further data analysis. A detailed breakdown of ICR results is listed in Table A.1 in Appendix A. After the completion of the ICR, coder 1 coded the rest of the sample from June 10 to 30, 2022.

Training and IR for Visual Communication Strategies. The next step in checking reliability began for the images on June 1, 2022. The author (coder 1) and one undergraduate student coder (coder 3). Just as with the text post coding, an introductory meeting took place to explain the revised codebook as it stood after text post coding. Both the student coder and the head researcher immersed themselves in popular cannabinoids that could be captured in visuals. This step would allow categorization to occur that may assist future visual communication research on the cannabis industry. Joint coding and intercoder reliability training on this section of data occurred from June 1, 2022, to June 9, 2022. 10 posts were coded together in an informational meeting on June 1, 2022, for ease of communication between coders. The first

independent session of coding occurred on June 3, 2022 and involved coder 1 and 3 analyzing 20 randomly sampled images. This session would not count towards the ICR calculations. The two coders independently coded 70 images from June 3, 2022, to June 9, 2022, for the intercoder reliability check. Using ReCal (<http://dfreelon.org/utis/recalfront/>) again, all but one of the variables reached a significant level of Krippendorff's alpha (at least 0.7). The only variable to not pass this ICR check was merged with another variable in its group to ease recurring confusion for both coders. The detailed results of the image's ICR calculations are listed in Table A.2 in Appendix A. From this point, coders 1 and 3 worked jointly to code the image sample from Jun 18, 2022, to June 23, 2022. Coder 1 coded approximately 75% of the sample while coder 3 took 25% of the sample.

RESULTS

This section outlines the results of data analysis and coding procedures. It offered valuable insights on the risks cannabis companies expose themselves to when posting content on social media.

Key Themes in Instagram Posts

Five themes were identified in initial data sampling as the major subjects of the Instagram posts. The themes were labeled as *company or products*, *social issues*, *scientific research*, *COVID-19 topics*, and *other/not clear*. A majority of posts related to the *company/product theme*. This was followed by referencing social issues, COVID-19 topics, and scientific research. Posts that did not fit any recorded theme will be discussed last.

Company/Product Theme

This theme was identified in 79.6% (n=1015) of all textual posts. The high presence of promotional information suggests that the cannabis companies have found ways to get their

content to their stakeholders despite numerous barriers in place to prevent the controversial product from being shown on social media.

This category describes posts that are made solely to promote the company, its cannabinoid and non-cannabinoid products, or its marketing campaigns. The theme commonly manifested itself as the posting company explaining the benefits of its products for general human satisfaction. The theme was also recorded if the company shared information that matched the three other concrete themes (social issues, scientific research, or COVID-19 topics), but was used in a way that positively promoted the organization. For example, the *company* theme was flagged if the post shared information regarding the company's partnerships with nonprofit organizations (social issues), medicinal benefits or risks of cannabis with verified citations (scientific research), or confirmation of changes in store policies or hours during local pandemic lockdowns (COVID-19 topics).

Two example posts for this theme are below.

- HEY BABES! WE'VE GOT SOMETHING NEW DROPPING SOON! want to make sure your local dispensary will carry it? give em a call to let them know your quim needs some QUIM!

🌴 california only 🌴
#quim #youknow
(Quim; May 21, 2020)

- Sweet and fruity Strawberry Kush throws up a peace sign, promoting happiness and stress relief. The indica-leaning hybrid lovechild of Strawberry Banana X Triangle Kush, it's perfect for lazing on a sunny afternoon. #FindYourRYTHM
(Rythm; October 1, 2020)

Social Issues

Only 7.2% of posts (n=92) contain information relevant to social change or social issues.

The low count is not surprising considering the assumed purpose of cannabis companies'

Instagram pages is to promote themselves and their products. This theme reflected a new trend of companies of all kinds relating to consumers' morals to make connections with their intended audience (Phillip-Muller et al., 2021). Cannabis companies specifically make several strides to relate to social activism and current events to form relationships with their stakeholders. The time frame during which posts were collected was rich with ongoing social movements. From Black Lives Matter to Stop Asian Hate marches, workers' rights to voters' rights lobbying, LGBTQIA+ to cannabis legalization support, companies were willing to share their opinions and resources with relevant communities.

Below are two examples of a post coded as containing a social issue.

- We support justice for George Floyd and so many other black and brown people who have lost their lives unjustly at the hands of police and vigilantes. As Americans take to the streets, we are reminded of the importance of deep listening, peacefully educating ourselves about the history of slavery, privilege and working as allies and advocates in right action whether that is donating, signing petitions, marching, organizing or (ideally) all of the above!
#justiceforgeorgefloyd #cannacomunity
(Sweet Releaf; June 1, 2020)
- This Memorial Day we had the privilege of helping plant 8000 US Flags in support of fallen heroes and their families. This was a collaborative effort with The Downriver for Veterans as well as Midwest Military for Cannabis. With over 500 volunteers and 331 motorcyclist in attendance, we are very honored to have been a part of such a special day.
(Platinum Vape; May 27, 2020)

Scientific Research

The theme labeled *scientific research* covers any effort to legitimize the cannabis industry and its products through verified research findings. In order for the information to be considered verified, statistics relevant to finance, medicine, agriculture, and other fields must be present or citations of a recognized governing body or research organization must be present. For example, the FDA is frequently cited by cannabis companies to confirm that the FDA does not

condone using cannabis for medical reasons. In this case, the cannabis company is preserving their liability on social media for sharing the current scientific truth about medicinal benefits of cannabis. It also gives credit to the FDA for the organization's bureaucratic stance on the product. In total, the *scientific research* theme totaled only 2.0% of the posts (n=25). The citation of the FDA was the most common key phrase used to identify this theme with 48.0% of the posts (n=12) coded as containing scientific information mentioning the FDA. Other common information used to label the post as scientific citing health information and health awareness days.

Two examples of the scientific research theme are listed below.

- October is #BreastCancerAwareness Month. #CULTA partnered with the @keepabreast foundation to share 6 tips to lower your risk of breast cancer. Read more at <http://www.Culta.io/blog> (CULTA; October 11, 2020)
- Give yourself that little boost you've been needing with some Huckleberry gummies.

25mg of broad-spectrum hemp CBD per delicious piece.

#LIVELIFEWYLD

Wyld CBD products are intended only for use by individuals aged 18 and older, and should only be used as directed on the label. Wyld CBD is not intended to diagnose, treat, cure, or prevent any disease. Consult your doctor before using this product in combination with any other dietary supplement or medication. These statements have not been evaluated by the FDA.
(Wyld CBD; November 10, 2020)

COVID-19 Topics

The time frame selected for collecting posts presents a unique opportunity to code text that is related to the COVID-19 pandemic with the theme labeled *COVID-19 topics*. The context of the pandemic must be considered as relevant to this study. As the language used to describe COVID-19 developed and changed frequently during the height of the pandemic, a dictionary

was added to the final codebook to quantify *COVID-19 topics* (see full list in RCS Codebook in Table 1.1). Companies cite COVID-19 terms to show support for their customers and other stakeholders. They also use these terms to explain changes in store policies to reflect alterations to lockdown orders for the company's area. Some posts contained terms that coders assumed were related to COVID-19, however they did not match terms listed in the dictionary. These unmatched words were used by media sources during the height of the pandemic to indirectly refer to COVID-19 such as "tough times", "we're in this together", and "stay strong". These terms were not coded as *COVID-19 topics* as coders could not confirm the pandemic was the subject of discussion. In total, 4.3% of posts (n=55) contained COVID-19 dictionary terms.

Two examples of COVID-19 posts that matched the dictionary are below.

- Life is a little different right now but let's stick together as an online community and keep our spirits bright. What are some unique items in your quarantine supply? *Let's keep it PG so we don't get flagged 🤪 #wheredoyourove #rovebrand #realrove #quarantine (ROVE; March 18, 2020)
- Our friends over @helloalice_com are working hard to help Small Business Owners & Entrepreneurs access emergency funding in The Covid-19 Business Center. Apply for \$10,000 grants, navigate government resources, & ask other business owners for timely advice. Please share ❤️ for #smallbusiness #businessforall #covid19 #entrepreneurs #coronavirus #shopsmall (Garden Society; March 29, 2020)

Other/Not Clear Theme

The final theme used to identify post content was labeled as *other/not clear theme*. This category served as a catch-all for any post that did not match the above four categories. Should a post match no keywords or phrases used to identify the post as a company or product, social issues, scientific research, or COVID-19 theme, it was assigned as *other*. Common *other* posts contain motivational quotes or holiday wishes that had no mention of the company or social issue concerns. Additionally, the post may have contained text that had little meaning. For

example, some posts contained only emojis (i.e., 🌱🌱🌱 from Raw Garden; April 20, 2020).

Therefore, coding of the text was impossible. A post could also contain so few words that categorizing the theme was difficult. For example, one post stated, “MONDAY MOOOOOD.

🌪️😂 #kushqueen” (from Kush Queen Shop; September 21, 2020) with no other context. With

all of these considerations for determining if a post reflected no discernible theme, 16.8% of posts (n=214) matched this category. This is not uncommon for social media as platforms allow creative freedom for users to share anything they deem appropriate. A total breakdown of the key theme frequencies is listed in Table 2.1.

Table 2.1
Distribution of Key Themes in Instagram Posts

Theme	% Occurrence	# Occurrence
Company/Product	79.6	1015
Social Issues	7.2	92
Scientific Research	2.0	25
COVID-19 Topics	4.3	55
Other/Not Clear	16.8	214

Relationship Cultivation Strategies in Cannabis Companies’ Instagram Posts

RQ1 aims to identify the relationship cultivation strategies used in cannabis companies’ textual social media content. Full descriptions of the relationship cultivation strategies and their identifiers are listed in the RCS Codebook in Table 1.1.

Access

Companies added several features to posts that offered opportunities for customers to begin two-way communication with the organization and similar groups. The presence of the relationship cultivation strategy *access* was determined by three identifiers: contact information, store hours, and website links. The strategy could have been identified 3,825 times, as the three

identifiers could be individually coded for the one strategy. Out of all possibilities for occurrence, the strategy was identified 4.58% of the time (n=175). Contact information was coded in 1.3% of the posts (n=16). Store hours were identified in 4.2% of the posts (n=54). Website links were coded most often in 8.2% of the posts (n=105). Companies most often shared links of websites that they controlled, such as pages for contest rules or shop links. It was possible that the company shared links of organizations they partnered with for events or fundraisers.

Assurance

An important factor for relationship maintenance is offering guarantees that parties are invested in the relationship (Guerrero et al., 1993). This remains the case for cannabis organization relationships with customers. The *assurance* strategy contained three identifiers. Similar to the *access* strategy, this meant there were 3,825 possible chances for the strategy to be found. Assurance was tagged in 4.65% of posts (n=178). The first identifier “expressions of gratitude, thankfulness, or happiness for customer support” occurred in 3.0% of posts (n=38). Companies thanked customers for supporting their social media accounts or their business profits. The second identifier was labeled “expressions of gratitude, thankfulness, or happiness for other stakeholders besides customers.” Posts with this identifier spoke highly of people, organizations, or accounts that were not determined to be customers. This occurred more frequently than the previous identifier of thanking customers, totaling 8.2% of occurrence in posts (n=105). The final identifier, called “confirmation of concern for customer questions, issues, and requests,” occurred the least number of times. It was coded for 2.7% of posts (n=35). These posts contained keywords like “reach out” or “contact us,” encouraging stakeholders to make a connection with the company through a variety of communication channels.

Openness

Creating a sense of openness between parties in a relationship aids in increasing trust (Ledingham & Bruning, 1998). Cannabis companies should take this strategy to heart as they work to increase public trust of their product. The strategy *openness* was conceptualized with two identifiers, creating an opportunity for the strategy to be coded 2,550 times. In total, the strategy was identified in 4.78% of posts (n=122). The first identifier called “statistics for business success” was coded the least of all relationship cultivation strategy identifiers at 0.8% occurrence (n=10). Companies would commonly thank customers for their support of the business, but then statistics or quantifiable reasons for success were not shared. The second identifier labeled “evidence of negative side effects/risks of marijuana” was coded more frequently in this strategy, occurring in 8.8% of posts (n=112). This was recognized when a company reminded customers of the legality of cannabis or its nonrecognition in the medical community.

Positivity

Cannabis companies use positivity in their social media posts more than any other strategy. Being pleasant and positive is the first step toward creating a beneficial relationship, as evidenced by interpersonal relationship studies (Ki & Hon, 2006; Canary & Stafford, 1993; Stafford & Canary, 1991). The *positivity* strategy was coded most of all six relationship cultivation strategies, pulling in a percentage of occurrence greater than the other five strategies combined. While this high count may be excused as it contained the most identifiers of all the strategies, every identifier was coded in such a high frequency that removing any one of them would not change *positivity*’s status as the highest occurring cultivation strategy. Out of 5,100 possible occurrences, *positivity* was coded in 44.35% of posts (n=2,262). The first identifier,

“conversation starters,” was coded in 31.9% of posts (n=407). The second identifier of “human voice presence” was coded 49.5% in posts (n=631). The third identifier labeled “delivers positive emotion in text” was coded in 75.8% of posts (n=966), holding the place of the most commonly occurring identifier of all the strategies. The final identifier, “positive emojis included in text,” was coded in 20.2% of posts (n=258). Almost half of the posts were positive in some way, leading to the assumption that cannabis companies are on their way to creating positive relationships with their stakeholders.

Networking

The success of the initial stages of a relationship depends on networking nodes between parties (Canary & Stafford, 1992). In line with this finding, the second most common relationship cultivation strategy was *networking*. With three identifiers, there were 3,825 possibilities for occurrence. The strategy was coded as present in 13.41% of posts (n=513). The first identifier was labeled “collaborations with community members or mentioning the local community.” It involved searching for the keyword “community.” It could be used in any context, whether mentioning the business’s community of stakeholders or a population of non-stakeholders the post was directed at. The word community occurred in 3.2% of posts (n=41). The second *networking* identifier, labeled “collaborations with other business partners, NPOs, or groups within the cannabis industry,” searched for tagged Instagram accounts that coders found to be directly affiliated to businesses or organizations within the industry. This occurred in 14.9% of posts (n=190). The last identifier, labeled “collaborations with other business partners, NPOs, or groups outside the cannabis industry,” was a catch-all for any tagged Instagram accounts that either had no direct links to the cannabis industry or were unable to be located. This identifier was coded in 22.1% of posts (n=282).

Sharing of Tasks

Creating change for an underappreciated and controversial industry takes more manpower than the cannabis organizations alone. This goes for creating societal change as well. Cannabis companies ask for help in creating that change via their social media. The sixth and final strategy titled *sharing of tasks* contained three identifiers, totaling 3,825 possibilities for occurrences. The strategy was present in 8.34% of these possible occurrences (n=319). The first identifier was labeled “asking general users to engage with the post to spread engagement with any other users.” Coders used the keywords of “tag a friend,” “comment below,” “check it out,” and similar phrases to code the identifier. It occurred in 22.2% of posts (n=283). The second identifier was called “calls to action for issues within the cannabis industry.” This was used if any requested action directly impacted issues tied to cannabis or the industry, such as calling on legislatures to decriminalize cannabis products. This identifier was coded in 1.1% of the posts (n=14). The last identifier, although similar to the second, concerned “calls to action for social issues.” The identifier covered all requests for action that dealt with issues not related to cannabis, such as encouraging citizens to vote in elections or actively participate in social justice movements. It was coded in 1.7% of posts (n=22). A total distribution of the relationship cultivation strategies and identifiers is listed in Table 2.2.

Table 2.2
Distribution of Relationship Cultivation Strategies and Identifiers

Strategy	Identifier	Identifier % Occurrence	Strategy % Occurrence
Access	Contact information	1.3 (n=16)	4.58 (n=175)
	Store hours	4.2 (n=54)	
	Website links	8.2 (n=105)	

Table 2.2 (cont.)

Assurance	Expressions of gratitude, thankfulness, happiness for customers	3.0 (n=38)	4.65 (n=178)
	Expressions of gratitude, thankfulness, happiness for other stakeholders besides customers	8.2 (n=105)	
	Confirmation of concern for customer questions, concerns, issues, or requests	2.7 (n=35)	
Openness	Statistics for business or industry success	0.8 (n=10)	4.87 (n=122)
	Evidence of negative side effects/risks of marijuana	8.8 (n=112)	
Positivity	Conversation starters	31.9 (n=407)	44.35 (n=2262)
	Human voice present	49.5 (n=631)	
	Delivers positive emotion in text	75.8 (n=966)	
	Positive emojis in text	20.2 (n=258)	
Networking	Collaborations with community members or mentioning the local community.	3.2 (n=41)	13.41 (n=513)
	Collaborations with other business partners, NPOs, or groups within the cannabis industry	14.9 (n=190)	
	Collaborations with other business partners, NPOs, or groups outside the cannabis industry	22.1 (n=282)	
Sharing of Tasks	Asking general users to engage with the post to spread engagement with any other user	22.2 (n=283)	8.34 (n=319)
	Calls to action for issues within the cannabis industry	1.1 (n=14)	
	Calls to action for social issues	1.7 (n=22)	

Visual Communication Strategies in Cannabis Companies' Instagram Posts

RQ2 asked about the key strategies used in cannabis companies' visual content on Instagram. A total of 645 images were coded for the sample. Coding reports will be explained now by order of the codebook sections. Full descriptions and identifiers are outlined in the Image Codebook in Table 1.2.

Production

The *production* section concerned the visual style used for the post. It used three variables to evaluate the post format: image type, text-based image, color.

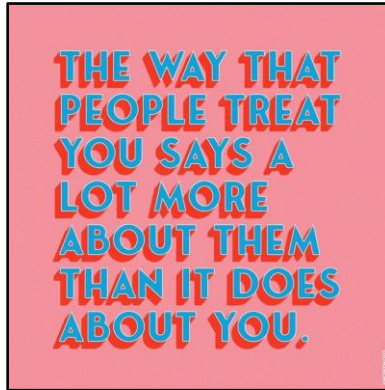
Image Type. Image type includes three categories: photograph, graphical illustration, and other. The “photograph” category covered any post that did not contain heavy amounts of altering, as in textual overlay, cartoons added, or visuals that could not be taken naturally in the real world. This was coded most often in 79.5% of the visuals (n=513).



(Coda Signature; July 7, 2020)

The second category, called “graphical illustration,” consisted of visuals that are created solely with computer software. They contain no real-world elements. This situation occurred in 10.9% of visuals (n=70). The final category was titled “other.” The category covered situations where the visual contained a mixture of real-world elements and computer-generated features. For example, a meme that contained a real-world picture and was surrounded by features added

through a meme creation or illustration software. This situation and other similar situations occurred in 9.6% of posts (n=62).



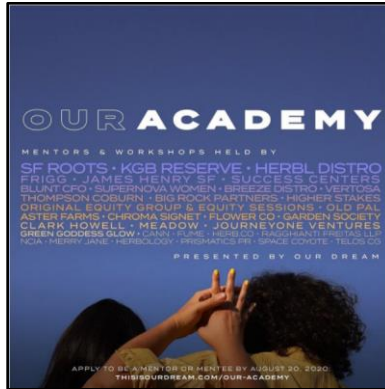
(Kush Queen Shop; May 11, 2020)

The third category of image type was called “other.” This served as a catch-all for any image that didn’t fit the binaries of the photograph or graphical illustration categories. The other category occurred in 9.6% of posts (n=62). It was commonly noticed as a blend of real-world images and prominent graphical illustrations that were the center of attention.



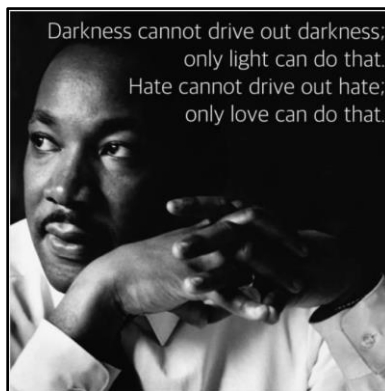
(Rebel Coast Winery; August 13, 2020)

Text-based image. This binary variable evaluated if the visual contained any text that could not be found naturally in the real world. This could occur in any image type. The prominence of the text did influence what image type the coders assigned. Text occurred in 19.5% of visuals (n=126).



(Garden Society; August 18, 2020)

Main color. This variable concerned the color palettes present in the visuals. There were two categories for coders to consider. The first category, called “single color,” was used if the colors present in the visual came from a single-color palette. For example, the picture could contain variations of green as a closeup of a cannabis plant. In all, the “single color” category occurred in 6.8% of visuals (n=44).



(Belushi’s Farm; January 20, 2020)

The second category for the main color section was called “multiple colors.” Visuals that contained more than one color palette were coded as “multiple colors,” which occurred in 93.2% of posts (n=601).



(Willie's Reserve; August 5, 2020)

Branding

The *branding* category of the visual codebook contained only one variable: logo or company name present. The variable was present in 47.8% of posts (n=308). It was more common for companies to portray their logo in visuals as the variable was counted if the logo was visible on the products. There were a small number of situations when a visual listed just the company name in font and colors other than the official branded logo. An example of this scenario is below.



(1906; November 15, 2020)

Person

Companies of all types are encouraged to humanize themselves by presenting human subjects in their visual media (Fleck et al., 2014). Cannabis companies followed this logic in

their Instagram content. The *person* category contained three variables, two of which were dependent on the first variable being flagged as present by coders.

Number of Human Subjects. A “single person” was coded in 14.4% of posts (n=93). “Multiple people” were identified in 5.1% of posts (n=33). The most frequent category used for the number of human subjects variable was called “no human/no face present.” This category was used in 80.5% of posts (n=519). Companies most commonly posted images of their products or graphical illustrations that didn’t contain people.



(Kush Queen Shop; September 20, 2020)

Gender of the Subject(s). It is important to note that these genders were assumed based on the presentation of the subject. Following commonly accepted presentations of the binary of cisgender, the following results were found. The first category, labeled “female,” was coded 8.5% of the time (n=55). The second category, labeled “male,” was coded 8.4% of the time (n=54). If groups of people were visible in the image and all of the people were the same gender, then the visual was coded as such. If all the people were not the same gender in a group, then the “mix of genders” category was used. This occurred in 2.6% of posts (n=17). While more males were presented as internal stakeholders of the companies, females were used in more cases as models for the product. Some organizations center their products around female reproductive and sexual wellness, therefore their models and internal stakeholders shown are typically female.



(Quim; March 25, 2020)

Race of the Subject(s). Codebook testing and literature offered five categories to choose from if humans were present. The highest occurring ethnicity was white and Caucasian subjects with 11.0% of posts presenting white subjects ($n=71$). This matched statistics that show white Americans own more cannabis businesses than other ethnicities (Bender, 2016; Jarrett, 2017). Black and African American people maintained 5.7% of posts ($n=37$) as the second highest occurring ethnicity. A category for Asians and Pacific Islanders was identified through literature. However, no posts were identified as containing this ethnicity. There were situations where an identified race did not match predetermined categories. In that case, the subject was assigned as “other race.” While rare, this occurred in 0.3% of posts ($n=2$). The last category used to identify the ethnicity of human subjects was labeled “mixed races/multiple people.” Coders used this category for groups of people that did not share a race. This occurred in 2.5% of posts ($n=16$).



(Rebel Coast Winery; August 10, 2022)

Product

The last category of variables evaluated for the visual elements of Instagram posts was presence of the cannabis products, titled product shown and broken down into product type. There was a high frequency of product presence in the images. 70.7% of posts contained a cannabinoid product (n=456). Images that did not contain products totaled 29.3% of posts (n=189).



(Canndescent; November 23, 2020)

A breakdown of nine individual products (aside from the categories of “no product,” “multiple products,” and “other product”) is listed below in Table 2.3.

Table 2.3
Image Coding - Product Type Frequencies

Product	Percentage occurrence (%)	Number of cases (#)
Grown plant	10.1	65
Harvested flowers, buds	12.7	82
Concentrates (i.e., wax, resin, oil)	10.2	66
Vapes	7.4	48
Blunts, pre-rolled joints	4.7	30
Smoking accessories	0.6	4
Food (i.e., edibles, candy)	5.9	38
Beverages (i.e., wine, tonic, seltzer)	6.4	41
Skin care products	1.9	12

In cases where more than one type of product was shown in the image, coders identified the posts as containing “multiple products.” This occurred in 4.5% of all posts (n=29). The list of products identified from literature was not exhaustive. Some products did not match the chosen categories. For those cases, the products were identified as “other.” It frequently manifested in posts that featured merchandise sold by the store or sexually explicit products that could not be labeled as skin care products. This occurred in 4.5% of the posts (n=29). A total breakdown of all visual communication strategies and identifiers is listed in Table 2.4.

Table 2.4*Distribution of Visual Communication Strategies and Identifiers*

Variable Group	Identifier	Category of Identifier	Category % Occurrence	Category # Occurrence
Production	Image Type	Photograph	79.53	513
		Graphical illustration	10.85	70
		Other type	9.61	62
	Text Present	Text is present in post	19.53	126
	Main Color Theme	Single color	6.82	44
		Multiple colors	93.18	601
Branding	Logo Present	Logo present in post	47.75	308
Person	Number of Subjects	Single person	14.42	93
		Multiple people	5.12	33
		No people identified	80.47	519
	Gender of Subject(s)	Female	8.53	55
		Male	8.37	54
		Mix of genders	2.64	17
		No gender identified	80.47	519
	Race of Subject(s)	Black/African American	5.74	37
		Asian/Pacific Islander	0	0
		White/Caucasian	11.01	71
		Other races	0.31	2
		Mix of races	2.48	16
		No race identified	80.47	519
Product	Product	Product shown in post	70.70	456
	<i>Type of Product</i>	<i>Grown plant</i>	10.08	65
		<i>Harvested flowers, buds</i>	12.71	82
		<i>Concentrates</i>	10.23	66

Table 2.4 (cont.)

<i>Vapes</i>	7.44	48
<i>Blunts</i>	4.65	30
<i>Smoking accessories</i>	0.62	4
<i>Food</i>	5.89	38
<i>Beverages</i>	6.36	41
<i>Skin care products</i>	1.86	12
<i>Mix of products</i>	6.36	41
<i>Other products</i>	4.50	29
No product shown	29.30	189

The Effects of Relationship Cultivation Strategies and Visual Communication Strategies on Public Engagement

The two previous research questions that identified the use of relationship cultivation and visual communication strategies both lead to the true purpose of this study: How does the use of relationship cultivation strategies and key visual communication strategies impact the public engagement (i.e., likes and comments) with the cannabis companies through the social media posts on Instagram? This question is broken into two sections based on the relationship cultivation strategy results and the visual communication results.

Research Question 3A

To determine how the RCSs impacted engagement, simple linear regression analysis was used to examine the relationships between RCSs and dependent variables, namely likes and comments on Instagram. Given the relatively high skewness of the new Likes (Mean = 1113.30, SD = 2608.49) and Comments (Mean = 57.04, SD = 191.41), the two variables were log transformed to overcome the skewness discrepancy. New values were computed to make up for

posts that do not have likes, comments, or follower data so that they can be log transformed. Each of the likes, comments, and followers variables had one added to them (e.g., Likes_new = Likes + 1). The total followers the account held at the time of each post was also log transformed for the posts that contained follower data (Mean = 8216.64, SD = 206952.19). The regression analysis was performed using SPSS version 28, in which the RCSs and logged follower counts were independent variables and likes and comments were dependent variables. Two regressions were run to relate the two dependent variables separately to the independent variables. Before running the models, the assumptions of linear regression were checked (see results reported in Appendix B)

The first regression test treated LogLikes as the dependent variable and all the RCSs as independent variables, with the number of followers as the control variable. A multiple regression was carried out to test if the RCSs significantly predicted publics' likes on Instagram. In the baseline model including only the control variable, the R^2 was .214. After adding the RCSs, the R^2 increased to .228. The results indicated that the model explained 22.8% of the variance and that the model was significant ($F(7, 7642) = 322.850, p < .001$).

Results show that Access, Positivity, and Networking significantly predicted the public engagement in likes, holding the number of followers constant. In particular, Access significantly predicted LogLike ($\beta = -.042, p = <.001$), suggesting that the one unit increase in the use of Access strategy in a post was 4.11% more likely to decrease public engagement in likes on Instagram. The Positivity strategy also significantly predicted the likes a post received ($\beta = -.085, p = <.001$), meaning that the one unit increase in the use of the Positivity strategy in a post was 2.76% more likely to decrease the number of likes a post received. The Networking strategy's relationship with likes was positively significant ($\beta = .064, p = <.001$). For one unit

increase in the use of the Networking strategy, the post was 6.61% more likely to increase the number of likes it received. The other three RCSs, Assurance ($\beta = -.013, p = .445$), Openness ($\beta = -.010, p = .276$), and Sharing of Tasks ($\beta = .015, p = .133$), did not significantly predict the public engagement in likes (shown in Table 2.5).

Table 2.5
Regression Coefficients – Likes by Relationship Cultivation Strategies

Independent Variables	R ²	F	B	β	<i>p</i>
<u>Model 1</u>	.214	2084.178			<.001***
LogFollowers			.127	.463	<.001***
<u>Model 2</u>	.228	322.850			<.001***
LogFollowers			.125	.454	<.001***
Access			-.065	-.042	<.001***
Assurance			-.013	-.008	.445
Openness			-.021	-.010	.310
Positivity			-.056	-.085	<.001***
Networking			.063	.064	<.001***
Sharing of Tasks			.020	.015	.163

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

The second test treated LogComments as the dependent variable, the six RCSs as the independent variables, and LogFollowers as the control variable. A multiple regression was run to inspect if the RCSs will significantly predict the number of comments an Instagram post receives. The R² on the control variable was .116. Adding the RCSs to the model increased the R² to .122. This indicated that the model explained 12.2% of the variance. The model was also significant ($F(7, 7642) = 50.413, p < .001$).

Model results showed that three of the six RCSs, Access, Positivity, and Sharing of Tasks, significantly predicted the engagement a post received through comments. Access

positively predicted LogComments ($\beta = .039, p < .001$), suggesting that a one unit increase in posts that used the Access strategy was about 3.98% more likely to increase public engagement in comments. Positivity negatively predicted the number of comments a post was predicted to receive ($\beta = -.028, p = .015$), meaning a one unit increase in the use of Positivity was about 2.76% more likely to show a decrease in comments. Finally, Sharing of Tasks positively predicted the number of likes a post received ($\beta = .061, p < .001$), meaning a one unit increase in Sharing of Tasks was about 6.29% more likely to increase the total number of comments on a post. The other three RCSs, Assurances ($\beta = -.004, p = .718$), Openness ($\beta = .020, p = .063$), and Networking ($\beta = -.018, p = .095$), did not significantly predict the public engagement in comments (shown in Table 2.6).

Table 2.6
Regression Coefficients – Comments by Relationship Cultivation Strategies

Independent Variables	R ²	F	B	β	p
<u>Model 1</u>	.116	1002.302			<.001***
LogFollowers			.095	.340	<.001***
<u>Model 2</u>	.122	152.018			<.001***
LogFollowers			.094	.337	<.001***
Access			.062	.039	<.001***
Assurance			-.007	-.004	.718
Openness			.041	.020	.063
Positivity			-.019	-.028	.015*
Networking			-.018	-.018	.095
Sharing of Tasks			.082	.061	<.001***

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Research Question 3B

Linear regression was also calculated for the visual communication strategies. Six of the nine visual communication strategies were categorical, which would negate regression results if the variables were left as is. All categorical variables were transformed into dummy variables to recognize each category as its own variable. The reference categories for each variable are listed in the notes of Table 2.5 and Table 2.6. The likes, comments, and follower counts were also log transformed just as the likes, comments, and followers were for the cultivation strategy models. The likes and comments were dependent variables in separate regression models with the visual communication strategies set to dummy variables as the independent variables and the follower counts as the control variable.

The third regression test used LogLikes as the dependent variable and all binary and dummy variables of the image coding as independent variables (dummy variable references are listed in the notes of Table 2.5). LogFollowers was used as a control variable for the first model. Multiple regression was completed to test if identified visual communication strategies and features significantly predicted the total number of likes created on Instagram posts. The control model with only LogFollowers returned a significant R^2 of .170. After adding the visual communication strategies to the model, R^2 increased to .315. The results indicated that the model explained 31.5% of the variance and the model was significant ($F(24, 620) = 11.859, p < .001$). The reference categories of dummy variables were not added to the model to generate this equation.

Results showed that Text Presence, Multiple Subject Genders, White Subject Race, Multiple Subject Races, Plant Product Type, Bud Product Type, and Skin Care Product Type significantly predicted the public engagement on Instagram posts in likes compared to their

respected reference variables. The variable Text Presence in the image negatively predicted LogLikes as compared to the reference category No Text Present ($B = -.164, p = .014$), suggesting that for a one unit increase in the presence of text in visuals was about 15.13% more likely to decrease the number of likes a post received. The presence of the Multiple Genders Present category, compared to the reference Female Subject category, negatively predicted LogLikes ($B = -.388, p = .019$), meaning that presenting multiple genders in the image is 32.16% more likely to receive a decrease in likes on Instagram than presenting female subjects. The presence of the White Subject Race category, compared to the reference category of No Person Present, positively predicted the number of likes a post received ($B = .342, p = <.001$), meaning a one unit increase in the times white people were shown in the image were 40.78% more likely to have an increase in likes on a post. The variable Multiple Subject Races, compared to No Person Present, also positively predicted the likes a post received ($B = .484, p = .007$), meaning that a one unit increase in images using multiple people of different races predicted the posts were 62.26% more likely to have an increase in likes. All product categories were referenced to the category titled No Product Present. Two of the three cannabis product variables that significantly predicted engagement positively affected LogLikes. The Plant Product Type variable ($B = .486, p = <.001$) predicted an increase in likes by 62.58% for every one unit increase in plants shown in an image, and the Bud Product Type variable ($B = .240, p = <.001$) predicted an increase in likes by 27.12% for every one unit increase in images that showed buds or dried flowers of cannabis. However, the Skin Care Product Type variable ($B = -.313, p = .029$) negatively predicted likes, meaning a one unit increase in skin care products shown in images predicted posts were 26.88% more likely to have a decrease in likes. All other variables did not significantly predict likes on Instagram posts (shown in Table 2.7).

Table 2.7*Regression Coefficients – Likes by Visual Communication Strategies*

Independent Variables	R ²	F	B	β	p
<u>Model 1</u>	.170	131.667			<.001***
LogFollowers			.100	.412	<.001***
<u>Model 2</u>	.315	11.859			<.001***
LogFollowers			.102	.421	<.001***
Image Type_Photograph			.014	.010	.851
Image Type_Graphical Illustration			.053	.031	.526
Text present in image			-.164	-.120	.014*
Colors_Multiple colors			.037	.017	.616
Logo present			.005	.005	.899
Subject number_Multiple people			.009	.004	.951
Subject gender_Male			-.129	-.067	.158
Subject gender_Mixed genders			-.388	-.115	.019*
Subject race_Black			.051	.022	.585
Subject race_White			.342	.198	<.001***
Subject race_Other races			.243	.025	.476
Subject race_Multiple races			.484	.139	.007**
Product type_Plant			.486	.271	<.001***
Product type_Buds			.240	.148	<.001***
Product type_Concentrates			.066	.037	.362
Product type_Vapes			.076	.037	.347
Product type_Blunts			.108	.042	.265
Product type_Accessories			.286	.042	.221
Product type_Food			-.035	-.015	.692
Product type_Beverages			-.087	-.039	.314

Table 2.7 (cont.)

Product type_Skin care	-.313	-.078	.029*
Product type_Multiple products	.045	.020	.600
Product type_Other products	-.140	-.054	.151

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Note: Reference categories for each categorical variable are as follows – Image type (reference = Other image), Text present (reference = No text present), Colors in image (reference = Single color), Subject number (reference = Single person present), Subject gender (reference = Female gender), Subject race (reference = no person present), Product type (reference = no product shown).

The fourth and final regression model ran LogComments as the dependent variable with LogFollowers as the control and the other visual communication strategies as the independent variables. Multiple regression was run to inspect if the visual communication strategies predicted the public engagement through comments Instagram posts received. The R^2 for the control model with only LogFollowers was .077. Adding the visual communication strategies and their dummy variables changed the R^2 to .151. Therefore, the model explained 15.1% of the variance, and the model was significant ($F(24, 620) = 4.588, p < .001$). All reference variables were excluded from the model (reference variables are listed in the notes of Table 2.8).

Six of the visual communication strategies were identified as significantly predicting the engagement Instagram posts get through comments on the post: White Subject Race, Multiple Subject Races, Plant Product Type, Buds Product Type, Concentrates Product Type, and Multiple Products all related to LogComments significantly. The White Subject Race category, in reference to the category No Person Present, positively predicted the number of comments a post received ($B = .254, p = .006$), meaning a one unit increase in the use of white subjects in the visual was 28.92% more likely to have an increase in comments. The variable Multiple Subject Races, in reference to the No Person Present category, positively impacted LogComments ($B =$

.438, $p = .029$), suggesting that a one unit increase in posts that used Multiple Subject Races was 54.96% more likely to experience a decrease in comments. All the significant product categories were referenced to the category titled No Product Present. All the significant product types also positively impacted the prediction of LogComments. The Plant Product Type returned regression coefficients of $B = .347$, $p = <.001$, implying that posts were 41.48% more likely to have an increase in comments if there was a one unit increase in the visuals that showed cannabis plants. The Buds Product Type returned regression coefficients of $B = .201$, $p = .007$, meaning a one unit increase in posts that showed buds and cannabis flowers were 22.26% more likely to have an increase in comments left on the post. The Concentrates Product Type returned coefficients of $B = .170$, $p = .038$, meaning a one unit increase in posts that showed cannabinoid concentrates were 18.53% more likely to have an increase in comments left on the post. Finally, the Multiple Products variable returned coefficients of $B = .227$, $p = .021$, meaning a one unit increase in posts that showed more than one product in the image were 25.48% more likely to have an increase in comments. All other variables did not significantly predict comments in the Instagram posts (shown in Table 2.8).

Table 2.8
Regression Coefficients – Comments by Visual Communication Strategies

Independent Variables	R^2	F	B	β	p
<u>Model 1</u>	.077	53.418			<.001***
LogFollowers			.068	.277	<.001***
<u>Model 2</u>	.151	4.588			<.001***
LogFollowers			.072	.290	<.001***
Image Type_Photograph			.064	.047	.435
Image Type_Graphical Illustration			-.025	-.014	.788
Text present in image			-.022	-.016	.771

Table 2.8 (cont.)

Colors_Multiple colors	.063	.029	.456
Logo present	.050	.046	.305
Subject number_Multiple people	-.077	-.031	.641
Subject gender_Male	-.073	-.037	.477
Subject gender_Mixed genders	-.283	-.083	.129
Subject race_Black	.128	.054	.223
Subject race_White	.254	.145	.006**
Subject race_Other races	.259	.026	.501
Subject race_Multiple races	.438	.124	.029*
Product type_Plant	.347	.191	<.001***
Product type_Buds	.201	.122	.007**
Product type_Concentrates	.170	.094	.038*
Product type_Vapes	.085	.041	.349
Product type_Blunts	.023	.009	.835
Product type_Accessories	.239	.034	.366
Product type_Food	.029	.013	.768
Product type_Beverages	-.075	-.034	.442
Product type_Skin care	.092	.023	.571
Product type_Multiple products	.227	.101	.021*
Product type_Other products	-.048	-.018	.665

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Note: Reference categories for each categorical variable are as follows – Image type (reference = Other image), Colors in image (reference = Single color), Subject number (reference = Single person present), Subject gender (reference = Female gender), Subject race (reference = no person present), Product type (reference = no product shown).

DISCUSSION

This study aimed to understand the impact of relationship cultivation strategies and visual communication strategies in the context of the cannabis industry, a controversial industry that is in constant social upheaval. Using content analysis of cannabis companies' Instagram accounts, researchers were able to find the presence of relationship cultivation efforts and their impact on engagement metrics. As discussed below, the findings of this study provided several interesting and important insights that can be used by marketers within and outside the cannabis industry.

Cannabis Companies' Usage of Relationship Cultivation Strategies

According to Ki and Hon (2009), specific RCSs are better at leading to different OPR outcomes, such as trust, commitment, and satisfaction. Using their path model of relationship cultivation strategies and relationship quality outcomes, this study can interpret which relational outcome will be affected based on which relationship cultivation strategies cannabis companies use (Ki & Hon, 2009). The overwhelming presence of the Positivity strategy in cannabis companies' Instagram posts, and the context that cannabis companies deal with distrust from the general public in the U.S., suggest that the companies are making an effort to increase trust with their organization. Using positive emotion and emojis can help redefine some stereotypes surrounding the cannabis industry that relate the product to highly addictive drugs. The context of the COVID-19 pandemic should also be considered when evaluating the total use of Positivity. Social media served as a key form of socialization in a time of social isolation (Tsao et al., 2021). Keeping interactions pleasant and helpful during this time period benefitted both organizations and their publics in many ways, especially cannabis companies reminding their stakeholders that operations would continue throughout the pandemic.

Another strategy that was cited frequently in the data was Networking. It most commonly manifested itself through tagging Instagram accounts that were not directly affiliated with cannabis. Reaching out to accounts that were not directly related to the business or other cannabis organizations suggested that the companies were making efforts to expand their reach to the other account's stakeholders. Much like how companies gain access to influencers' audiences when they partner with that influencer (Childers et al., 2019), tagging and collaborating with accounts that have no original connection to cannabis offer a path to increase legitimacy with other audiences. However, the Networking strategy did have one identifier that was lacking in presence compared to the other identifiers. "Collaborations with the community," the identifier that flagged the use of the keyword "community," was only coded in 3.2% of posts. If cannabis companies wish to expand their influence in the local community, more posts should be made to recognize cannabis's impact on the community they call home. Whether that community be at the international, national, state, or local level, identifying the connections cannabis has with their stakeholders can increase the impact of their corporate social responsibility (CSR) actions (Penner & Clapp, 2020).

The strategy with the third most appearance in the data was Sharing of Tasks. This manifested most in posts that asked the audience to interact with the posts through leaving comments, sharing opinions, liking the post, tagging or sharing the post with other accounts, etc. Further research would be needed to determine if the posts that used that identifier had increased engagement metrics but asking for engagement ties into expanding the audience for the cannabis company's impact reach. The use of the other two identifiers of Sharing of Tasks, "calls to action for cannabis issues" and "calls to action for social issues," were two of the least used strategies of all identifiers (four identifiers were flagged in less than 2% of posts). During a period of social

upheaval due to COVID-19 and the numerous social justice issues that gained national attention in 2020 (Editors TNS, 2020), the lack of calls to action represents an oversight for organizations that wish to connect with their stakeholders on a moral level.

Cannabis Companies' Usage of Visual Communication Strategies

The visual communication strategies offered insights to which audiences the cannabis companies focused on in their social media messaging and what products they centered their marketing around. Regarding the audiences the companies focused on, the demographics of subjects used in the visuals reflected the generally accepted demographics of the cannabis industry as a whole. While there was an equal distribution of genders present in the images, the subject races present in the posts had much different frequencies. The high frequency of white subjects in the visuals reflected the overwhelming majority white people have in the cannabis industry (Bender, 2016). White subjects were noticed nearly two times more than Black subjects. This correlates to the fact that Black people and People of Color (POC) are disproportionately excluded from the cannabis industry through imprisonment or social segregation (Bender, 2016). Tying back to companies relating to stakeholder morals in their messaging, companies that share their morals or exhibit support for POC social justice issues should prove their support through using representation in their visuals.

The most surprising finding in the visual coding results was the high frequency of product images. Social media policies and advertising laws led researchers to believe that the presence of products in images would be moderate or very low. Coding revealed that over 70% of the 645 codable images included images of cannabis or cannabinoid products. More products were also visible in images that were cut from the image coding sample for including videos or moving visuals. This offers hope for cannabis marketers that their products can be seen on social

media. While it is of importance to still play visual communication safe when it comes to cannabis, these findings reflect a shift in public acceptance of cannabis. Future research will show if this holds true, but at this time, companies should be encouraged to show their products on social media platforms with pride.

Effective Relationship Cultivation Strategies for Better Public Engagement

There is an important distinction between relational outcomes on social media and social media engagement. Evaluating the outcomes of relationship cultivation strategies would involve reaching stakeholders to qualitatively ask their feelings about the organization's actions. For purposes of this study, stakeholder opinions of organization actions are evaluated through the engagement metrics for Instagram posts. Engagement metrics and qualitatively asking stakeholders about their opinions may offer opposing findings on which cultivation strategies are more beneficial for organizations' social media planning, which serves as a steppingstone for future qualitative relationship cultivation and cannabis research. In this research, the impact RCSs have on engagement metrics was the main focus.

According to multiple regression analysis, the impact of RCSs on likes and comments on the Instagram posts was split 50/50. Posts that included the strategies of Access negatively impacted likes on a post, while Positivity negatively impacted both likes and comments. Posts that included Access offer avenues off the platform through the inclusion of websites. Stakeholders could follow the website link without returning to the post, causing the post to not receive likes. The negative impact of Assurance implies that efforts to show appreciation for other accounts or promote two-way communication do not translate into higher likes on a post. Considering the high usage of Positivity in the posts, it is within reason that engagement metrics for all posts in the dataset were decreased due to the use of Positivity. As for strategies that

positively impacted engagement, Networking positively impacted likes while Access and Sharing of Tasks positively impacted comments. The positive impact of Networking (i.e., tagging accounts within and outside the cannabis industry) suggest that the companies' efforts to reach new audiences are succeeding. Although posts that used Access had their likes negatively impacted, the number of comments left on the post were predicted to increase with the use of Access. Reasons for this could include stakeholders leaving comments on how to better reach the organization that had their contact information included in the post or asking questions about the listed store hours. The impact of Sharing of Tasks confirms that followers listen to the request to tag other accounts or friends in the comments of a post.

Effective Visual Communication Strategies for Better Public Engagement

As referenced in the discussion of visual communication strategy frequencies, there were a large number of posts that used white subjects as models for their visuals. There were double the number of white subjects as Black subjects and other races. With the posts being sampled from 2020 when there were international calls to recognize systems of racism, companies wishing to get in touch with grassroots action and make systemic change should follow through with those wishes by honoring representation at all levels. Showing white subjects in posts did positively predict the number of likes and comments a post received, but aside from the Multiple Races category positively impacting likes, that category was the only race variable that had any impact on engagement. Ethically speaking, this should not be the case. Cannabis companies, especially those that show support for racially motivated social justice groups, can change the narrative by prioritizing POC in their visuals.

The significant impact generated by including certain cannabis products in visuals indicates that including controversial products in Instagram posts does not hinder the cannabis

company's reach on the platform. This finding should be verified for other platforms in the future, but as far as Instagram is concerned, cannabis companies can increase their engagement with their customers and other relevant stakeholders by modeling their products in visuals, especially if those products can be categorized as grown plants or harvested buds. As for strategies to avoid if a company plans to increase engagement, text in the visuals negatively impacts the total likes on an image. Including text in the picture should be considered deeply by marketers. Including too much text may take attention away from the caption of the post, or it could distract the audience. If text is to be included, it should be absolutely necessary to the audiences' understanding of the post.

Limitations and Future Research

This study was limited to a small sample size to better manage coder workload. Time series analysis couldn't be run on the data as the sample was all taken from one time period. In the future, computational tools may be able to help manage the workload in order to maintain a larger sample size. The context of the COVID-19 pandemic may also impact findings. This research can be repeated after the impact from the pandemic has diminished to an unrecognizable level. This way researchers can evaluate the differences between COVID-19 era data and non-pandemic data. Future research can also include more cannabis companies of many sizes. These findings were developed using the largest cannabis organizations of 2021. Different relationship cultivation plans require different cultivation strategies depending on the reach of the organization, so future research can evaluate which RCSs benefit companies based on their size and marketing goals. The visual coding of this research can also be enriched by employing computer-assisted coding with larger sample size of image data. Coders also ran into the issue of un retrievable images on Instagram. As images were being manually pulled by the author over a

large period after the initial data scraping, some posts or entire accounts had been taken down. Posts were taken down by account holders during the image coding procedures (a total of 11 posts were taken down online after manual data scraping). While this limitation may be an unavoidable problem, manually collecting images saved researchers from losing significant portions of the dataset. In future research, the sample size can be altered to overcome this loss of data.

CONCLUSION

The movement of public relations theory toward a focus on organization public relationships was shown to be beneficial to cannabis companies in this study. Building positive public opinion of the industry and its products could change the narrative of cannabis's legality, thereby making cannabis marketers' jobs easier with the removal of key barriers to success. This study also offers opportunities for relationship management to expand to other controversial industries that seek to improve their public opinion.

This research also serves as an example for considering the context of the law and a worldwide health crisis on public relations practice. Although the legality of cannabis is in constant motion, it is not leaving the social landscape any time soon. Cannabis companies have also been shown to have financial and social benefits for communities large and small in the U.S. (Penner & Clapp, 2020). Cooperation with the businesses can have a positive impact on the surrounding communities and their organizations. Therefore, it is imperative that public relations practitioners know how to handle cannabis marketing and partnerships within the cannabis industry. Regarding the COVID-19 pandemic, the results from this study could be heavily impacted by the forced exodus to online communication due to social distancing requirements. The context of COVID is also not going anywhere as society has incorporated pandemic

practices into daily life after the major effects of the pandemic have subsided. The pandemic's exact impact on these findings will have to be evaluated in future research, but increased use of social media could aid public relations research in determining validity of social media content analysis with larger engagement metrics.

Above all, cannabis is not going anywhere. It is up to public relations practitioners to incorporate it into future research to understand public sentiment towards controversial industries and the relationships that form within them.

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APPENDIX A

Cannabis Companies Evaluated

Table A.1

Cannabis Companies Used in Sample

Company Name	Instagram Username	Times referenced in sample (#)
1906	1906newhighs	18
710labs	710labs	1
AbsoluteXtracts	absolutextracts	16
Alienlabs 🧐 🌌	alienlabs	13
Autumn Brands	autumnbrands	16
Belushi's Farm	belushisfarm	23
Binske®	binske	6
BLOOM BRANDS	thebloombrands	10
Cann	drinkcann	11
Canndescent	canndescent	6
Claybourne Co.	claybourne_co	19
Coda Signature	coda.signature	5
Colorado Harvest Company	coloradoharvestco	11
Connected CA	connected.california	4
Cookies	cookieslosangeless	4
Cream of the Crop Gardens	cotc_gardens	27
CULTA	cultaig	25
Dixie Brands	dixiebrandsofficial	12
East Fork Cultivars	eastforkcultivars	3
FloraCal Farms	floracalfarms	13
FORIA	foriawellness	26
Gage	gagecannabis	28
Garden Society	grdnsociety	15
GKUA Ultra Premium	gkuaofficial	26
Grassroots Cannabis	grassrootscompanies	6
Her Highness Canna Glamorous	herhighnessnyc	4
Ignite CBD	ignitecbd	5
Jungle Boys	jungleboys	67
Keef Brands	keefbrands	10
Kiva Confections	madebykiva	12
Kush Queen Shop	kushqueenshop	65
Left Coast Extracts	leftcoastextractsca	22
LEGION of Bloom ™	thelegionofbloomca	22
Lowell Farms	lowellfarms	8
Marley Natural	marleynatural	1
Mary's Medicinals ®	marys_medicinals	9

Table A.1 (cont.)

Melting Point Extracts	mpx_us	42
NETA Now	neta_now	13
OLD PAL PROVISIONS	oldpal	9
Oregrown	oregrownindustries	4
Papa & Barkley CBD	papaandbarkley.cbd	1
Platinum Vape	pv.official	31
PLUS Products	plusproductsthe	12
PLUS Products Hemp CBD	plusproducts	10
Quim	its.quim	28
Raw Garden	rawgarden	3
Rebel Coast	rebelcoastwinery	21
ROVE	rovebrand	25
Rythm	rythm_official	18
S M O K I E Z	smokiezhandcrafted	29
Saucey Farms & Extracts	sauceyextracts	26
Seed And Smith	seedandsmith	23
Select	select.better	8
Serra	shop_serra	13
SHERBINSKIS	sherbinskis	7
Sira Naturals	sira_naturals	18
Skymint Cannabis	skymintcannabis	25
Space Coyote	spacecoyote	19
STAY STIIIZY	stiiizy	35
Sunday Goods	sundaygoods	16
Surterra Wellness	surterrawellness	29
Sweet Releaf	sweetreleaf	9
Terrapin	instaterrapin	20
TikunCA	tikun.ca	5
Trulieve	trulieve_fl	81
Tyson Ranch TM	tysonranchofficial	5
Valhalla Confections	valhallaconfections	2
verano TM brands	veranobrands	4
Verde Natural Living Soil	verdenaturallivingsoil	6
Viola	viola	7
Wana Brands	wanabrands	13
Willie's Reserve	williesreserveofficial	21
Winberry Farms	winberryfarms	16
Wyld CBD TM	wyld_cbd	10
WYLD TM	wyld_canna	10
WE SPEAK CANNABIS	fluent_cannabis	32

APPENDIX B

Intercoder Reliability Results

Table B.1

Intercoder Reliability Results of Relationship Cultivation Strategies Coding

Variables	Percent Agreement	Scott's Pi	Cohen's Kappa	Krippendorff's Alpha	N Cases
Post themes	98.44	0.97	0.97	0.97	128
Hashtag presence	100.00	1.00	1.00	1.00	128
Number of hashtags	99.22	0.99	0.99	0.99	128
Contact information	100.00	1.00	1.00	1.00	128
Store hours	100.00	1.00	1.00	1.00	128
Website link	98.44	0.91	0.91	0.91	128
Expressions of gratitude for customer support	99.22	0.88	0.88	0.89	128
Expressions of gratitude for other stakeholders	97.66	0.81	0.81	0.81	128
Confirmation of concern	100	1.00	1.00	1.00	128
* Information for documentation of reports or official business material	99.22	0.00	0.00	0.00	128
Statistics for business success	100.00	1.00	1.00	1.00	128
Evidence of negative effects/risks of cannabis	100.00	1.00	1.00	1.00	128
Conversation starters	98.44	0.96	0.96	0.96	128
Human voice present	100.00	1.00	1.00	1.00	128
Positive emotion	99.22	0.98	0.98	0.98	128
Positive emojis	98.44	1.00	1.00	1.00	128
Collaborations with local community	98.44	0.79	0.79	0.79	128
Collaborations with groups within cannabis industry	99.22	0.97	0.97	0.97	128

Table B.1 (cont.)

Collaborations with groups outside cannabis industry	98.44	0.94	0.94	0.94	128
Asking users to engage with the post	99.22	0.97	0.97	0.97	128
Calls to action within cannabis industry	100.00	1.00	1.00	1.00	128
Calls to action for social issues	99.22	0.85	0.85	0.85	128

*The variable “information for documentation of reports or official business material” had no significant presence during intercoder reliability training. Therefore, that variable was omitted from the finalized codebook.

Table B.2*Intercoder Reliability Results of Visual Communication Strategies Coding*

Variables	Percent Agreement	Scott's Pi	Cohen's Kappa	Krippendorff's Alpha	N Cases
Image theme	88.57	0.71	0.72	0.72	70
Image type	94.29	0.78	0.78	0.78	70
Text-based image	94.29	0.83	0.83	0.83	70
Main color theme	94.29	0.74	0.75	0.75	70
*Logo	92.86	0.86	0.86	0.86	70
*Company name	95.71	0.38	0.39	0.38	70
# of human subjects	91.43	0.76	0.76	0.77	70
Gender	92.86	0.81	0.81	0.81	70
Race	91.43	0.77	0.77	0.77	70
Product presence	90.00	0.78	0.78	0.78	70
Type of product	78.57	0.74	0.75	0.75	70

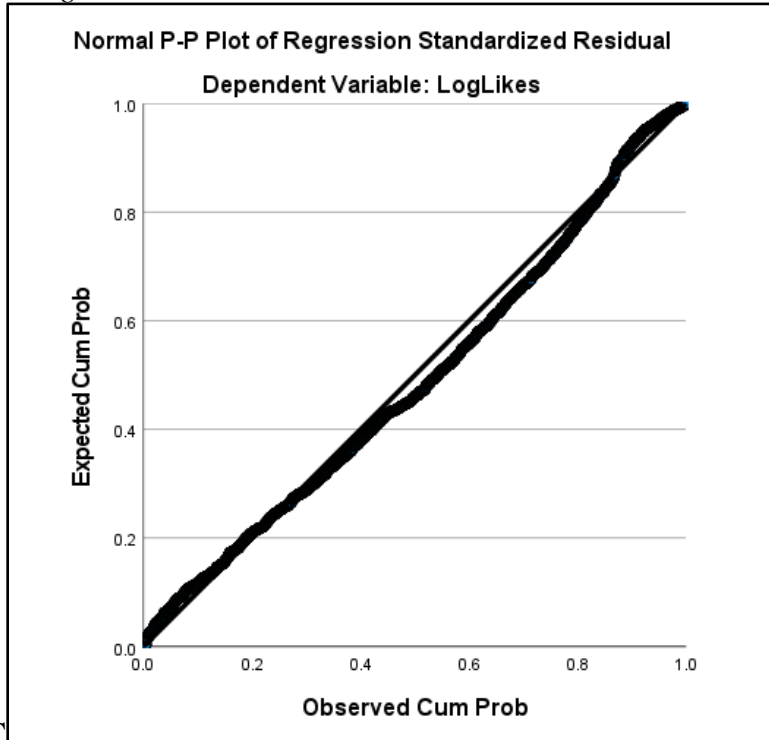
*The variable “company name” reached low intercoder reliability due to the confusion between logo and company name presented in the image. After meeting with the other coder, the confusion was clarified, and this variable was removed from the finalized codebook. In the finalized codebook, the variable “Logo” was revised to “Logo or company name” to indicate branding in the image.

APPENDIX C

Assumptions of Regression Models

Figure C.1

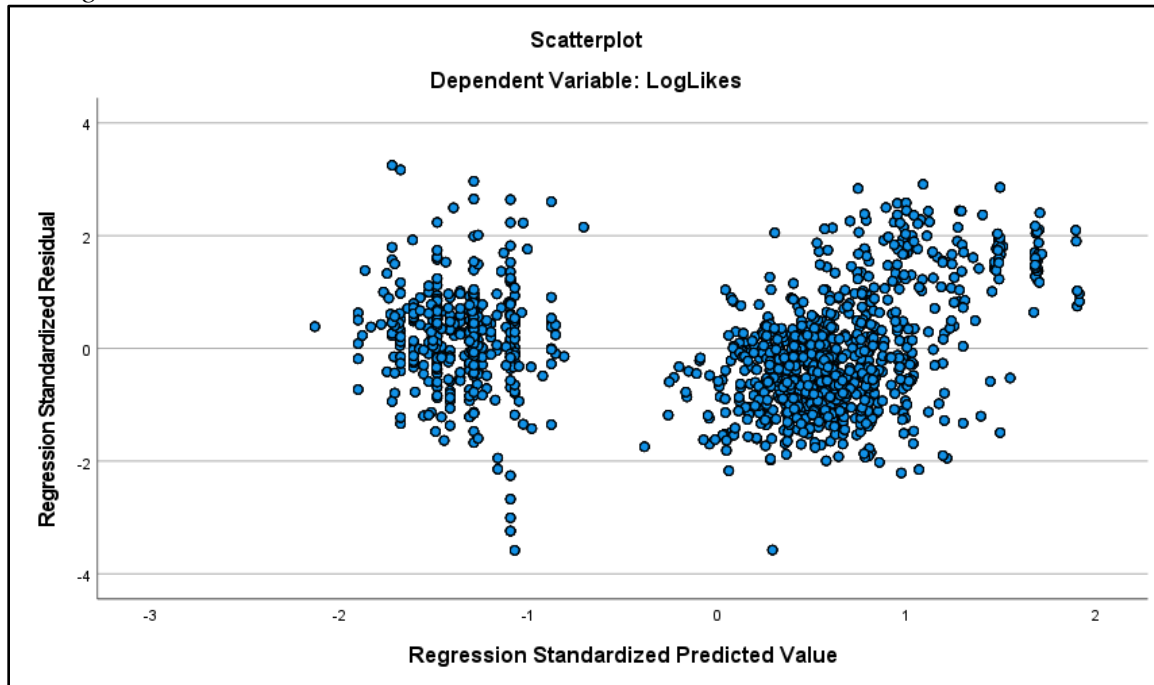
Normal P-P Plot for Checking Normality of Regression Model - Relationship Cultivation Strategies and Likes



Note: This assumption verifies the validity of the regression model testing LogLikes by the RCSs and LogFollowers.

Figure C.2

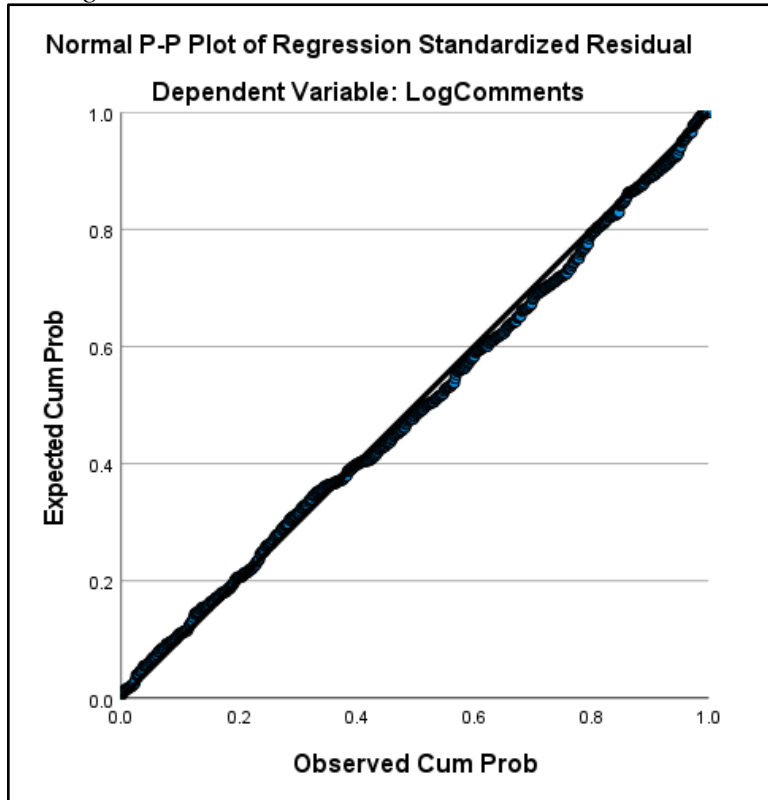
Scatterplot for Checking Homoscedasticity of Regression Model - Relationship Cultivation Strategies and Likes



Note: Although this check for homoscedasticity of LogLikes contains patterns, the scatterplot checking the homoscedasticity of Likes without being log transformed was unacceptable. Therefore, regression continued with the log transformed version of Likes.

Figure C.3

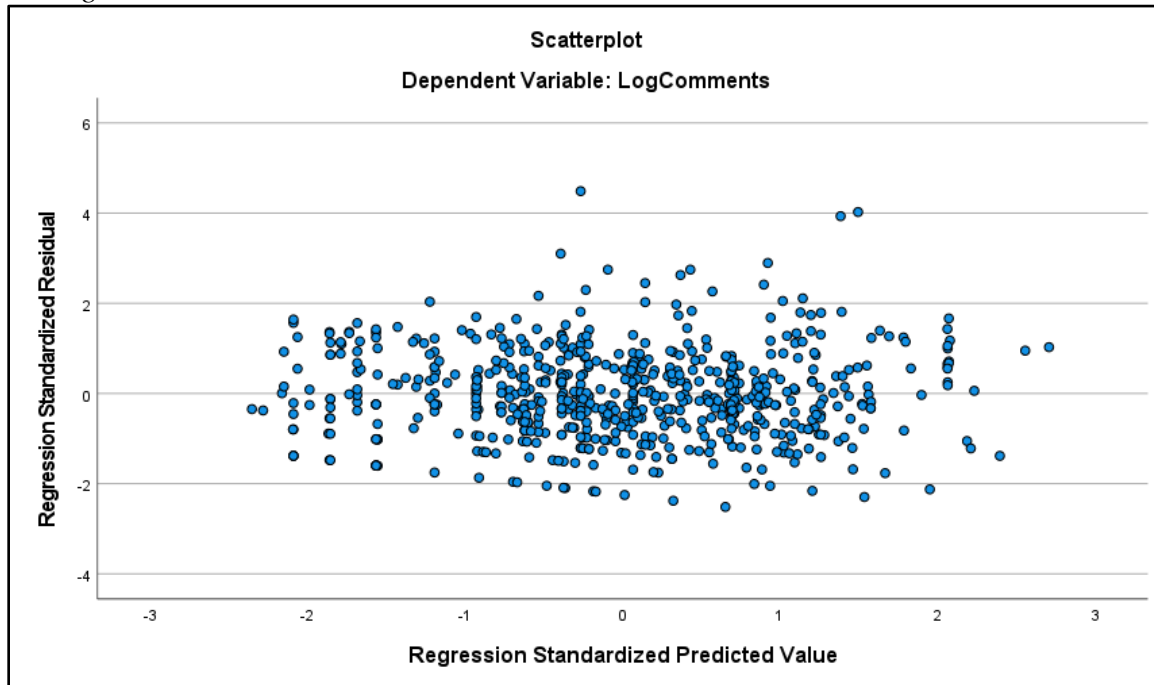
Normal P-P Plot for Checking Normality of Regression Model - Relationship Cultivation Strategies and Comments



Note: This assumption verifies the validity of the regression model testing LogComments by the RCSs and LogFollowers.

Figure C.4

Scatterplot for Checking Homoscedasticity of Regression Model - Relationship Cultivation Strategies and Comments



Note: Just as the homoscedastic test for LogLikes showed some patterning, there is grouping visible in the LogComment homoscedastic test. However, the test contained much more grouping for non-logged transformed Comments. Therefore, the log transformed version of Comments was used for regression.

Table C.1

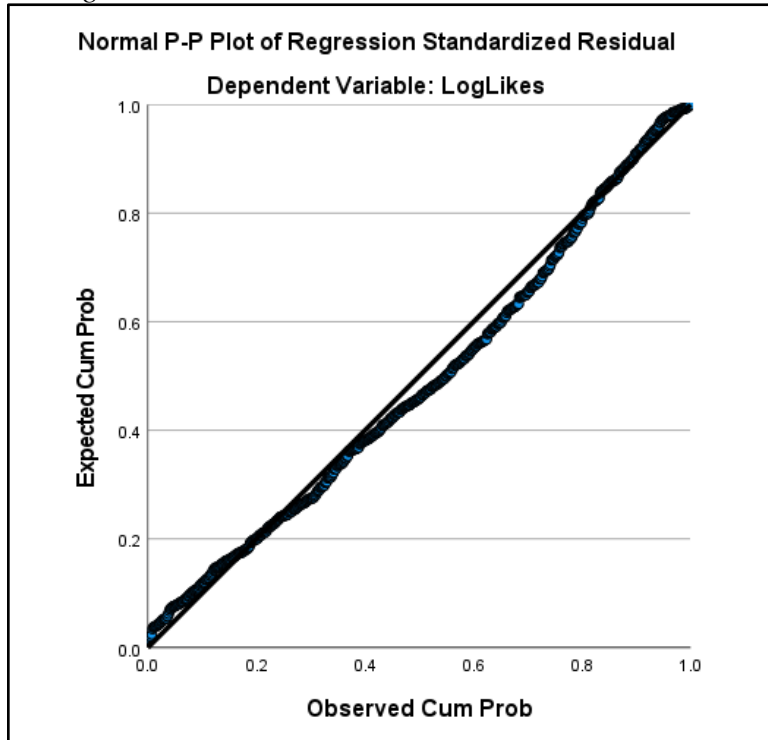
Collinearity Statistics for Checking Absence of Multicollinearity - Relationship Cultivation Strategies

Independent Variables	Collinearity Statistics	
	<i>Tolerance</i>	<i>VIF</i>
<u>Model 1</u>		
LogFollowers	1.000	1.000
<u>Model 2</u>		
LogFollowers	.982	1.018
Access	.953	1.049
Assurance	.919	1.088
Openness	.985	1.015
Positivity	.884	1.131
Networking	.944	1.059
Sharing of Tasks	.890	1.124

Note: All variables pass the collinearity test as all variables have a VIF of < 10.

Figure C.5

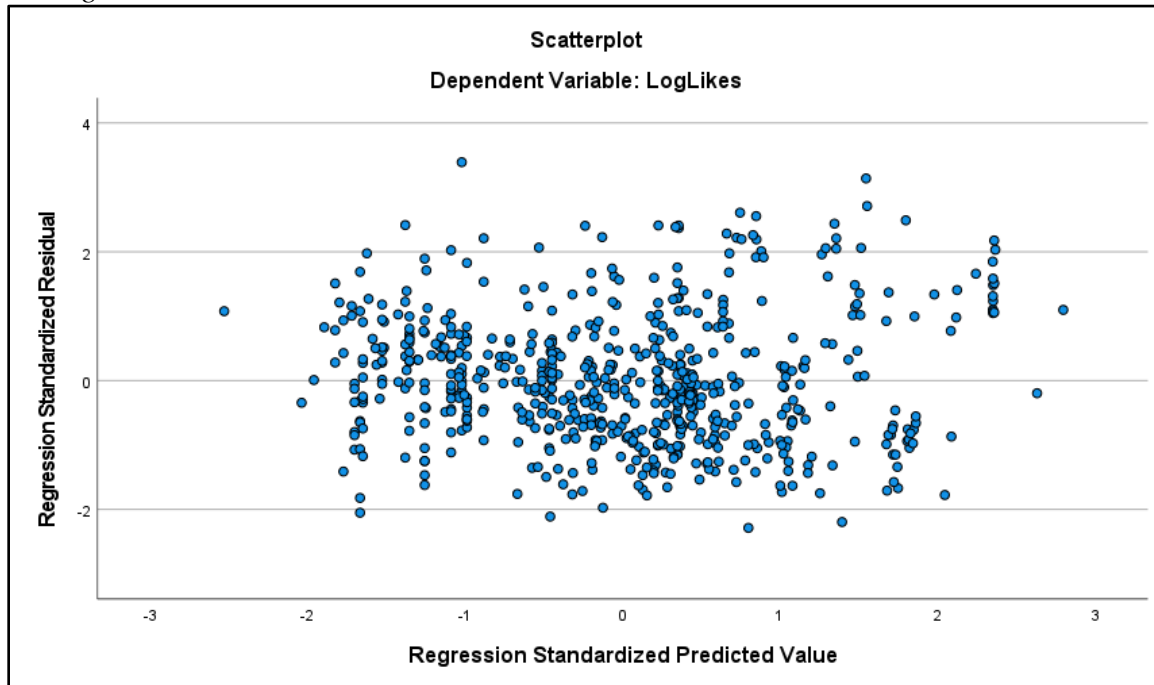
Normal P-P Plot for Checking Normality of Regression Model - Visual Communication Strategies and Likes



Note: This assumption verifies the validity of the regression model testing LogLikes by the Visual Communication Strategies and LogFollowers.

Figure C.6

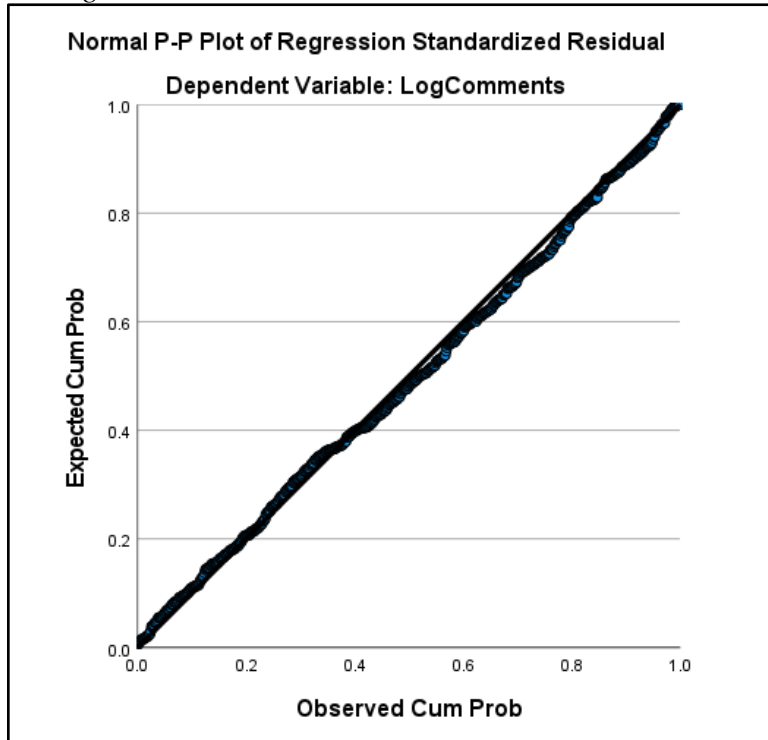
Scatterplot for Checking Homoscedasticity of Regression Model - Visual Communication Strategies and Likes



Note: This assumption verifies the validity of the regression model testing LogLikes by the Visual Communication Strategies and LogFollowers.

Figure C.7

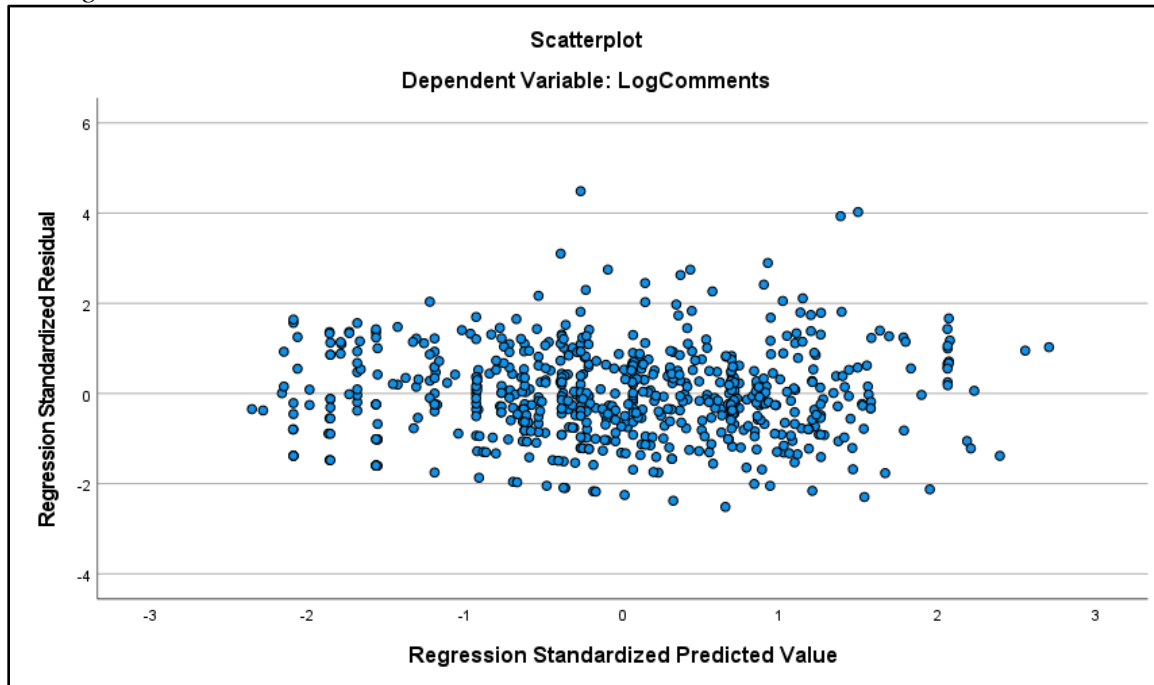
Normal P-P Plot for Checking Normality of Regression Model - Visual Communication Strategies and Comments



Note: This assumption verifies the validity of the regression model testing LogComments by the Visual Communication Strategies and LogFollowers.

Figure C.8

Scatterplot for Checking Homoscedasticity of Regression Model - Visual Communication Strategies and Comments



Notes: This assumption verifies the validity of the regression model testing LogComments by the Visual Communication Strategies and LogFollowers.

Table C.2

Collinearity Statistics for Checking Absence of Multicollinearity – Visual Communication Strategies

Independent Variables	<u>Collinearity Statistics</u>	
	Tolerance	VIF
<u>Model 1</u>		
LogFollowers	1.000	1.000
<u>Model 2</u>		
LogFollowers	.939	1.065
Image Type_Photograph	.372	2.685
Image Type_Graphical Illustration	.472	2.117
Text present in image	.467	2.144
Colors_Multiple colors	.914	1.095
Logo present	.698	1.433
Subject number_Multiple people	.313	3.199
Subject gender_Male	.498	2.009
Subject gender_Mixed genders	.463	2.160
Subject race_Black	.695	1.440
Subject race_White	.491	2.035
Subject race_Other races	.900	1.111
Subject race_Multiple races	.423	2.362
Product type_Plant	.656	1.525
Product type_Buds	.661	1.513
Product type_Concentrates	.673	1.486
Product type_Vapes	.720	1.389
Product type_Blunts	.773	1.293
Product type_Accessories	.959	1.043
Product type_Food	.757	1.321
Product type_Beverages	.721	1.388

Table C.2 (cont.)

Product type_Skin care	.862	1.161
Product type_Multiple products	.723	1.383
Product type_Other products	.789	1.268

Note: All variables pass the collinearity test as all variables have a VIF of < 10.