Discussion

Choosing not to follow rules that will reduce the spread of COVID-19

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ABSTRACT

In response to the COVID-19 pandemic, many authorities have implemented public health measures that place restrictions on individuals. Understanding how individuals respond to these new rules, particularly whether they are likely to follow or break them, is extremely important. Relational frame theory offers unique insights into rule-governed behavior, allowing researchers to develop functional-analytic interpretations of why a listener may understand a rule, have the required response established in their behavioral repertoire, and still choose not to follow the rule. Drawing from research on rule-following in accordance with relational frame theory and cognitive neuroscience, social psychology, and health literature, this paper presents reasons why a rule may be understood but not followed, identifying important considerations for implementing public health measures to reduce the spread of COVID-19. Specifically, rule-givers should attend to their credibility, authority and ability to mediate consequences, rule plausibility, establishing adequate motivative augmental control, whether the behavior specified in the rule opposes habits, and whether the message incites counterpliance.

1. Introduction

In behavior analysis, behavior under the control of direct environmental contingencies is distinguished from behavior under the control of rules (Hayes, Barnes-Holmes, & Roche, 2001). Relational frame theory (RFT) can offer important insights into rule-governed behavior, allowing researchers to develop functional-analytic interpretations of how rules are understood (O'Hora & Barnes-Holmes, 2004). Rule-governed behavior in accordance with RFT is an increasingly popular research avenue (Kissi et al., 2017; Ruiz, Suárez-Falcón, Barbero-Rubio, & Flórez, 2019; Stapleton & McHugh, 2020) that is of particular interest during the current Coronavirus (COVID-19) pandemic. As authorities implement new public health measures to reduce the spread of COVID-19, it is extremely important to understand how individuals respond to these new rules, particularly whether they are likely to follow/break them.

This paper describes why an individual may understand the rules and restrictions in place during the COVID-19 pandemic, but still choose not to comply. Determining why a rule may be understood but not followed is important if we are to influence behavior. I will begin by presenting a brief overview of rule-following in accordance with RFT (illustrated using a COVID-19 specific example). Next, drawing from RFT research, cognitive neuroscience, social psychology, and health literature, I will present reasons why a rule may be understood but not followed, with suggestions for reducing the probability of rule-breaking in the context

of pandemic restrictions presented throughout. It is important to note that this paper adopts the RFT perspective of rule-governed behavior, wherein rules include verbal antecedents (Hayes, Gifford, & Hayes, 1998). I use the term "*rule*" as a general means to orient readers towards a particular behavioral class. I use "*speaker*" to refer to the rule-giver and "*listener*" to refer to the rule-recipient (although these can be the same person). Adherence and compliance are treated as translational concepts tied to rule-following.

2. Rule-governed behavior in accordance with RFT

In accordance with RFT, verbal organisms (i.e., humans) are uniquely qualified to relate stimuli according to arbitrary contextual cues (i.e., not just formal non-arbitrary properties) (Hayes et al., 2001). For example, a nonverbal organism can easily learn to select the coin that is larger in size when presented with a five-cent coin and a ten-cent coin (i.e., learn to select the five-cent coin), but verbal organisms can learn via arbitrary contextual cues that a five-cent coin is worth less than a ten-cent coin (Vilardaga, Hayes, & Schelin, 2007). In this example, the verbal organism is engaged in arbitrarily applicable relational responding (Vilardaga et al., 2007). Individuals with a repertoire of relational framing can derive relations without direct training. In this way, derived relational responding allows verbal organisms to relate stimuli in a myriad of ways regardless of a history of direct

reinforcement for relating those specific stimuli in those specific ways (Blackledge, 2003). Extending the previous example, given that a five-cent coin is worth less than a ten-cent coin, it follows that a ten-cent coin is worth more than a five-cent coin (mutual entailment). Similarly, if told that a one-cent coin is worth less than a five-cent coin, a verbal organism can derive that a one-cent coin is also worth less than a ten-cent coin (combinatorial entailment). Relational responding in this way results in transformation of stimulus functions for all stimuli in the relational network (i.e., once the organism derives that a one-cent coin is worth less than a ten-cent coin, the one-cent coin is likely less desirable than the ten-cent coin).

Transformation of stimulus function is the foundation of the RFT account of rule-governed behavior. Transformation of function explains how arbitrary stimuli (i.e., words in a rule) reference and acquire the properties of another stimulus, providing a functional-analytic account of how rules come to "specify" contingencies (O'Hora & Barnes-Holmes, 2004). Transformation of function also elucidates how rule-governed behavior can occur long after the rule was delivered. Essentially, the words in rules acquire stimulus functions indirectly by participating in relational networks (i.e., a series of arranged stimuli relations), not through a direct history of reinforcement per se. From an RFT perspective, rules are verbal antecedents comprised of transformations of function according to multiple stimulus relations (Barnes-Holmes et al., 2001; O'Hora & Barnes-Holmes, 2004). Rules reflect a complex relational network that, in their simplest form, include frames of coordination (i.e., words in the rule can refer to specific stimuli) and comparison, temporal and/or causal frames (i.e., the rules specifies a temporal antecedent and consequence) (Barnes-Holmes et al., 2001; Törneke, Luciano, & Valdivia-Salas, 2008). Rule-governed behavior refers to behavior under the control of a rule. The term rule-governed behavior is more likely to be used when a) part of the source of behavioral control is the comparison between the rule and the verbal construction of ongoing events, b) nonarbitrary environmental features are abstracted and transformed, and c) the verbal network is generally applicable (Barnes-Holmes et al., 2001).

Before presenting a practical example to illustrate rule-governed behavior in accordance with RFT, it is important to present some considerations. Diverging from Skinner's (1957) traditional approach to verbal behavior, the RFT account of rule-governed behavior typically deals with rules from the perspective of the listener. The function of the rule for the listener may or may not align with the topographical contingency presented in the rule or how the speaker intended the rule (Hayes & Hayes, 1989). This stems from how rules specify stimuli. Simply put, functions of a rule for the individual depend on how the rule participates in the individual's relational network (Hayes & Hayes, 1989). This is not to say that understanding a rule is a "mental" event, rather understanding a rule is the act of organizing verbal stimuli into relational frames so that stimulus functions transfer throughout relational networks (Hayes & Hayes, 1989). Adopting the perspective of the listener means that in empirical work, participants' pre-experimental learning histories are highly relevant. Moreover, researchers using examples to describe classes of rule-governed behavior should ensure they reflect the listener's perspective.

2.1. Illustrating rule-governed behavior in accordance with RFT

Consider the following scenario, an individual hears a representative from the World Health Organization advise that "*if we are to reduce the spread of COVID-19, we must maintain at least 1 m of distance between ourselves and others*". The individual listens and understands this rule as "*I must engage in social distancing in order to reduce the spread of COVID-19*". Consequently, because the individual wants to reduce the spread of COVID-19, they avoid crowds and getting too close to others. In this instance, the individual is both understanding and following a rule delivered by the World Health Organization.

The account of rule-governed behavior in accordance with RFT

provides insight into how this rule was understood, specifically via relational frames organized into a network. Word classes (e.g., COVID-19) are framed in coordination (i.e., the same as) with some event classes (e.g., the actual COVID-19 virus) and distinction with others (i.e., the actual act of social distancing). Reducing COVID-19 is framed conditionally (i.e., if-then) with engaging in social distancing. This rule alters the functions of getting close to others, with transformations of stimulus function connecting the act of "social distancing" to the consequence of "reducing the spread of COVID-19". When the individual is in close proximity with others, if the individual accurately discriminates their behavior in that moment, then it is no longer the same experience. Its function has been transformed due to its participation in a relational network the individual has built based on the rule that the World Health Organisation delivered. See Fig. 1.

In this example, the individual understood the rule and the required response was already established in their behavioral repertoire (i.e., the individual knew how to engage in social distancing). However, a rule may be understood, the required response may be established in the listener's repertoire, and yet the listener may choose to not follow the rule (Hayes et al., 1998). Barnes-Holmes et al. (2001) list ways to approach an individual's decision to not follow a rule despite having the relevant behaviors available in their repertoire. Similarly, based on the literature underpinning the cognitive neuroscience of habits, Vahey, Bennett, and Whelan (2017) describe features of instrumental behavior which make it particularly likely to become habitual. Given that this bank of habit research is compatible with RFT, Vahey et al. (2017) offer important insights into why a listener may not adhere to guidelines aiming to reduce the spread of COVID-19. Drawing on Barnes-Holmes et al. (2001) and Vahey et al. (2017), I will now present a brief overview of why an individual may understand the rules and restrictions in place during the COVID-19 pandemic, but opt to not follow the rules despite their importance.

3. Why rules may be understood but not followed

3.1. Speaker credibility

A rule is less likely to be followed if it is provided by someone that the listener perceives as having little credibility (Barnes-Holmes et al., 2001; Törneke et al., 2008). Credibility may be acquired directly or verbally, with formal or relational means of generalization from one speaker to another (Barnes-Holmes et al., 2001). For example, if a listener perceives a speaker as knowledgeable, then they are more likely to follow rules delivered by this speaker because being knowledgeable is perceived as an apparent predictor of rule accuracy.

The influence of speaker credibility on rule-following has been observed in the literature on compliance and obedience. For example,
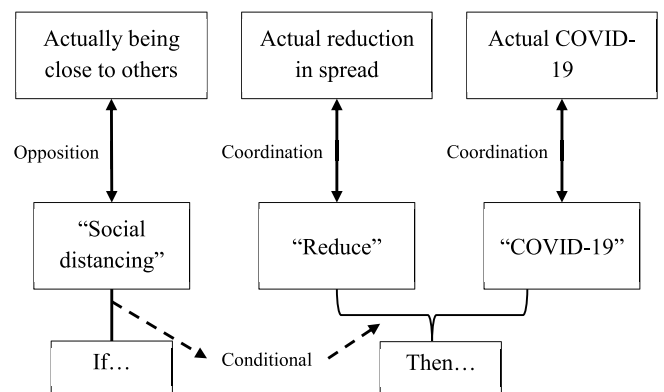
Fig. 1. Simplistic visual representation of how events in the rule "*I must engage in social distancing in order to reduce the spread of COVID-19*" may be organized into a relational network.

Milgram (1974) observed that when a uniformed experimenter was replaced by an ordinary member of the public (confederate), obedience drastically decreased. One of many interpretations for this finding is that participants likely perceived the ordinary member of the public as less credible (i.e., participants perceived rules delivered by ordinary members of the public as less accurate than rules delivered by a uniformed expert). Beyond the compliance literature, recent research has shown health information source credibility significantly impacts the way individuals receive the message, with greater perceived credibility associated with greater intention to act on the advice (Lin, Hwang, & Lai, 2017; Wang, Walther, Pingree, & Hawkins, 2008). There is some preliminary RFT evidence supporting the existence of variability in rule-following in accordance with speaker credibility. Specifically, despite employing a similar methodology, Baruch, Kanter, Busch, Richardson, and Barnes-Holmes (2007) and McAuliffe, Hughes, and Barnes-Holmes (2014) observed different patterns in rule-governed behavior. In the former study, rules were delivered by a graduate student whereas, in the latter, rules were delivered by a Catholic priest and teacher at the participants' school. While Baruch et al. (2007) and McAuliffe et al. (2014) differed in other important ways (e.g., the use of raffle ticket reinforcers versus guaranteed reinforcers), speaker credibility would appear to impact rule-governed behavior (i.e., students likely perceived the teacher as highly credible based on their learning histories and therefore adhered to their rules).

In the context of rule-following during the COVID-19 pandemic, if an individual does not perceive the speaker delivering health advice as credible, then they are less likely to adhere to the recommendations. "*Why should I do as they say? What would they know?*". For example, you may be more likely to adhere to regulations presented by a representative from the World Health Organization than your aunt on your Facebook timeline. Therefore, in order to promote adherence to rules, speakers must be established as credible. It is important to note that overemphasizing credibility can promote rigid rule-following (Villatte, Villatte, & Hayes, 2016). In an ideal world, a speaker would be established as credible by encouraging the listener to track whether their rules are accurate (Luciano, Valdivia-Salas, & Ruiz, 2012).

3.2. Authority and reinforcer availability

A rule is less likely to be followed if the listener believes the speaker has limited capacity to mediate consequences (Barnes-Holmes et al., 2001). Specifically, rule deviations can stem from listeners' perception of limited speaker ability and willingness to mediate consequences and/or their verbally ascribed powers of authority (Törneke et al., 2008). For example, in the context of ability to mediate consequences, a child may follow rules delivered by their parent but not their sibling because reinforcers are delivered by the former (Törneke et al., 2008). In the context of authority, a child may not adhere to rules delivered by their stepdad, "*I don't have to do as you say, you're not my real dad*". Although linked to speaker credibility, this approach to understanding why listeners may not follow rules differs in that it is not the apparent accuracy of the rule but perceived availability of consequences that is of interest.

Returning to the compliance literature, authority and perceived ability to mediate consequences do appear to impact rule-following. An alternative interpretation of the aforementioned Milgram (1974) uniform variation study is that participants believed the ordinary member of the public was less able to enforce consequences for rule compliance/non-compliance. Therefore, the participant is less likely to comply with rules delivered by the confederate than those delivered by the experimenter. Similarly, Bickman (1974) reported that individuals were more likely to comply with rules delivered by a guard than a civilian or milkman. This could be due to participants perceiving guards as having a greater capacity to enforce consequences (e.g., enforcing a fine) for non-compliance. In the context of authority, both the Milgram (1974) and Bickman (1974) examples could be interpreted as

participants believing they must do as experimenters/guards say. Within the RFT literature, authority does appear to impact rule-following. Donadeli and Strapasson (2015) found that monitoring increased the probability that the participants would follow rules, with participants exposed to verbal reprimands maintaining rule-following even when it was no longer advantageous to do so. In this study, the presence of an authoritative figure (i.e., the experimenter) who knew whether rules were being followed and would reprimand participants, increased rule-following.

In the context of rule-following during the COVID-19 pandemic, if a speaker does not have the authority/does not appear to be able to mediate consequences for following the rule, then a listener will be less likely to adhere to their rules. "*What right have you to enforce these rules? What will you do if I don't follow these rules?*". For example, an armed guard telling you to wear personal protective equipment will likely be more effective in producing rule-following than your younger sibling telling you the same thing (i.e., the guard has authority and an ability to deliver consequences that your younger sibling does not). Therefore, in order to promote adherence to rules, speakers should ensure the listener believes they have authority and can deliver consequences for non-compliance. For example, a government official presenting restrictions for social distancing in line with recommendations from the World Health Organisation (i.e., they have authority) may refer to guards patrolling the streets to monitor individuals' rule-following (i.e., they can enforce consequences).

3.3. Rule plausibility

A rule is less likely to be followed if the listener perceives it as implausible (Barnes-Holmes et al., 2001). Simply put, if a rule's relational network is contradictory or incoherent with the listener's learning history, it is less likely to be followed (Törneke et al., 2008). For example, consider the rule "*if you want to predict and influence behavior, then you must adopt a mechanistic approach and focus on describing behavior*". For functional contextualists, this rule would be incoherent with their existing relational networks and thus is unlikely to be followed. Related to rule plausibility is perceived self-efficacy, wherein the extent to which the listener believes they can follow the rule impacts whether it is followed (Barnes-Holmes et al., 2001). Simply put, if an individual believes they are incapable of successfully engaging in the behaviors specified in the rule, then they are less likely to follow the rule.

The influence of rule plausibility has been addressed in treatment adherence literature. For example, if a physician wants to improve an individual's adherence to a regimen/treatment plan, then the physician must acquire an understanding of the individual's knowledge and perception of the proposed treatment (Martin, Williams, Haskard, & DiMatteo, 2005). Patient involvement and participatory decision making can increase rule-following by allowing physicians to address perceived incoherencies (Martin et al., 2005). Similarly, this approach allows the individual to examine perceived self-efficacy and work with their physician to tailor regimens as required. Moreover, individuals with higher levels of health literacy report greater adherence than those with lower health literacy (Miller, 2016). One interpretation of this finding is that rules regarding treatment are more coherent (i.e., plausible) for individuals with high health literacy, meaning they are more likely to be followed. Within the RFT literature, there is tentative support for the influence of rule plausibility on rule-following. Consider experimental work on pliance and tracking involving contingency insensitivity (e.g., O'Connor, Byrne, Ruiz, & McHugh, 2019). During these experiments, reward and punishment contingencies are systematically modified (i.e., responses that were previously reinforced are no longer reinforced, while responses that were previously not reinforced are now reinforced). During contingency shifting phases, participants may begin to form new rules about what will maximize their access to reinforcers. However, these new rules are incoherent with the previous

rules and therefore are less likely to be followed right away.

In the context of rule-following during the COVID-19 pandemic, if a rule is contradictory or incoherent with the listener's learning history then it is unlikely to be followed. For example, even if an authoritative figure tells you that injecting disinfectant may kill the virus, you are unlikely to attempt this if your learning history allows you to frame "ingesting disinfectant" in opposition to "staying alive". Therefore, in order to promote adherence to evidence-based rules to reduce the spread of COVID-19, speakers must ensure their rules are sensical within listeners' learning histories, extending listeners' relational networks as required. This will be particularly important when professionals are communicating with the public about COVID-19 immunity (e.g., COVID-19 is not the same as the chickenpox so claims about immunity may be incoherent for some). Regarding perceived self-efficacy, a listener must believe they can follow the rule. This could be achieved by reassuring listeners of their capabilities, modifying the rule based on listener feedback, or even teaching the listener how to follow the rule.

3.4. Insufficient motivative augmental control

A rule is less likely to be followed if it does not feature adequate motivative augmentals (Barnes-Holmes et al., 2001). Motivative augmentals change the reinforcing value of consequences specified in the rule, temporarily altering the degree to which established consequences serve as reinforcers or punishers (Ju & Hayes, 2008; Törneke et al., 2008). Simply put, motivative augmentals alter our interest in existing consequences (Villatte et al., 2016). This is often achieved by bringing distant consequences to the present via language or encouraging clients to contact natural and social reinforcers (Barnes-Holmes et al., 2001; Ju & Hayes, 2008; Villatte et al., 2016). Connecting a rule to an individual's values/what matters to them makes it more likely to be followed.

The influence of motivation on rule-following has been addressed in treatment adherence literature, with greater motivation linked to greater adherence to rules (Varming, Hansen, Andrésdóttir, Husted, & Willaing, 2015; Vermeire, Hearnshaw, Van Royen, & Denekens, 2001). In the context of health, when appropriate, physicians can establish motivative augmentals by ensuring patients perceive their medical conditions to be serious and understand that they are at risk if they do not change (Atreja, Bellam, & Levy, 2005). Consider the following example of an individual aged 65 who has chronic lung disease in the context of the COVID-19 pandemic. When first advised to cocoon (i.e., stay at home at all times and avoid any face-to-face contact), they did not comply due to low perceived self-efficacy, "*I can't cope with being cooped up for that long*". However, after speaking to their physician, they were informed that unless they cocoon, they are in immediate danger. Following this, the individual began cocooning, despite previous failed attempts to do so. In this example, the individual evaluates the immediate effects of following the rule less negatively by valuing the consequences of following the rule more highly (i.e., coping with being cooped up is less aversive than being in immediate danger). In line with this, within the RFT literature, researchers have demonstrated that consequences may be altered in accordance with comparative framing (Whelan, Barnes-Holmes, & Dymond, 2006).

In the context of rule-following during the COVID-19 pandemic, a rule is less likely to be followed if it is not linked to what the listener cares about. "*Why should I stay at home? I'm not going to die if I get sick*". For example, individuals may break lockdown restrictions to meet up with friends if they do not believe they are at risk. To reconnect rules to what matters to listeners, speakers should set up appropriate motivative augmentals. For example, imagine now that the individuals breaking lockdown are reminded that they are putting their family members at risk. "*You may not get sick and die but you could infect your family and they could get sick*". If this reminder changes the probability of these individuals breaking lockdown, then it is functioning as an adequate motivative augmental. It is important to note that listeners likely endorse different values which means that the motivative augmentals

that function for one group will not necessarily work with another (e.g., reminders that family members are at risk if you break lockdown are only likely to reduce rule-breaking if you care about your family members).

3.5. The behavior specified in the rule is not habitual (translations from cognitive neuroscience)

A rule is less likely to be followed if the behavior specified in the rule is not habitual. For example, "*If I want to reduce my risk of contracting COVID-19, I must avoid touching my face*". From a cognitive neuroscience perspective, habitual behavior is emitted regardless of shifts in the contingencies that originally influenced it (Bouton, Winterbauer, & Todd, 2012), with habits arising from an overall history of reinforcement for emitting the particular response (Vahey et al., 2017; Wood & Rünger, 2016). Simply put, habits are cognitively efficient; automatic and inflexible (Vahey et al., 2017). Therefore, if the behaviors specified in the rule directly conflict with the listener's habits, then the listener may be less likely to follow the rule in favor of cognitive efficiency, particularly if performing a secondary task (Ruh, Cooper, & Mareschal, 2010).

Drawing on cognitive neuroscience literature, Vahey et al. (2017) describe features of habit behavior that elucidate how habits may interfere with rule-following. Specifically, cognitive neuroscience data suggest that instrumental behaviors are particularly likely to become habitual when they are relatively straightforward and reinforced consistently in a stable environment where intensive reinforcement is delivered for a prolonged time period (Ostlund & Balleine, 2008; Vahey et al., 2017; Wood & Rünger, 2016). These features appear to relate to plausibility and reinforcer availability. In addition, Vahey et al. (2017) suggest that instrumental behavior is particularly likely to become habitual when subject to variable interval schedules of reinforcement and the individual is disinclined to deliberate about the behavior. The latter of these could relate to authority.

One of the most successful strategies for reducing interference from habits in daily life and experimental tasks involved attending to slip-ups and thinking "*Don't do it*" (Quinn, Pascoe, Wood, & Neal, 2010). This worked, not by decreasing habit strength, but by enhancing cognitive control (i.e., the ability to focus on task-relevant information, while inhibiting non-task-relevant information) (Quinn et al., 2010). Another successful strategy involved tying inhibitory plans to cues that activate habits (Adriaanse et al., 2010). Conscious self-monitoring is central to reducing interference from habits. In the context of rule-following during the COVID-19 pandemic, a listener may struggle to follow a rule which requires behavior that conflicts with their habits. For example, consider the rule "*If I want to reduce the spread of COVID-19, then I must not shake hands at work meetings*". If shaking hands had become habitual for the listener, they may need to consciously replace that action with a response that opposes the muscle movements required to shake hands (e.g., waving instead). Providing people with suggestions for alternative opposing actions to replace habits will reduce habit interference and likely increase rule-following.

3.6. Counterpliance

Counterpliance is typically defined as rule-governed behavior under the control of socially-mediated consequences that are contacted by behaving in opposition to the behavior specified in the rule (Barnes-Holmes et al., 2001; Hayes, Zettle, & Rosenfarb, 1989; Törneke et al., 2008). Functionally, counterpliance is a form of pliance that can become problematic when generalized (Villatte et al., 2016). Simply put, compliance and rebellion are two sides of the same coin but how socially mediated consequences are delivered may differ (Hayes et al., 1989). It is important to note that while counterpliance often involves a listener behaving in direct opposition to the given rule, this need not be the case. An individual can not do as they are told without behaving in opposition

per se. For example, consider the "*I'm not touching you*" game that is popular among siblings. In this game, the individual avoids touching their sibling but intentionally comes close to doing so. This typically annoys their sibling who asks them to "*stop touching*". The individual is technically not touching their sibling and is technically adhering to their sibling's request. However, the individual is aware that their sibling meant for them to "*stop almost touching*" them. In a similar vein, counterpliance may be understood as rule-governed behavior under the control of a history of socially-mediated reinforcement for a lack of correspondence between the rule and relevant behavior. Simply put, counterpliance occurs when a listener intentionally does not follow the rule they believe the speaker intended.

While there has been a dearth of RFT research on counterpliance, it is highly relevant to rule-following and rule-breaking. In the context of rule-following during the COVID-19 pandemic, a listener may not adhere to rules based on a history of peer support for behavior that explicitly deviates from established rules. For example, an adolescent may intentionally break rules around personal protective equipment, removing their mask in public and fake coughing, in order to receive negative attention. The social psychology literature provides important insights into ways to manage counterpliance (referred to as "reactance" in this body of literature). From this perspective, reactance serves to reestablish an individual's sense of freedom (Steindl, Jonas, Sittenthaler, Traut-Mattausch, & Greenberg, 2015) and is extremely similar to counterpliance. Reactance is less likely to occur when rule-following is monitored and the contingencies for rule-following are stronger than those for rule-breaking (Hayes et al., 1989; Steindl et al., 2015). This appears to relate to authority and reinforcer availability.

In the context of rule-following during the COVID-19 pandemic, Reynolds-Tylus (2019) is particularly useful. Reynolds-Tylus (2019) presents features of persuasive health communications that are likely to impact reactance. Freedom-threatening language, message sensation, and other-referencing messages are of particular importance in the pandemic context. Regarding freedom-threatening language, while messages with the objective of enacting behavior change must be direct in advocating for specific actions, explicit messages are more likely to incite reactance due to their freedom threatening nature (Reynolds-Tylus, 2019). Regarding message sensation, messages that are high in sensation value (i.e., are dramatic, exciting, and novel), are perceived as more persuasive, with high sensation and low controlling language perceived as most effective (Xu, 2015). Regarding other-referencing messages (i.e., messages that emphasize the influence of individuals' choices on others), relative to self-referencing messages, other-referencing messages incited less reactance, with participants responding more favorably to both the message and advocated health behaviors (Gardner & Leshner, 2016). Therefore, when attempting to reduce counterpliance while communicating rules to reduce the spread of COVID-19, speakers should ensure messages have a high sensation value and are other-referencing in nature. Speakers should also ensure to balance freedom-threatening language with the need to explicitly advocate for specific behaviors.

4. Conclusion

As authorities establish rules and restrictions to reduce the spread of COVID-19, it is important to understand what makes adherence more probabilistic. RFT allows us to understand how listeners interpret and respond to rules (Barnes-Holmes et al., 2001). Drawing on work from Barnes-Holmes et al. (2001), Vahey et al. (2017), cognitive neuroscience, social psychology, and health literature, this paper identified important considerations for implementing public health measures to reduce the spread of COVID-19. Specifically, speakers should attend to their credibility, authority and ability to mediate consequences, rule plausibility, establishing adequate motivative augmental control, whether the behavior specified in the rule opposes habits, and whether the message incites counterpliance. These guidelines may be of use to

applied researchers developing public health interventions to promote rule-following. While strict rule-following in every single context is undoubtedly problematic, in the context of a global pandemic, we must be able to promote adherence to rules based on guidelines and evidence from appropriate organizations.

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