Social Information Avoidance: When, Why, and How it is Costly in Goal Pursuit

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Consumers nowadays have easier and richer access to information about social others pursuing goals similar to their own (e.g., through a Fitbit device, the Endomondo mobile app, and stickK.com). This research focuses on objective social information during goal strivings (e.g., performance data and progress information of others), and shows that this information may not always be welcomed. We found that people avoid information about social referents when they are in the middle of their goal pursuit journey (compared to when they have just begun or are about to complete their goal), to circumvent potentially negative comparisons—information about social referents who are relevant (pursuing the same goal), proximal (in the same stage of goal pursuit), and superior. We use the frequency of head turns, eye movements, and consumers’ direct choices in the lab and in the field to document a U-shaped pattern of information avoidance behavior, which paradoxically contributes to the “stuck in the middle” phenomenon. Our findings connect the information avoidance literature with the psychophysics of goal pursuit and shed light on the questions of when and why people may be undermining their goal strivings by avoiding relevant, motivating social information.

Keywords: Information avoidance, social comparison, social information, consumer motivation, self-regulation, goal stage, progress
With the advance of technology and social media, consumers are gaining more immediate, more frequent, and richer information about others’ lives, including the goals they are currently working on. To provide consumers with easy access to these valuable insights and progress updates, companies design online and offline platforms to directly connect consumers with others sharing similar goals (e.g., weight-loss and fitness programs like Weight Watchers and boot camps, mobile apps like Endomondo and Fitocracy, devices like Fitbit and Nike+, and websites like fatwallet.com, caloriecount.about.com, and stickK.com).

These platforms are in essence support groups for people with shared goals, to enhance affiliation and community building. For instance, Fitbit Feed users generated more than 648 million “views” within five months of its launch in March 2017, and more than 2.5 million users have joined a Fitbit Group to connect with others sharing similar fitness goals.\(^1\) Companies and consumers cultivate these communities to enhance consumers’ engagement and likelihood of goal success; the users who are more socially connected on Fitbit are more active, reaching 700 more steps on average,\(^2\) and every 10 fitness-related posts to Twitter corresponded with approximately 0.5% weight loss (Turner-McGrievy and Tate 2013).

Although consumers are eager to sign up for these platforms and purchase these devices, there seems to be a challenge in sustaining their enthusiasm for social information throughout the course of goal strivings. A third of customers abandon their wearables within six months of purchase,\(^3\) and a recent study suggested that as low as 7.8% of people accessing an online weight-loss platform continued to utilize its social sharing features (Binks and Mierlo 2010).

In this research, we explore whether consumers at times avoid objective social information (e.g., muting friends’ performance/progress notifications on Fitbit) and we pinpoint an important consequence of this behavior. We ask three questions: (1) When do consumers
avoid information about others sharing similar pursuits, (2) why does this behavior occur, and (3) is this avoidance behavior a productive strategy or can it backfire, undermining people’s goal success? We draw from literature on information avoidance (Golman, Hagmann, and Loewenstein 2017; Sicherman et al. 2016), social comparison (Blanton 2001; Festinger 1954; Tesser 1988), and goal stages (Bonezzi, Brendl, and De Angelis 2011; Etkin and Ratner 2012; Huang et al. 2015; Huang, Jin, and Zhang 2017), and we theorize that people avoid social information especially when they are in the middle of their pursuit, compared to when they have just begun or are about to complete their goal. This phenomenon occurs because the low motivational state in the middle stage drives goal pursuers to avoid potentially negative comparisons that could threaten them. Paradoxically, this avoidance behavior contributes to the “stuck in the middle” phenomenon in an environment rich in social anchors.

*Social Information in Shared Goal Pursuit*

People pursue goals in social environments. Friends and family can enhance the accessibility of related goals in our minds (Fitzsimons and Finkel 2010; Fitzsimons and Shah 2008) and affect our self-regulation resources as well as the goal outcome (Ackerman et al. 2009; Dzhogleva and Lamberton 2014; Fishbach and Tu 2016). Observing strangers pursuing the same goal as ourselves can be contagious (Aarts, Gollwitzer, and Hassin 2004; McCulloch et al. 2011). More generally, the social comparison literature has long established that people gain self-knowledge by comparing their own characteristics and abilities to those of others (Blanton 2001; Festinger 1954; Tesser 1988). This comparison is the most prevalent with others who are similar, because others who have similar characteristics and are in similar situations constitute the most meaningful benchmarks and thus serve as the most valuable social referents (at work, Buunk, Shaufeli, and Ybema 1994; in hospital settings, Kulik and Mahler 2000).
Having objective performance and goal progress information about these social referents—others who are working toward goals similar to our own—can provide motivational benefits (e.g., similar but inferior others, Wills 1981; Wood, Taylor, and Lichtman 1985; superior others, Taylor and Lobel 1989; dynamic motivational impact of inferior and superior others, Finkelstein and Fishbach 2012). However, information about a social referent does more than provide a close benchmark to energize motivation; it can impose a threat as well. Prior literature has shown that information about a superior other can damage self-esteem (Gardner, Gabriel, and Hochschild 2002) and provoke self-deflation when people do not believe they can achieve comparable success (Lockwood and Kunda 1997). In order to counteract this feeling of threat, people deny the credibility of the source of information, reduce the relevance of the comparison domain, or distance themselves and become less helpful to this other (Huang et al. 2015; Pemberton and Sedikides 2001; Shrauger 1975; Swann et al. 1987). Another effective strategy to counteract threat is to avoid this information in the first place.

Avoidance of Social Information

Emerging research in economics, psychology, and management has started to document active information avoidance behaviors such as when an individual is aware that a piece of information is available and has free access to it, yet chooses to avoid the information (Karlsson, Loewenstein, and Seppi 2009; Sicherman et al. 2016; for a review, see Golman, Hagmann, and Loewenstein 2017). Because of the uncertainty of the valence and specific content, people avoid information to circumvent a potential threat, disappointment, and anxiety (Andries and Haddad 2014). Information avoidance has been found to produce adverse effects on individuals’ financial decisions (Karlsson, Loewenstein, and Seppi 2009; Sicherman et al. 2016), health decisions (Köszegi 2003; Oster, Shoulson, and Dorsey 2013), and management outcomes (Schulz-Hardt et
al. 2000), as well as at the macro level, contributing to the spread of diseases, political polarization, and climate change denial (Golman, Hagmann, and Loewenstein 2017).

Although information about social others pursuing similar goals can be highly relevant and motivating, we propose that people may at times avoid this information in order to circumvent the threat of facing a potentially negative comparison, and that such avoidance can be costly. Drawing from the goal-stage research, we propose that this avoidance is most likely to occur when people are halfway through their pursuit and feel the least motivated to exert effort.

*Being Stuck in the Middle of Shared Goal Pursuit*

Emerging research on the dynamics of self-regulation has provided abundant evidence that the impact of goal-related factors (e.g., prior action, feedback, goal structure) on motivation does not follow simple linear relationships. This research focuses on discrepancy-based goals (i.e., reducing the discrepancy between one’s initial state and the desired specific end state; Carver and Scheier 1998; Locke and Latham 2006), structures this discrepancy into two general stages, and compares the motivational impact of goal-related factors on people who are in the beginning versus the ending stage of their pursuit (Huang and Zhang 2011; Huang, Jin, and Zhang 2017; Koo and Fishbach 2012; Louro, Pieters, and Zeelenberg 2007).

Compared to the rich empirical evidence that compares people in the beginning stage with those in the ending stage of goal pursuit, relatively little attention has been paid to the stage that is sandwiched between the two—the middle stage. The recent research by Bonezzi, Brendl, and De Angelis (2011) captured a unique motivational pattern in this stage. These authors showed that, because people naturally focus on the initial state as the reference point at the beginning of the pursuit, and then shift to the desired end state as the reference point as they approach the goal, a switch in their focus from the initial state to the end state occurs around the
midpoint of the pursuit. This switch leads to the lack of a natural, proximal reference point in the middle stage. Hence, since motivation is found to be highest when people move toward or against a proximal reference point (Heath, Larrick, and Wu 1999; Koo and Fishbach 2012), this lack of a proximal anchor in the middle stage results in decreased motivation in this stage. Similarly, He and Mittal (2007) found that decision risk has the strongest effect on commitment at the middle stage of a project, because motivation to commit resources to a project is the lowest at this stage. In the morality domain, Touré-Tillery and Fishbach (2012) showed that people also “slack in the middle,” relaxing their personal standards the most in the middle stage of a task.

Taken together, middle-stage goal pursuers are the least motivated to adhere to their individual goals and personal standards. They are “stuck” in this middle stage because of the lack of natural, proximal reference points when working on their goals. We posit that when people enter this low motivational state, they should feel the least confident about how they are progressing (as they experience a lack of momentum) and thus would have the strongest desire to avoid information about how others are progressing on their goals, in an attempt to circumvent the potential threat from these comparisons. Our specific hypotheses are as follows:

**H1:** People in the middle stage of a goal pursuit are more likely to avoid information about a social referent, compared to those in the beginning and ending stages.

**H2:** This avoidance behavior is a result of the low motivational state in the middle stage, driving people to avoid a potentially negative comparison against the social referent.

The proposed mechanism (H2) also leads to valuable insights regarding the specific types of social information that middle-stage goal pursuers avoid, and intervention ideas to ensure their continuous interest in social information. Based on our theorizing, middle-stage goal pursuers avoid social information to circumvent potentially negative comparisons; therefore, they should
be more likely to avoid information about social referents who are pursuing goals similar to their own (relevant), in similar stages (proximal), and who are progressing better than themselves (superior). Studies 1, 2, and 3A, respectively, tested these possibilities. In addition, we tested a mechanism-driven intervention in Study 4: When goal pursuers’ confidence is externally enhanced, such as through self-affirmation (Fein and Spencer 1997), they should be less worried about threat from social others and thus should be more willing to view social information.

The Consequence of Social Information Avoidance

Although avoiding social information can help to shield middle-stage goal pursuers from threat, is this behavior actually productive in facilitating goal-directed efforts? We believe that the proximal reference points that social information provides could be especially beneficial when people are stuck in the middle stage and already lack a natural goal-based reference point (Bonezzi, Brendl, and De Angelis 2011; Koo and Fishbach 2012). Since the lack of a proximal reference point is the reason for the low motivational state in the middle stage (Heath, Larrick, and Wu 1999), we hypothesize that avoiding social information should further contribute to the low motivation to exert effort in this stage, whereas viewing this information could counteract this psychophysical slump and restore motivation.

**H3:** Viewing (vs. avoiding) information about a social referent restores motivation for middle-stage goal pursuers.

This final hypothesis is important to test for both practical and theoretical reasons. As social beings, goal pursuers are surrounded by information about others who are in similar situations and working on similar goals (Dzhogleva and Lamberton 2014; Huang et al. 2015; Lowe and Haws 2014). Exploring when consumers should leverage information about social referents thus provides valuable insights that can pull consumers out of their middle-stage slump,
as well as important implications for marketers who have the opportunity to “push” this information to consumers at the moment that it matters the most. Our findings also expand the “stuck in the middle” theory by shedding light on why middle-stage goal pursuers would lose motivation in a world rich in social anchors. Our framework argues that consumers are stuck halfway through their pursuits not only because they are far away from the beginning and ending points, but also because they deliberately avoid social information that could provide more proximal reference points to help anchor them.

**STUDY OVERVIEW**

Seven studies tested the proposed theory. We first used the frequency of head turns (Study 1), eye movements (Study 2), and direct choices (Study 3A) to provide a variety of behavioral evidence for social information avoidance in the middle stage (H1). In addition, we tested H2, that this avoidance behavior was driven by a desire to avoid negative comparisons, by directly manipulating three aspects of the social anchor (relevance, proximity, and valence). In a follow-up to Study 3A, we also included a control group that did not know the valence of social information, to capture the natural assumption of middle-stage goal pursuers (i.e., that they expected a negative comparison). Study 3B through Study 5 captured an important downstream consequence of social information avoidance (H3). Studies 4 and 5 further showed, through a two-week walking program and a two-week saving program in the field, that the low motivational state in the middle stage drove goal pursuers to avoid social information (H2), and that avoiding (vs. viewing) this information accounted for their continued low motivation (H3). Enhancing people’s confidence against negative comparison through self-affirmation effectively reduced information avoidance in the middle stage (Study 4). Study 5 underscored the uniqueness of social referent information by comparing it to self-set benchmark information.
STUDY 1: TURNING HEAD AWAY FROM A RELEVANT SOCIAL REFERENT

The first study aimed to capture the hypothesized U-shaped pattern of social information avoidance behavior (H1) and shed light on the mechanism underlying the effect—to avoid potentially negative comparison (H2). Participants played a Wii bowling game, during which they could view (1) their own progress, (2) another Wii player’s progress (a relevant social referent), and (3) the progress of a third player who was playing a Wii archery game (an irrelevant social referent). We recorded the number of times the participants turned their head to check on these other players’ scores during 10 rounds of the game.

Method

Participants and design. This study used a Stage (0 to 120 points) × Relevance of Social Referent (relevant vs. irrelevant) design. Seventy students from a West Coast university signed up for the study for $5 compensation. One participant dropped out at the beginning of the study, leaving us a total of 69 students (38 females; M_age = 21.82, SD_age = 4.00) as the final sample. Every participant started from zero and played 10 rounds of bowling to reach 120 points, with the option to view both relevant and irrelevant social referent information throughout the game.

Procedure. Participants played 10 rounds of the Wii bowling game under the cover story that the researchers were pretesting Wii sports games to determine participants’ preferences, enjoyment, and amount of movement throughout the game. The goal for them was to reach at least 120 points; this goal was pretested with nine research assistants to ensure that it was reasonably attainable for most first-time Wii bowling players.

We set up a camera at the front of the room and two laptops, one on each side of the room, so that the participants could see what the other participants were doing in other rooms (see Web Appendix for the room set-up). The laptops showed two avatars—a bowling avatar
(the relevant social referent) and an archery avatar (the irrelevant social referent), and their accumulated scores in the game. The avatars’ genders were matched with each participant’s to prevent cross-gender comparison (see Appendix A for visual stimuli), and we counterbalanced the side of the room (left or right) on which we displayed the bowling (vs. archery) avatar.

The research assistant provided a set-up tutorial for each participant and supervised a practice round. The participants then played the bowling game in private for 10 rounds while the camera recorded their head movements (whether and when they checked the other bowling and archery avatars’ scores). Both these avatars steadily advanced from the first round to the 10th round, and their screen refresh rate was kept the same to provide the same level of momentum and amount of information; the only difference was how relevant the social information was.

Once the game was completed, the assistant gave participants a marketing survey about the game. We probed for suspicion regarding the credibility of the information about other players, and ended the survey by collecting demographic information.5

Results and Discussion

A research assistant blind to the hypothesis viewed the videos and counted how many times each participant turned his or her head to check the other avatars’ progress as they accumulated points. We submitted all frequency measures to a mixed model regression analysis with stage (0 to 120 points), relevance of the social referent (relevant vs. irrelevant), stage \times relevance, stage-squared, and stage-squared \times relevance as predictors (see Table 1 for the full model). The analysis revealed the hypothesized Stage-Squared \times Relevance of Social Referent interaction (\( \beta = .00012, t = 4.73, p < .001, 95\% \text{ CI} = .000068 \text{ to } .000164 \)), suggesting that whether we observed a curvilinear trend in participants’ checking behavior depended on the relevance of the social information.
Further decomposing the interaction by the relevance of the social referent using a mixed model regression, we found the hypothesized quadratic effect on the checking frequency of the bowling player ($\beta = .00043$, $t = 7.76$, $p < .001$, 95% CI = .000318 to .000533; see Figure 1). In contrast, stage produced a negative linear trend on checking frequency when the social referent was irrelevant ($\beta = -.00767$, $t = -7.69$, $p < .001$, 95% CI = −.00963 to −.00571). Using the round in the game (1–10) instead of accumulated points as a proxy for stage revealed consistent results.

INSERT Figure 1 about here

Study 1 provided preliminary support for the hypothesized U-shaped pattern of social information avoidance behavior: people avoided information about social referents who were relevant (vs. irrelevant) especially in the middle stage. In Study 2, we aimed to replicate this finding (H1) in a different context and using a less deliberative manner of checking: eye movement. In addition, to provide additional evidence for the proposed mechanism (H2), we kept the relevance of social information constant and directly manipulated how close the other person’s progress was: If the avoidance behavior was indeed driven by a fear of negative comparison, only the proximal (vs. distant) social referent could plausibly outperform middle-stage goal pursuers. We manipulated the proximity of social information between subjects, so that participants would not have to forgo one type of social information to view the other.

**STUDY 2: MOVING EYES AWAY FROM A PROXIMAL SOCIAL REFERENT**

Participants in this study evaluated the price of products to accumulate points for a reward. During the pricing task, they would see their own score and another student’s score on the screen; the other student’s scores were either close to that of the participant (a proximal social referent) or far behind (a distant social referent). We recorded participants’ eye
movements during 15 rounds of the task to capture how frequently they viewed the other student’s score.

Method

Participants and design. This study used a Stage (1 to 15 rounds) × Proximity of Social Referent (proximal vs. distant) design. Two hundred students (118 females; \(M_{\text{age}} = 23.00, SD_{\text{age}} = 5.96\) ) from a West Coast university participated in this study for $5 compensation.

Procedure. Participants were seated in individual rooms at a Tobii eye-tracking computer to complete a pricing task. They saw 15 products and the current price for each, and their task was to evaluate the price by pressing the “E” (good deal) or “I” (overpriced) key. They would gain points depending on the difficulty of the question and the accuracy of their response. We deliberately made the feedback system ambiguous, so that participants had to rely on our score report to determine how much progress they had made on their goal. Participants were told that if they earned 175 points by the end of the pricing task, they would receive a bonus of $2. In addition, we told them that their station was matched to that of another participant in the next room and that throughout the task, the computer would display both the score they had earned so far and the other student’s score for their reference. It was emphasized that this was not a competition; participants’ chance of receiving the reward depended solely on their own score.

In addition, participants were told that a gaze tracker would be in place to give us information about their eye movements and how the movements might be related to their pricing decisions. The research assistants set up the equipment for each participant and conducted a calibration task before leaving the room. Participants completed three practice rounds, and then commenced 15 rounds of the pricing task. During the task, participants’ own scores were displayed either at the top-right or top-left corner of the screen, while the other student’s score
was displayed on the opposite side (position counterbalanced). The scoreboard showing the participant’s own score was larger, making it an easy visual focus (see Appendix B for stimuli).

We directly manipulated the score feedback, such that both the participant and the matched student made steady progress from the first round to the 15th round of the task. In the proximal condition, the other student remained only one to three points behind the participant and was therefore a more threatening social referent; whereas in the distant condition, the other student was far behind throughout the task.

The Tobii eye tracker recorded the position and movement of the participant’s gaze every 1/60 of a second throughout the pricing task. This provided two dependent measures for our analyses: how frequently the participants’ eyes moved to fixate on the other student’s score in each round (fixation count), and how much time the participants spent fixating on the other student’s score in each round (total fixation, in seconds). We also recorded the fixation count and total fixation on participants’ own scores and on the pricing task; controlling for these measures did not affect the results. Once participants completed the task, we probed for suspicion regarding the credibility of the social information and collected demographic information.

**Results and Discussion**

We submitted all measures of fixation count to a mixed model regression analysis with stage (1, 2, 3, … 15), proximity of the social referent (proximal vs. distant), stage × proximity, stage-squared, and stage-squared × proximity as predictors (see Table 1 for the full model). The analysis revealed the hypothesized Stage-Squared × Proximity of Social Referent interaction ($\beta = .00675, t = 4.15, p < .001, 95\% CI = .00356 to .00994$). Further decomposing the interaction by the proximity of the social referent using a mixed model regression, we found that stage produced the hypothesized quadratic effect on fixation count on the proximal social referent ($\beta = \ldots$)
.00191, t = 3.04, p < .01, 95% CI = .00068 to .00314; see Figure 2); however, this effect was not significant for the distant social referent information (p = .643, 95% CI = −.00082 to .00050). The analyses on total fixation revealed results consistent with fixation count (see Table 1).

Using subtle measures of eye movements, this study provided additional support for our hypotheses about social information avoidance behavior (H1) and the underlying mechanism (H2). Middle-stage goal pursuers avoided social information only when the social referent was proximal and thus could possibly outperform them in the next round. We conducted the next study to provide additional evidence that trying to avoid a potentially negative comparison was indeed the driver of social information avoidance; when participants knew that the comparison would be positive, middle-stage goal pursuers would not feel the need to avoid this information.

**STUDY 3A: AVOIDING A SUPERIOR SOCIAL REFERENT**

In this study, we let participants play an online dice game and manipulated goal stage between subjects, offering them an opportunity to check on the other player’s progress when they reached either the beginning, middle, or ending stage of the game. In addition, we kept the relevance and proximity of the social referent constant (i.e., playing the same game and close in progress), and manipulated the valence of the comparison. Finally, we captured participants’ active avoidance behavior by having them make a choice to either view or skip the information.

**Method**

*Participants and design.* This study used a Stage (beginning vs. middle vs. ending) × Valence of Social Referent (superior vs. inferior) between-subjects design. A total of 301 respondents (108 females; M_{age} = 32.45, SD_{age} = 10.25) from Amazon’s Mechanical Turk (MTurk) participated for $0.50 compensation.
Procedure. Participants played nine rounds of an online dice game with a goal of reaching 900 points to earn an additional bonus. The bonus was made available for everyone who could reach 900 points. The participants clicked to roll a pair of six-sided dice four times during each round, and viewed the outcome of each roll. Following the procedure in Study 2, we kept the outcome of the simulated rolls identical for all participants to keep the course of the game constant. We displayed the score report to participants either when they were in the beginning (second round, 160 points), middle (fifth round, 460 points), or ending stage (eighth round, 760 points).

After participants received their score report, the computer gave them an opportunity to view the progress of another player who was in the same round of the game. Participants read that the other player had fewer points (inferior social referent) or more points (superior social referent). Participants indicated whether they wanted to view the other player’s score before continuing their dice game. After the choice was submitted, all participants saw a processing wheel and were informed that the connection was unavailable right now and that they should proceed with the game. The game resumed and participants completed all of the remaining rounds to maintain the cover story.

Results and Discussion

To compare the choice across three stages, we created two planned orthogonal contrast codes based on our a priori hypothesis: a “Middle Stage” code (−1, 2, −1) comparing the middle stage against the beginning and ending stages and an “Other Stages” code (−1, 0, 1) comparing the beginning stage with the ending stage. We obtained consistent results when dummy coding the stage variable or using multivariate ANOVA instead.
We used a logistic regression model and regressed participants’ choice of viewing or forgoing the other player’s score onto (1) the two contrast codes of stage, (2) the valence of the social referent, and (3) the interactions between valence and each of these two stage codes. The analysis revealed a significant Middle-Stage Code × Valence of Social Referent interaction ($\beta = .21$, Wald’s $\chi^2 (1, N = 301) = 5.02, p < .05$), with no other effects. When participants thought that the social other was superior and thus the comparison would be negative, they were less likely to choose to view this information in the middle stage of the game, compared to the beginning and ending stages, replicating the U-shaped pattern of avoidance behavior ($\chi^2 (1, N = 100) = 4.18, p < .05$ and $\chi^2 (1, N = 95) = 3.93, p < .05$, respectively). In comparison, when participants thought that the social other was inferior and thus the comparison would be positive, participants in all three stages were equally likely to view this information ($\chi^2 (1, N = 101) = 2.38, \text{ns}$ and $\chi^2 (1, N = 106) = .02, \text{ns}$, respectively). See Table 1 for the choice count.

Study 3A provided further support for the proposed social information avoidance behavior and the underlying mechanism. If people knew that the social referent was outperforming them, they were more likely to avoid this information when they were stuck at the halfway point of the task. Knowing that one was outperforming the social other alleviated this avoidance behavior. This study ruled out potential alternative accounts that middle-stage goal pursuers were not interested in all types of social information, or that middle-stage goal pursuers were simply more engaged in their own task and thus avoided social information in general.

Follow-up study. To further validate that it was indeed the fear of negative comparison against a superior other that drove the effects observed in the first two studies, we conducted a follow-up study ($N = 150$; 48 females, $M_{\text{age}} = 33.01$, $SD_{\text{age}} = 10.96$) using the same dice game paradigm. We let all participants make progress to reach the middle stage of the game (i.e., arrive
at the fifth round and earn 460 points) and either informed them that the social other would be superior or inferior or kept the valence of the comparison uncertain before participants made a decision to view or avoid this information. We found that those in the valence-uncertain condition were just as likely to avoid social information (M = 20.0%) as those who thought that the other player was superior (M = 18.0%; $\chi^2 (1, N = 100) = .07$, ns); both conditions showed greater avoidance than those in the inferior social referent condition (M = 40.0%; $\chi^2 (1, N = 100) = 4.76, p < .05$ and $\chi^2 (1, N = 100) = 5.88, p < .05$, respectively). Interestingly, when the valence was uncertain before viewing the information (Studies 1 and 2), middle-stage goal pursuers were more worried about the possibility of a negative comparison than the equally plausible alternative that they could surpass others. The next set of studies (Studies 3B to 5) tested an important downstream consequence of avoiding social information (H3)—avoiding (vs. viewing) social information contributes to the low subsequent motivation in the middle stage.

**STUDY 3B: THE CONSEQUENCE OF AVOIDING SOCIAL INFORMATION**

We followed the same procedures as in Study 3A, and manipulated whether participants viewed information about the social referent (either superior or inferior) or not (the control). We then measured participants’ subsequent motivation for earning extra points toward the goal.

**Method**

*Participants and design.* This study used a Stage (beginning vs. middle vs. ending) × Social Referent Information (not provided vs. superior vs. inferior) between-subjects design. A total of 451 respondents (187 females; $M_{\text{age}} = 33.28$, $SD_{\text{age}} = 10.59$) from MTurk participated for $2.50$ compensation.

*Procedure.* We used the same paradigm as in Study 3A. Instead of giving participants a choice to view or skip social information when they reached the beginning, middle, or ending
stage of the game, for those in the social information conditions we displayed the score of another player (either 70 points above or below the participant’s current score, presented alongside their score, in the same font size, and at the center of the screen). Those in the social information not-provided condition did not receive information about another player’s score.

Afterward, participants had an opportunity to earn more points toward the goal. They could use “special dice” with more faces (8-, 10-, 12-, 20-, 24-, or 30-sided dice) than the traditional six-sided dice they had been using in the game, and the longer they waited before clicking to roll, the higher the number of faces the dice would have for their roll, and thus the more points they could earn. We measured the amount of time that participants persisted in waiting before clicking to roll the dice as a proxy of their motivation to exert effort.

Results and Discussion

We used the same set of orthogonal contrast codes as in Study 3A to examine the motivational pattern of middle-stage goal pursuers. We created another set of contrast codes to compare the control condition with the conditions that had social information (a “Social Referent” code of 2, −1, −1 for the not-provided, superior, and inferior conditions); we captured remaining differences between the superior and inferior social referents with the second code (a “Valence” code of 0, 1, −1).

Because the amount of time participants persisted in waiting was not normally distributed (Kolmogorov-Smirnov test statistic = .23, p < .001), we log-transformed the variable before regressing the persistence measure on two stage codes, two social referent information codes, and all their interaction terms. The analysis revealed a significant main effect of the social referent information code (β = −.097, t(442) = −2.09, p < .05), moderated by the a Middle-Stage Code × Social Referent Information Code interaction (β = −.106, t(442) = −2.28, p < .05).
As expected, when participants did not see social information, there was a significant middle stage effect ($F(2, 147) = 5.76, p < .01$), such that those in the middle stage of the game were significantly less motivated ($M = 74.98$ seconds, $SD = 77.85$) than those in the beginning ($M = 158.72$ seconds, $SD = 289.22$) and ending stage ($M = 183.46$ seconds, $SD = 193.91$); this finding replicated the stuck-in-the-middle effect. However, when participants were made to view this information, those in the middle stage regained motivation, such that they exerted as much effort as those in the beginning and ending stages (superior referent: $F(2, 148) = 1.40$, ns; inferior referent: $F(2, 147) = .57$, ns; see Figure 3; see Table 1 for full report of descriptive statistics).

This study documented an important consequence of avoiding social information: when middle-stage goal pursuers viewed this information, their motivation was restored (H3).

Importantly, although middle-stage goal pursuers deliberately avoided information on superior (and not inferior) social referents (Study 3A and the follow-up to Study 3A), we found that information on both superior and inferior social referents could enhance motivation (Study 3B).

In Studies 4 and 5, we launched shared goal pursuit programs in the field and allowed individuals to join these programs voluntarily. This extended the generalizability of our theory to goals that consumers autonomously chose to pursue (fitness and saving goal), and to longer and more effortful pursuits (e.g., two weeks). We inserted additional questions (Study 4) and an additional task (Study 5) to capture participants’ level of motivation before they had the opportunity to view social information, as well as right after they had skipped or viewed social information, to directly test H2 and H3. In addition, Study 4 used a self-affirmation paradigm to externally enhance confidence against threat for half of the participants, further underscoring the driving mechanism of avoiding potentially threatening comparisons in the middle stage (H2).
STUDY 4: ALLEVIATING THREAT IN A TWO-WEEK WALKING PROGRAM

Individuals who wanted to increase the amount they walked signed up for our two-week walking program voluntarily. We sent them a program survey when they reached 25%, 50%, or 75% of the walking goal, to capture their level of motivation at that moment. Half of the participants then went through a self-affirmation manipulation while the other half were placed in a control condition, before all of them had the opportunity to view (or skip) the progress report of another participant in the same stage of the walking program. We then captured participants’ subsequent motivation for reaching the walking goal.

Method

Participants and design. This study used a Stage (beginning vs. middle vs. ending) × Self-affirmation (affirmed vs. control) between-subjects design. A total of 285 staff members and students (195 females; M_{age} = 28.06, SD_{age} = 12.06; M_{weight} = 144.58 pounds, SD_{weight} = 33.74) from a West Coast university participated in the walking program. Of the participants, 60 were currently using a step tracker; these participants were instructed to remove their step trackers and use the one offered by the lab for the duration of the walking program.

Procedure. Staff members and students voluntarily signed up for the two-week walking program to reach the goal of 100,000 steps. They came into the lab to take the introductory survey (in which we captured their age, gender, and past and current usage of pedometers/step trackers), pick up their assigned pedometer, and receive the full instruction on how to use this pedometer to track their steps over the following two weeks.

Participants reported the number of steps displayed on the pedometer every day on our walking program check-in website. Depending on the condition they were in, participants received a “Program Survey” either when they were at the beginning (25% completed), middle
(50% completed), or ending (75% completed) stage of their walking goal of 100,000 steps. The program survey first captured participants’ level of motivation through four 7-point scale questions: At this moment, how motivated do you think you are to achieve your 100,000 step goal (1 = Not motivated at all, 7 = Extremely motivated), how hard are you planning to work toward achieving the 100,000 step goal (1 = Not hard at all, 7 = Extremely hard), how important is it to you that you achieve the 100,000 step goal by the end of the program (1 = Not important at all, 7 = Extremely important), and how much effort do you plan on putting into achieving your 100,000 step goal for the remaining days of the program (1 = No effort at all, 7 = A great deal of effort). We combined these items to form an index of participants’ motivation before they had the opportunity to view social information ($\alpha = .89$).

Next, under the cover story that we were collecting participants’ attitudes and opinions about life in general, we administered a classic self-affirmation manipulation (Fein and Spencer 1997; Sherman and Cohen 2006). Those in the self-affirmed condition were asked to select one core value (out of five, such as pursuit of knowledge, business, or politics) that was the most important to them and write a paragraph explaining why it was important, and those in the control condition selected one core value that was the least important to them and wrote a paragraph about why this value might be important to someone else.

After the self-affirmation manipulation, participants had the opportunity to view the progress of another participant in the same stage of the walking program. Similar to Study 3A, participants indicated whether they wanted to view this information or skip it. At the end of this program survey, we asked participants how much they liked the program and how likely they would be to recommend this program to others, and among these filler items we inserted the same four 7-point-scale questions as in the beginning of the survey to capture their level of
subsequent motivation after either viewing or skipping social information ($\alpha = .93$). At the end of the two-week program, participants returned the pedometers.

**Results and Discussion**

*Social information avoidance (H1).* We used a logistic regression model and regressed participants’ choice of viewing or forgoing social information onto (1) the two contrast codes of stage, (2) the self-affirmation manipulation, (3) the interactions between self-affirmation and each of these two stage codes. The analysis revealed a significant Middle-Stage Code × Self-Affirmation interaction ($\beta = .25$, Wald’s $\chi^2 (1, N = 256) = 6.92, p < .01$), with no other effects. Without self-affirmation, we observed the same pattern as in prior studies: only 38.1% in the middle stage of the program chose to view this information, compared to 64.6% in the beginning stage and 60.5% in the ending stage ($\chi^2 (2, N = 128) = 7.09, p < .05$). When the self-view was affirmed, participants in all three stages were equally likely to view this information ($\chi^2 (2, N = 128) = 1.58$, ns; see Table 1 for full report of descriptive statistics).

*From low motivation to information avoidance (H2).* Next, we tested whether people in the middle stage were indeed less motivated to exert effort compared with those in the other two stages, and whether this low motivational state was the reason for their information avoidance behavior. A bias-corrected moderated mediation analysis (model 14; Hayes, 2013) supported our predictions (see Figure 4). Arriving in the middle stage of the walking goal led to lower motivation than in the other two stages, replicating the stuck-in-the-middle effect. Importantly, the effect of this low motivational state in the middle stage on the avoidance of social information was moderated by self-affirmation: the pathway from middle stage, low motivation, to social information avoidance was only significant when there was no self-affirmation ($b = -.07, 95\% \text{ CI } [−.2049 \text{ to } -.0018]$).
From information avoidance to lower subsequent motivation (H3). Finally, we tested whether avoidance of social information in the middle stage was indeed the reason that these goal pursuers remained demotivated. We regressed participants’ subsequent motivation (after viewing or skipping social information) on two stage codes, their choice to view/skip social information, and the interaction between stage codes and choice. We also included participants’ original motivation before viewing/skipping social information and the valence of this information as covariates, to control for original motivational state and the potential impact of viewing the progress of a superior versus inferior social referent.

The analysis revealed a significant main effect of original motivation (β = .89, t(248) = 32.25, p < .01) and the choice to view/skip social information (β = .06, t(248) = 1.68, p = .09), moderated by the hypothesized Middle-Stage Code × Choice to View/Skip Social Information interaction (β = .12, t(248) = 4.90, p < .01). Consistent with the results in Study 3B, when participants were in the beginning of the walking program or were approaching the end of the walking program, whether they viewed the social information or not did not change their subsequent motivation (t(84) = 1.77, ns and t(81) = 1.37, ns, respectively). Only when participants arrived in the middle stage of their walking goal did the viewing of the social information significantly enhance their motivation (M = 4.78, SD = 1.06), compared to those who skipped this information (M = 3.76, SD = 1.47, t(85) = 3.76, p < .01; see Figure 5, Table 1).

Through a two-week walking program in the field, this study provided important evidence for our three hypotheses. First, we replicated the finding on information avoidance behavior in the middle stage (H1) using participants’ actual accumulated progress in the program
as goal stage. Second, we showed that information avoidance behavior in the middle stage was indeed driven by participants’ desire to avoid threat, such that those who felt affirmed were less likely to avoid this information (H2). Third, a moderated mediation analysis verified that the avoidance of social information was a result of the low motivational state in the middle stage (H2), and that avoiding social information accounted for why these goal pursuers remained stuck; when they viewed this information, their motivation was effectively restored (H3).

**STUDY 5: THE UNIQUENESS OF SOCIAL INFORMATION IN A SAVING PROGRAM**

We launched our final shared pursuit program in the field—a two-week saving program—and again allowed individuals to join this program voluntarily. The participants in the program completed the introductory survey, and then logged the amount they saved every day for two weeks. To capture their motivation, we sent them a program survey when they reached 35%, 55%, or 85% of the saving goal and offered them an opportunity to learn more about saving. In addition, we underscored the uniqueness of social referent information by offering half of the participants an opportunity to view self-set benchmark information, whereas the other half an opportunity to view social referent information. We then captured participants’ subsequent motivation to learn more about saving.

**Method**

*Participants and design.* This study used a Stage (beginning vs. middle vs. ending) × Information Type (self-set benchmark information vs. social referent information) between-subjects design. A total of 390 students (274 females; \(M_{\text{age}} = 21.91, \text{SD}_{\text{age}} = 3.62\)) from a West Coast university participated in the saving program. Their average monthly income was $1,545.72; the sources of income included part-time job (170 students), full-time job (23 students), parents (139 students), school/scholarship (153 students), and other (36 students).
Procedure. Students voluntarily signed up for the two-week saving program to reach the goal of saving $150. They first took an introductory survey, in which we captured their age, gender, and current source of income, as well as their saving plan—how long it should take for them to reach 35%, 55%, and 85% of the $150 saving goal.

Using our saving program check-in website, students reported the amount they put aside and saved every day. Depending on the condition they were in, students received a “Program Survey” either when they were at the beginning (35% completed), middle (55% completed), or ending (85% completed) stage of their saving goal of $150.

The program survey first offered the students an opportunity to learn more about how to save (e.g., account management; ways to create a spending plan). It displayed five full pages of tips on these topics (see Web Appendix for examples) and instructed students to spend as much or as little time as they would like reading these tips. We measured the time students spent on studying these tips as a proxy for their motivation to exert effort for saving at this moment.

Next, we offered students an opportunity to view either self-set benchmark information (how long they thought it would take them to reach this level of progress, based on an analysis of their response in the introductory survey), or social referent information (how much progress another student in the same stage of the saving program had made). Students indicated whether they wanted to view this information or skip it.

At the end of this program survey, we offered the participants another opportunity to learn more tips on how to save. To differentiate from the first set of tips, this set focused on specific actions they could take, such as cutting costs on transportation, and choosing a credit card, and was a total of eight pages. We emphasized again that these tips were optional, and
students could spend as much or as little time as they would like on them. We measured the time students spent on studying these tips as a proxy for their subsequent motivation.

Results and Discussion

Social information avoidance (H1). The logistic regression model of stage codes, information type, and all interaction terms revealed a main effect of middle-stage code ($\beta = -.21$, Wald’s $\chi^2 (1, N = 353) = 6.17, p = .01$), qualified by a significant Middle-Stage Code $\times$ Information Type interaction ($\beta = -.30$, Wald’s $\chi^2 (1, N = 353) = 13.08, p < .01$). When the information was about a social referent, we observed the same pattern as in prior studies: only 37.9% in the middle stage of the program chose to view this information, compared with 80.6% in the beginning stage and 65.5% in the ending stage, replicating the U-shaped pattern of avoidance behavior ($\chi^2 (2, N = 178) = 23.66, p < .01$). In comparison, when the information was about the self-set benchmark before the program started, participants in all three stages were equally likely to view it ($\chi^2 (2, N = 175) = .96, \text{ns}$; see Table 1 for descriptive statistics). These results underscored the uniqueness of social referent information to middle-stage goal pursuers.

From low motivation to information avoidance (H2). Similar to Study 4, a bias-corrected moderated mediation analysis (model 14; Hayes 2013) showed supportive evidence for our predictions (Figure 6). Arriving in the middle stage of the saving goal led to lower motivation than during the other two stages. The effect of this low motivational state in the middle stage on the avoidance of information was moderated by information type, such that the proposed pathway was only significant for social information ($b = -.10$, 95% CI [−.3313 to −.0189]).

From information avoidance to lower subsequent motivation (H3). Because the time that participants spent on reading tips after they had a chance to view/skip information was not
normally distributed (Kolmogorov-Smirnov test statistic = .12, \( p < .05 \)), we log-transformed this variable and then regressed it on two stage codes, their choice to view/skip information, information type, and all two-way and three-way interaction terms. Similar to Study 4, we also included students’ original motivation before viewing/skipping information and the valence of information as covariates. The analysis revealed the hypothesized Middle-Stage Code \( \times \) Choice to View/Skip Information \( \times \) Information Type three-way interaction (\( \beta = .30, t(339) = 3.65, p < .01 \)). Further decomposing this three-way interaction, we found that among those who had a chance to view social referent information, just as in Study 4, there was a Middle-Stage Code \( \times \) Choice to View/Skip Information interaction (\( \beta = .50, t(170) = 4.57, p < .01 \)); this two-way interaction was not significant among those who had a chance to view self-set benchmark information (\( \beta = -.12, t(167) = -.97, \) ns).

Further decomposing the two-way interaction observed in social referent conditions, we found that when participants were in the beginning of the saving program or were approaching the end, whether they viewed the social information or not did not change their effort exertion (\( t(60) = .26, \) ns and \( t(56) = .86, \) ns, respectively). Only when participants arrived in the middle stage of their saving goal did viewing social information increase their subsequent effort in studying saving tips (\( M = 546.53 \) seconds, SD = 850.23), compared to those who skipped this information (\( M = 36.99 \) seconds, SD = 47.64, \( t(56) = 5.80, p < .01 \); see Figure 7, Table 1).

GENERAL DISCUSSION

Through seven studies using measures of head turns, eye movements, and direct choices, we captured the proposed U-shaped pattern of social information avoidance behavior, both in the lab and in the field. We tested a variety of goals, including a leisure activity goal (Wii bowling),
a marketing knowledge goal (pricing task), gaming (dice game), a fitness goal (walking), and a saving goal. In addition, we employed both between-subject and within-subject designs to ensure internal validity as well as external validity (goal pursuit is a within-subject experience in the real world). A single-paper meta-analysis (McShane and Böckenholt 2017) estimated the total effect size of social information avoidance in the middle stage at .52 [.3439, .6983] (see Web Appendix for the plots).

Implications and Future Research

Our findings extend the information avoidance literature from decision making (e.g., health decisions, investment decisions) to motivation. While much of the prior literature explores information avoidance in environments that are out of an individual’s control (e.g., stock market fluctuations, the spread of health diseases), we explore situations in which one has total control—working toward a valued goal. Instead of avoiding information, prior literature has suggested that people can attend to information and then avoid drawing the most logical conclusion from it (Lord, Ross, and Lepper 1979; Peysakhovich and Karmarkar 2015); they can also weigh and interpret information in a fashion that supports what they want to believe (e.g., exaggerating calorie content of cookies to avoid consuming them; Zhang, Huang, and Broniarczyk 2010). In addition, people counteract threats by forgetting information (Benabou and Tirole 2002; Shu and Gino 2012). Future research can explore other ways information avoidance occurs during goal pursuit; for instance, people who download a joint workout app to enhance early commitment might avoid information by interpreting the feedback in a biased manner rather than uninstalling the app altogether when they arrive at the middle stage.

Another avenue for future research is to explore potential boundaries of social information avoidance. For instance, would optimists be more likely to assume that they are
ahead and thus be more open to receiving social information? How about people who are high on negative affectivity? Would goal centrality matter—that is, when a goal is central to one’s self-view, would people be more likely to leverage everything they have (including social information) to stay motivated, or would they be more likely to avoid threatening information?

Finally, Studies 3B–5 showed that information on superior and inferior others may be equally motivating for middle-stage goal pursuers. We suspect that this may have occurred because the social referents we presented in the studies were very close in progress to the participants. What would happen if the social referent is far ahead or far behind? Would information about distant superiors lead to giving up or inspire greater effort? Would information on distant inferiors lead to coasting or perhaps facilitate helping behaviors in the community? Inquiries along these lines could have important theoretical as well as practical implications; marketers of joint-goal-pursuit websites, apps, and groups could leverage these insights to better design their grouping/matching algorithms and feedback systems, so that members would stay connected, stay attuned to social information, and have a better shot at achieving their goals.
References


Footnotes

4. Target sample sizes for individual experiments were determined in advance of data collection based on consideration of participant availability, study design, and collection method. We aimed for 50-70 subjects in each (between-subject) experimental condition. We reported all data exclusions, manipulations, and measures for each study.
5. Because one’s performance in Wii bowling cannot be drastically improved by exerting greater effort during the 10–15 minutes of the game, we could not test H3 by treating participants’ score after avoiding or checking social information as a proxy for their subsequent motivation. In light of this constraint, to test H3 we designed cleaner and more direct measures of subsequent motivation in Study 3B through Study 5.
6. Both these field experiments were pre-registered on Open Science Framework (https://osf.io) before the launch of the program.
## TABLE 1

**STUDY RESULT SUMMARY**

### Study 1 (N = 69; 38 females; M\(_{age}\) = 21.82, SD\(_{age}\) = 4.00)

**DV: Head Turn Frequency**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>SE</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.4649</td>
<td>.0612</td>
<td>7.60**</td>
</tr>
<tr>
<td>Stage</td>
<td>−.0054</td>
<td>.0013</td>
<td>−4.25**</td>
</tr>
<tr>
<td>Relevance</td>
<td>.1660</td>
<td>.0482</td>
<td>3.44**</td>
</tr>
<tr>
<td>Stage × Relevance</td>
<td>.0024</td>
<td>.0009</td>
<td>2.60**</td>
</tr>
<tr>
<td>Stage(^2)</td>
<td>.0003</td>
<td>.0004</td>
<td>8.16**</td>
</tr>
<tr>
<td>Stage(^2) × Relevance</td>
<td>.0001</td>
<td>.0003</td>
<td>4.73**</td>
</tr>
</tbody>
</table>

### Study 2 (N = 200; 118 females; M\(_{age}\) = 23.00, SD\(_{age}\) = 5.96)

**DV: Fixation Count**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>SE</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.7956</td>
<td>.1247</td>
<td>6.38**</td>
</tr>
<tr>
<td>Stage</td>
<td>−.0355</td>
<td>.0284</td>
<td>−1.25</td>
</tr>
<tr>
<td>Proximity</td>
<td>.3061</td>
<td>.1168</td>
<td>2.62**</td>
</tr>
<tr>
<td>Stage × Proximity</td>
<td>−.0911</td>
<td>.0282</td>
<td>−3.23**</td>
</tr>
<tr>
<td>Stage(^2)</td>
<td>.0000</td>
<td>.0015</td>
<td>−0.00</td>
</tr>
<tr>
<td>Stage(^2) × Proximity</td>
<td>.0068</td>
<td>.0016</td>
<td>4.15**</td>
</tr>
</tbody>
</table>

**DV: Total Fixation**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>SE</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.2386</td>
<td>.0297</td>
<td>8.05**</td>
</tr>
<tr>
<td>Stage</td>
<td>−.0214</td>
<td>.0067</td>
<td>−3.21**</td>
</tr>
<tr>
<td>Proximity</td>
<td>.0675</td>
<td>.0297</td>
<td>2.28*</td>
</tr>
<tr>
<td>Stage × Proximity</td>
<td>−.0159</td>
<td>.0067</td>
<td>−2.38*</td>
</tr>
<tr>
<td>Stage(^2)</td>
<td>.0009</td>
<td>.0004</td>
<td>2.46*</td>
</tr>
<tr>
<td>Stage(^2) × Proximity</td>
<td>.0010</td>
<td>.0004</td>
<td>2.90**</td>
</tr>
</tbody>
</table>

### Study 3A (N = 301; 108 females; M\(_{age}\) = 32.45, SD\(_{age}\) = 10.25)

**DV: Choice Superior Social Referent**

<table>
<thead>
<tr>
<th></th>
<th>Beginning 20 viewed, 33 avoided</th>
<th>Middle 9 viewed, 38 avoided</th>
<th>Ending 18 viewed, 30 avoided</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inferior Social Referent</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beginning 10 viewed, 37 avoided</td>
<td>Middle 19 viewed, 35 avoided</td>
<td>Ending 19 viewed, 33 avoided</td>
</tr>
</tbody>
</table>

### Study 3B (N = 451; 187 females; M\(_{age}\) = 33.28, SD\(_{age}\) = 10.59)

**DV: Motivation (Wait Time)**

<table>
<thead>
<tr>
<th></th>
<th>Did Not View Social Info</th>
<th>Viewed Social Info</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beginning M = 158.72, SD = 289.22</td>
<td>Beginning M = 137.35, SD = 168.12</td>
</tr>
<tr>
<td></td>
<td>Middle M = 74.98, SD = 77.85</td>
<td>Middle M = 158.37, SD = 178.76</td>
</tr>
<tr>
<td></td>
<td>Ending M = 183.46, SD = 193.91</td>
<td>Ending M = 231.44, SD = 306.12</td>
</tr>
</tbody>
</table>

### Study 4 (N = 285; 195 females; M\(_{age}\) = 28.06, SD\(_{age}\) = 12.06)

**DV: Choice No Self-Affirmation**

<table>
<thead>
<tr>
<th></th>
<th>Beginning 64.6%</th>
<th>Beginning 57.9%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Middle 38.1%</td>
<td>Middle 71.1%</td>
</tr>
<tr>
<td></td>
<td>Ending 60.5%</td>
<td>Ending 64.4%</td>
</tr>
</tbody>
</table>

**DV: Motivation (7-point Scales)**

<table>
<thead>
<tr>
<th></th>
<th>Did Not View Social Info</th>
<th>Viewed Social Info</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beginning M = 4.63, SD = 1.03</td>
<td>Beginning M = 5.03, SD = 1.04</td>
</tr>
<tr>
<td></td>
<td>Middle M = 3.76, SD = 1.47</td>
<td>Middle M = 4.78, SD = 1.06</td>
</tr>
<tr>
<td></td>
<td>Ending M = 4.12, SD = 1.13</td>
<td>Ending M = 4.54, SD = 1.45</td>
</tr>
</tbody>
</table>

### Study 5 (N = 390; 274 females; M\(_{age}\) = 21.91, SD\(_{age}\) = 3.62)

**DV: Choice Social Referent Information**

<table>
<thead>
<tr>
<th></th>
<th>Beginning 80.6%</th>
<th>Beginning 57.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Middle 37.9%</td>
<td>Middle 66.7%</td>
</tr>
<tr>
<td></td>
<td>Ending 65.5%</td>
<td>Ending 62.5%</td>
</tr>
</tbody>
</table>

**DV: Choice Self-Set Benchmark Information**

<table>
<thead>
<tr>
<th></th>
<th>Beginning 57.6%</th>
<th>Beginning 57.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Middle 66.7%</td>
<td>Middle 66.7%</td>
</tr>
<tr>
<td></td>
<td>Ending 62.5%</td>
<td>Ending 62.5%</td>
</tr>
<tr>
<td>DV: Motivation (Study Time)</td>
<td>Did Not View Social Info</td>
<td>Viewed Social Info</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Beginning</td>
<td>M = 101.37, SD = 114.41</td>
<td>Beginning</td>
</tr>
<tr>
<td></td>
<td>M = 116.69, SD = 187.46</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>M = 36.99, SD = 47.64</td>
<td>Middle</td>
</tr>
<tr>
<td></td>
<td>M = 546.53, SD = 850.23</td>
<td></td>
</tr>
<tr>
<td>Ending</td>
<td>M = 33.68, SD = 32.85</td>
<td>Ending</td>
</tr>
<tr>
<td></td>
<td>M = 70.49, SD = 74.19</td>
<td></td>
</tr>
</tbody>
</table>
FIGURE 1
HEAD TURNS AS A FUNCTION OF STAGE AND RELEVANCE OF SOCIAL REFERENT (STUDY 1)

FIGURE 2
FIXATION COUNT AS A FUNCTION OF STAGE AND PROXIMITY OF SOCIAL REFERENT (STUDY 2)
FIGURE 3
MOTIVATION AS A FUNCTION OF STAGE AND SOCIAL REFERENT INFORMATION (STUDY 3B)
FIGURE 4
MODERATED MEDIATION MODEL OF THE INFLUENCE OF STAGE ON SOCIAL INFORMATION AVOIDANCE (STUDY 4)

Stage (Middle vs. Others) → Motivation at the Moment → View (vs. Skip) Social Information

- β = -0.11* (Not Affirmed)
- β = -0.29** (Affirmed)

Self-Affirmation

β = 1.46 **

95% CI [-0.0676, 0.0253]
95% CI [-0.2049, -0.0018]

FIGURE 5
SUBSEQUENT MOTIVATION AS A FUNCTION OF STAGE AND THE CHOICE TO VIEW/SKIP SOCIAL INFORMATION (STUDY 4)

Social Referent Information

- Chose to Skip
- Chose to View

Stage

Beginning | Middle | Ending
---|---|---
3 | 4 | 4
4 | 5 | 5
5 | 4 | 4
6 | 5 | 5

Subsequent motivation
FIGURE 6
MODERATED MEDIATION MODEL OF THE INFLUENCE OF STAGE ON INFORMATION AVOIDANCE (STUDY 5)

Stage (Middle vs. Others) $\beta = -23.55^{*}$
Motivation at the Moment $\beta = .002^{**}$
View (vs. Skip) Information $\beta = .002^{**}$

Social Referent Information
95% CI [-.3313, -.0189]

Self-set Benchmark Information
95% CI [-.0855, .0235]

Information Type

FIGURE 7
SUBSEQUENT MOTIVATION AS A FUNCTION OF STAGE AND THE CHOICE TO VIEW/SKIP SOCIAL INFORMATION (STUDY 5)

Social Referent Information

- Chose to Skip
- Chose to View

Stage
Beginning Middle Ending

Subsequent motivation
0 100 200 300 400 500 600 700 800
Appendix A

Study 1 Visual Stimuli

Bowling avatar (relevant social referent)

![Bowling avatar](image1)

Archery avatar (irrelevant social referent)

![Archery avatar](image2)

Appendix B

Study 2 Visual Stimuli (Score Position Counterbalanced)

Proximal social referent

![Proximal social referent](image3)

Distant social referent

![Distant social referent](image4)
Study 1 Room Layout and Dimensions

Web Appendix
Single-Paper Meta-Analysis on Social Information Avoidance across Three Stages (Studies 3–5)

The first contrast is the “Middle Stage” code (−1, 2, −1), comparing the middle stage against the beginning and ending stages; the second contrast is the “Other Stages” code (−1, 0, 1), comparing the beginning stage with the ending stage.