Observing Peer-Led Influence on Reducing Sugar-Sweetened Beverage Intake: A Preliminary Study

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ABSTRACT

Excessive consumption of sugar-sweetened beverages (SSBs) poses significant health risks, particularly among youth. This preliminary naturalistic case study investigates the effectiveness of peer-led influence in reducing SSB intake by applying social psychology principles—compliance, the foot-in-the-door technique, and normative social influence—in everyday social contexts. The study involved three roles: one sample (target participant), one confederate (peer influencer), and one experimenter (observer). Over seven consecutive days, the confederate employed incremental requests and positive social modelling to encourage the sample to reduce SSB consumption, while the experimenter objectively observed and recorded outcomes. Data collected included qualitative observations, behavioural records of beverage choices, and the sample's cognitive and emotional reflections. Results showed the sample complied with initial small requests and accepted a subsequent 7-day no-SSB challenge, achieving complete abstinence during the intervention. The sample reported feeling physically lighter, experiencing reduced cravings, and increased awareness of sugar intake. Positive emotional responses and sustained behaviour change were observed without resistance. Findings affirm that the foot-in-the-door technique and normative influence effectively promote health behaviour change within trusted peer relationships. This study highlights the potential of empathetic, peer-driven strategies to foster sustainable reductions in SSB consumption.

Keywords: Compliance, Foot-in-the-door, Normative social influence, peer influence, Sugar-sweetened beverage intakes

INTRODUCTION

Excessive consumption of sugar-sweetened beverages (SSBs) has emerged as a significant and escalating public health issue worldwide, with particularly serious implications for young people. These beverages, which include sodas, fruit-flavoured drinks, energy drinks, and sweetened teas, are high in added sugars and provide little to no nutritional value. Their widespread availability and aggressive marketing, especially targeting children and adolescents, have contributed to increased intake among youth populations. This trend is concerning because high consumption of SSBs is strongly associated with a range of adverse health outcomes. Notably, excessive intake contributes to obesity by adding substantial amounts of calories without promoting a feeling of fullness, leading to weight gain over time. Moreover, the high sugar content in these drinks can disrupt normal metabolic processes, increasing the risk of developing type 2 diabetes through mechanisms such as insulin resistance. Beyond metabolic disorders, frequent consumption of SSBs has also been linked to chronic fatigue, as the rapid spikes and drops in blood sugar levels can impair energy regulation and overall vitality. Given that youth are particularly vulnerable due to their developing bodies and habits that can persist into adulthood, addressing the consumption of SSBs in this demographic is critical. The study by Stok et al. (2023) underscores these concerns, providing empirical evidence that highlights the urgent need for public health interventions aimed at reducing SSB intake among young people to prevent long-term health complications.

This study adopts social experiment to explore the practical application of key social psychology principles—namely compliance, the foot-in-the-door technique, and normative social influence—in encouraging a peer to reduce their consumption of sugar-sweetened beverages (SSBs). By situating the intervention within naturalistic, everyday contexts such as casual social interactions, the study aims to capture authentic behavioural responses rather than artificial reactions often seen in laboratory settings. The design of the experiment is distinctive in that it incorporates three clearly defined roles to replicate a realistic social influence environment. The sample serves as the target participant whose behaviour is the focus of change. The confederate acts as the peer influencer, strategically employing compliance techniques like the foot-in-the-door method, which involves making an initial small request followed by a larger one, as well as leveraging normative social influence by modelling desirable behaviour and establishing social norms around healthier choices. Meanwhile, the experimenter functions as an impartial observer who monitors and records the interactions without directly intervening, ensuring that data collection remains objective and that the natural flow of social influence is preserved. This triadic role structure allows the study to balance ecological validity with methodological rigor, providing valuable insights into how social psychological mechanisms operate in real-world settings to promote health-related behaviour change.

The objectives of this study are multifaceted. First, it aims to determine whether a peer, acting as a confederate, can effectively influence a target individual to reduce their consumption of sugar-sweetened beverages (SSBs) by employing incremental requests and demonstrating positive social modelling. Additionally, the study seeks to explore the role of social closeness and trust between the sample and the confederate in facilitating compliance with behaviours that promote better health. Another key objective is to assess the cognitive, behavioural, and emotional changes experienced by the sample as a result of the intervention. Finally, the experimenter will objectively observe and document both the process and the outcomes throughout the course of the study.

METHODOLOGY

Participants

The study involved three key participants: the sample, the confederate, and the experimenter. The sample consisted of one individual, aged 24 years, male, from a low socioeconomic background, who reported habitual consumption of sugar-sweetened beverages (SSBs). While, the confederate, serving as the peer influencer who has similar demographic background. He was trained to apply compliance techniques and normative influence strategies aimed at encouraging the sample to reduce SSB intake. The experimenter was 50 years female acted as the researcher, overseeing the process by observing, recording, and analysing interactions between the sample and the confederate, while maintaining a neutral role and avoiding direct behavioural influence on the sample.

Experimental Design

This study utilizes a single-case, naturalistic social experiment featuring triadic roles consisting of the sample, confederate, and experimenter. The intervention spans a duration of seven consecutive days, during which the participants interact within informal social settings such as cafés, shared meals, and daily encounters. This design allows for the observation of authentic social dynamics and behavioural changes in real-life contexts, providing a comprehensive understanding of the influence processes at play.

Procedure

The procedure unfolds over seven days, with specific activities and compliance techniques employed to encourage the sample's reduction in sugar-sweetened beverage (SSB) consumption. On Day 1, the experimenter observes the baseline level of SSB consumption while the confederate casually shares health information to build rapport with the sample. On Day 2, the confederate makes a small request by suggesting that both try plain water with a meal, employing the foot-in-the-door technique as an initial step. During Days 3 and 4, the confederate praises the sample's healthier choices and introduces sugar-free alternatives, using normative influence and encouragement to reinforce positive behaviour. On Day 5, the confederate escalates

the request by proposing a seven-day no-SSB challenge, continuing the foot-in-the-door strategy. Finally, on Days 6 and 7, the confederate maintains support by sharing health articles and prompting the sample to reflect on their progress, sustaining normative influence throughout. Throughout the entire process, the experimenter observes and records the interactions without direct involvement.

Given the nature of peer-led influence study, the researcher used deception with safeguards to ensure methodological transparency. The study involved the use of a confederate, who was instructed to employ compliance techniques and normative influence strategies without the sample's prior knowledge of the confederate's role. This constitutes a form of deception, as the sample believed the confederate's encouragement was entirely genuine and unprompted. The study safeguards include first; the influence strategies used were limited to non-coercive prompts and socially normative messages. Second; The interaction was monitored in real-time by the experimenter to prevent escalation or undue stress. Third; A debriefing session was conducted immediately after data collection, during which the nature of the confederate's role and the rationale for the deception were explained. Fourth; The sample was given the opportunity to withdraw their data upon learning about the deception, ensuring their right to informed consent post-study.

Data Collection

Data collection in this study encompasses qualitative, behavioural, and cognitive-emotional measures. Qualitatively, the experimenter takes detailed observational notes throughout the interactions, capturing the dynamics between the confederate and the sample, while also gathering the sample's verbal feedback and self-reported reflections. Behaviourally, the experimenter records the sample's beverage choices at each meal to track changes in consumption patterns. Additionally, cognitive and emotional data are collected through the sample's comments regarding cravings, energy levels, and attitudes toward sugar-sweetened beverages, providing insight into the internal processes accompanying behavioural change.

RESULTS AND DISCUSSION

The sample complied with the initial small request by choosing plain water and subsequently accepted the confederate's proposal to undertake a seven-day no-SSB challenge. Throughout the experiment period, complete abstinence from sugar-sweetened beverages was observed. The sample reported feeling physically lighter, experiencing reduced cravings, and developing greater awareness of the sugar content in beverages. Positive emotional responses were also noted, with encouragement and social support from the confederate playing a key role in facilitating compliance. The experimenter's objective observations confirmed consistent behaviour change without any signs of resistance or negative affect.

The effectiveness of the foot-in-the-door (FITD) technique was evident in this context, as the initial small request followed by a larger one successfully encouraged compliance. This finding aligns with foundational research demonstrating that FITD fosters behavioural consistency and self-perception alignment (Chartrand et al., 1999; Guéguen et al., 2016; Cialdini, 2001; Conner, 2005). Additionally, the role of social influence was significant; trust and peer modelling from the confederate enhanced compliance, supporting prior evidence that influence from trusted peers is more persuasive than that from authority figures (Toelch & Dolan, 2017; Burger & Guadagno, 2003). Social norms and peer perceptions are known to strongly affect SSB consumption patterns, particularly among youth (Stok et al., 2023; Lien et al., 2025).

Normative influence was further demonstrated through the confederate's consistent modelling and encouragement, which helped establish a new social norm around beverage selection and motivated the sample to conform (Toelch & Dolan, 2017; Lien et al., 2025). Such social norms interventions have been shown to effectively reduce intentions and behaviours related to SSB consumption (Robinson et al., 2022). The intervention also led to cognitive, emotional, and behavioral shifts in the sample, suggesting potential for lasting habit formation, consistent with meta-analytic evidence linking socio-cognitive determinants to SSB consumption among young people (Nguyen et al., 2023).

Moreover, the study's findings have implications for addressing health disparities, as research highlights variations in SSB consumption related to race, ethnicity, and socioeconomic status, underscoring the need for culturally responsive interventions (Musa et al., 2021). Peer influence interventions such as this may be particularly effective in mitigating these disparities by leveraging social networks. The experimenter's role as a neutral observer allowed for unbiased data collection and validation of the social influence process, in line with best practices in social psychology research.

However, the study has limitations. The use of a single sample and confederate restricts the generalizability of the findings. The absence of a control group means that external factors influencing behaviour change cannot be fully ruled out. Additionally, reliance on self-reporting by the sample may introduce bias despite the experimenter's observational efforts. Future research with larger, more diverse samples and controlled designs is recommended to build on these preliminary findings.

CONCLUSION

This social experiment provides compelling evidence that peer-led interventions, which utilize incremental requests alongside positive social modelling, can successfully encourage individuals to reduce their consumption of sugar-sweetened beverages (SSBs) within everyday, naturalistic environments. By gradually increasing the level of commitment through small, manageable requests, the approach leverages the psychological principle that people are more likely to agree to larger requests once they have agreed to smaller ones, thereby fostering sustained behavioural change. The study's triadic design—comprising the sample (the individual targeted for behaviour change), the confederate (the peer influencer who implements the intervention), and the experimenter (the neutral observer)—strikes a careful balance between ecological validity and experimental control. This structure allows the social influence process to unfold authentically, reflecting real-world peer interactions, while still enabling systematic observation and data collection. The results underscore the effectiveness of empathetic, peer-driven strategies in motivating health-promoting behaviours, emphasizing how trust and social support from peers can significantly enhance compliance. Furthermore, the role of the experimenter as an objective observer is crucial, as it ensures unbiased monitoring of the intervention's impact and helps validate the findings. Overall, this study highlights the potential of combining incremental social influence techniques with positive peer modelling to foster sustainable changes in health behaviours, offering valuable insights for designing future public health interventions aimed at reducing SSB consumption.

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