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A Brief Motivational Interview with Action and Coping Planning Components Enhances Motivational Autonomy Among Volunteer Blood Donors

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Abstract

Background—In contrast to standard donor retention strategies (e.g., mailings, phone calls, text messages), we developed a brief telephone interview, based on motivational interviewing principles, which encourages blood donors to reflect upon their unique motivators and barriers for giving. The present study examined the effect of this motivational interview, combined with action and coping plan components, on blood donor motivations.

Study Design and Methods—The design was to randomly assign blood donors to receive either a telephone-delivered motivational interview with action and coping plan components or a control call approximately six weeks after their most recent donation. Participants completed a series of surveys related to donation motivation approximately 3 weeks before telephone contact (pre-call baseline) and then repeated these surveys approximately one week after telephone contact (post-call).

Results—The sample was 63% female, included a majority (52.6%) first-time blood donors, and had a mean age of 30.0 years ($SD = 11.7$). A series of ANOVAs revealed that, relative to controls ($n=244$), donors in the motivational interview group ($n=254$) had significantly larger increases in motivational autonomy ($p=0.001$), affective attitude ($p=0.004$), self-efficacy ($p=0.03$), anticipated regret ($p=0.001$), and intention ($p<0.001$), as well as larger decreases in donation anxiety ($p=0.01$), from pre-call baseline to post-call assessment.

Conclusion—This study supports motivational interviewing with action and coping planning as a novel strategy to promote key contributors to donor motivation.

Keywords

blood donation; motivational interview; donor autonomy

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INTRODUCTION

Although first-time blood donors currently provide nearly a third of all donations in the US annually,¹ less than half will provide a second donation²⁻⁴ and only 2% of first-time donors under the age of 20 years will become committed donors.³ Attrition of first-time donors results in higher recruitment costs to replace them and first time donors are more likely to test positive for blood-borne infectious diseases resulting in resource waste (labor and materials) and fewer components available for transfusion.⁵ Accordingly, more creative and effective approaches are needed to increase donor retention.

Self-Determination Theory proposes that people are more likely to persist with behaviors that are internally versus externally motivated.⁶ This theory views behavior as existing on a self-determination continuum ranging from Non-Regulated behavior (amotivation, characterized by non-action or a complete lack of intent) to autonomous, intrinsically-motivated behavior (characterized by action for the interest, enjoyment, and inherent satisfaction) (Figure 1). Between these extremes are four types of extrinsically-motivated behaviors that reflect increasing levels of self-determination. First, the least autonomous, “External Regulation”, includes behaviors performed to achieve external rewards (e.g., donating blood for thank-you gifts, snacks, or other small rewards). Second, a slightly more autonomous form of extrinsic motivation, “Introjected Regulation”, includes behavior exhibited to avoid guilt or to enhance one’s ego (e.g., donating blood to avoid shame or regret). Third, “Identified Regulation”, characterizes behavior that the individual views as personally important and valuable (e.g., donating blood as an important choice for the health of others). Fourth, the most autonomous form of extrinsic motivation, “Integrated Regulation”, refers to behavior that is viewed as both important and a part of one’s larger system of goals and values (e.g., donating blood as an important part of one’s overall life goals).

For more than 30 years it has been suggested that as individuals gain experience with non-remunerated voluntary blood donation they increasingly internalize the role and expectations of being a blood donor.⁷⁻¹¹ Consistent with Self-Determination Theory, it has been argued that this “donor identity” development reflects a transition from more external forms of motivation that predominate among first-time donors (e.g., peer-pressure) toward more powerful, internal motivational forces that often drive persistence among more experienced donors (e.g., personal satisfaction). Prior studies have also supported the motivational significance of the donor identity construct, with measures of the extent to which donor roles and expectations are internalized as part of the self being positively related to both donation intention and donation behavior.^{9,10,12-157-9} Indeed, several of these studies demonstrated that donor identity could explain additional variance in donation intention over and above the key constructs of the Theory of Planned Behavior (i.e., donation attitude, subjective norm, and perceived behavioral control).¹²⁻¹⁴ Thus, there is both theoretical and empirical evidence to support the notion that a stronger commitment to blood donation may be fostered by enhancing the development of more internalized donor motivation.

Standard donor retention strategies include mailings (physical and electronic), phone calls, or text messages that are designed to bring the need for blood and the location of donation

sites to the attention of prospective donors. In order to supplement the standard approaches, we previously developed a brief (~10 minute) telephone interview, based on motivational interviewing principles, which encouraged blood donors to reflect upon their unique motivators and barriers for giving and how the act of donating blood was compatible with what mattered most to them in life.¹⁶ Our interview process involved a series of open-ended questions designed to honor and enhance individual autonomy in making a future donation decision (as opposed to encouragement to donate again). Specific topics included motivation for past donation(s), the relationship between past donation behavior and the individual's personal goals/values, perceived barriers to future donation, and development of strategies to cope with identified barriers. Compared to no-interview controls, subsequent ratings indicated that exposure to this interview was associated with more positive attitudes towards donation, greater self-confidence in providing a repeat donation, and a significant increase in repeat donation behavior in the subsequent year (67.2% versus 45.2% at 12 months; OR = 2.48, 95% CI 1.27–4.87). Of course, although those who completed the interview reported greater intention to give, not all followed through with a subsequent donation attempt. This phenomenon has been described as an “intention-behavior gap”, and a technique known as implementation intention has been developed in an effort to bridge this gap. Implementation intentions are simple if-then action and coping plans (e.g., if the blood mobile is parked outside of my school, then I will donate) that have been shown to facilitate the translation of goal intentions into behavioral action in a variety of contexts.^{17–21} Further, in a series of studies Godin and colleagues^{22–24} have demonstrated that implementation intentions can also be used to promote blood donor retention. To date, however, this technique to promote behavioral follow-through among blood donors has not been combined with a concomitant intervention to build internal motivation such as a motivational interview.

Accordingly, the primary aim of the present study was to examine the effects of a motivational interview with action and coping planning components on blood donor motivation. The study design extended our prior work¹⁶ in several important respects, including 1) addition of individualized implementation intention plans to address when, where, and how participants would carry out their next donation, 2) use of multiple interventionists to conduct the interviews, and 3) application to a diverse new donor sample that was largely recruited from the New York region. We hypothesized that, compared to a no-interview control call, donors who received a telephone-delivered interview would show greater changes in self-determined motivation and constructs of the Theory of Planned Behavior^{25–27} that have previously been shown to predict donation behavior (e.g., donation attitude, self-efficacy, intention, anticipated regret, and anxiety).

MATERIALS AND METHODS

Survey materials

The pre-call baseline survey began by asking participants to provide basic demographics (e.g., age, sex, and race/ethnicity) and contact information. Next, as shown in Table 1, participants completed a series of surveys related to Self-Determination Theory (i.e., motivational autonomy) and the Theory of Planned Behavior (i.e., donation attitude, subjective norm, perceived behavioral control, and intention).^{13,14,27–32}

Motivational autonomy—Degree of autonomous motivation to donate blood was measured using the Blood Donor Identity Survey,³³ which is an 18-item multidimensional measure of donor motivations based on Self-Determination Theory. The survey yields separate subscale scores for six individual regulatory styles (i.e., Non-regulated, External Regulation, Introjected Regulation, Identified Regulation, Integrated Regulation, and Intrinsic Regulation), which reflect a continuum of increasingly self-determined behavior. In addition, an overall Relative Autonomy Index score is computed based on weightings of the six regulatory style subscales (i.e., multiplied by -3, -2, -1, 1, 2, and 3, respectively) such that higher values represent greater autonomous motivation. In the present study the Relative Autonomy Index score demonstrated good internal consistency at pre-call baseline ($\alpha = 0.76$) and post-call ($\alpha = 0.78$), while the six regulatory style scales demonstrated internal consistency in the acceptable range or above for both administrations (i.e., $\alpha = 0.69$ – 0.91).

Theory of Planned Behavior—Participant donation attitudes (cognitive and affective subscales), perceived behavioral control (self-efficacy and controllability subscales), subjective norms (injunctive norm, descriptive norm), and intention were assessed using a 21-item scale that was developed as a common metric for Theory of Planned Behavior assessment in the blood donation context.²⁷ The validity of these subscales is supported by factor analytic studies, and in the present study each of these scales demonstrated acceptable to high levels of internal consistency across both administrations (i.e., $\alpha = 0.84$ – 0.98). In addition, participants completed three extended Theory of Planned Behavior constructs, including moral norm^{13,30,32,34,35}, anticipated regret^{30,34,35}, and donation anxiety.^{34,35} The moral norm scale, which included 3 items regarding the participants' perception of the moral correctness of blood donation, had high internal consistency at pre-call baseline ($\alpha = 0.88$) and post-call ($\alpha = 0.92$). The anticipated regret scale included 3 items regarding the participants' negative feelings associated with failing to act in accordance with their intention to donate, and demonstrated similarly high internal consistency at both administrations (i.e., $\alpha = 0.95$). Finally, a 3-item scale asked the participants to rate the extent to which they felt nervous, tense, or anxious about donating blood. This scale demonstrated high internal consistency at both pre-call baseline ($\alpha = 0.96$) and post-call ($\alpha = 0.97$) administrations.

Study procedure

Figure 2 provides an overview of the flow of participants from initial recruitment until the post-call assessment. Participants were recruited from New York Blood Center (New York, NY, USA) and Hoxworth Blood Center (Cincinnati, OH, USA) databases two to four weeks after their first donation. Eligible individuals included Group O, whole blood or automated red cell donors who were identified as being first-time donors, were at least 18 years of age, and were deemed eligible to donate again. We were particularly interested in recruiting O– donors given their importance to the blood supply, but chose to also include O+ donors to enhance generalizability; among the subsample who completed a telephone call, 20% were O– and 80% were O+. Eligible donors were contacted via email and invited to participate in the study. The first group of email invitations was sent on 10/29/14 and the last invitations were issued on 7/1/15. A total of 8,506 email invitations were sent, with 97% (8,243) of these going to New York Blood Center donors. For those who were interested, an internet

link was provided that directed them to the study Website. The Website provided informed consent and then allowed participants to complete pre-call baseline surveys (described above) that were delivered via Qualtrics (Qualtrics, Provo, UT, USA). A total of 653 donors provided informed consent to participate; however, 34 failed to complete the baseline survey and therefore were not randomized. Another 21 completed the pre-call baseline survey, but too much time had elapsed since their last donation to randomize them prior to their next date of donation eligibility (i.e., they could have already donated before their assignment to the Interview or Control group). Accordingly, 598 participants were randomly assigned to either the Interview group (n=315) or the Control group (n=283) using block randomization within gender to ensure a relatively equal distribution of men and women in each group.

Approximately six weeks after their donation, study participants received a telephone call from a trained interviewer. Sixty-one participants in the Interview group could not be reached by telephone despite multiple attempts. The remaining 254 participants completed a telephone call that followed a script informed by the principles of motivational interviewing and, if they were interested in donating again, were aided in developing action and coping plans. Specifically, as appropriate and with the participants' permission, the call included a discussion of initial motivations for giving; future donation intentions; perceived donation barriers; perceived importance of donation and donation confidence; personal goals and values relating to donation; action plans for when and where to donate; and individualized how-to coping plans for identified donation barriers. The average interview lasted approximately 13 minutes. Thirty-nine participants in the Control group could not be reached by telephone despite multiple attempts, leaving 244 in the Control group who received a telephone call that thanked them for their previous donation, reminded them of their next date of eligibility, and offered telephone and internet contact information to schedule a future donation.

One week following their telephone call (approximately seven weeks after their donation), participants in both groups received an email/text with a link to the study Website where they could repeat the surveys they completed prior to their telephone call. If they failed to respond within one week, then reminder emails and text messages were sent. To encourage study completion, all participants received a check for \$50 after completing the post-call surveys. This check was mailed to 245 Interview group and 239 Control group participants who completed all elements of the study including the post-call survey.

These procedures were approved by the Institutional Review Boards of Ohio University, New York Blood Center, and the University of Cincinnati. The study was registered with [ClinicalTrials.gov](https://clinicaltrials.gov) (NCT02274064) and additional study detail is available from a published protocol.³⁶

Statistical Analysis

A series of univariate ANOVAs was conducted to examine pre-call baseline to post-call changes in the dependent measures (Blood Donor Identity Survey scales, Cognitive Attitude, Affective Attitude, Self-Efficacy, Controllability, Injunctive Norm, Descriptive Norm, Intention, Moral Norm, Anticipated Regret, and Anxiety), and $p < 0.05$ was used to denote

statistical significance. All analyses were conducted using IBM SPSS Statistics 21.0 (IBM Corp., Armonk, NY).

RESULTS

Sample Characteristics

A total of 598 adults were randomly assigned to either the Interview group (198 women, 117 men) or the Control group (179 women, 104 men). As a whole, the sample had a mean age of 30.0 years ($SD = 11.7$) and self-described as 63.5% White, 11.7% Black or African-American, 11.4% Asian or Asian-American, 0.3% Hawaiian or Other Pacific Islander, 0.2% American Indian or Alaskan Native, 2.7% more than one race, or selected Other (9.5%) or chose not to respond to this question (0.7%). With respect to ethnicity, 18.6% self-identified as Hispanic/Latino(a). The majority of participants (89.1%) provided a whole blood donation and the remainder provided apheresis double red cell donation. Although all participants were listed in the donor database as first-time donors, subsequent telephone contact revealed that 47.4% had previously donated with another blood center; hence, of the subsample that completed the telephone call ($n=498$) only 52.6% indicated that they were a first-time blood donor. Further examination of the subsample who completed a telephone call revealed no significant differences between the Interview and Control groups with respect to mean age or the distribution of participants as a function of sex (male, female), donor status (first time, experienced), or donation type (whole blood, apheresis double red cell). Similarly, the groups did not differ significantly (all $p > 0.10$) in terms of their scores on the psychological measures administered prior to interview or control call (see Tables 2 and 3). As a result, comparisons of group differences on pre-call baseline to post-call change scores were conducted without controlling for pre-call baseline levels.

Interview effects on motivational autonomy

Analysis of the change in overall motivational autonomy score revealed a significant effect of group, $F(1,482) = 10.65$, $p = 0.001$, $d = 0.29$, with participants in the Interview group showing a positive change ($M = 2.02$; $SD = 7.35$) relative to the Control group ($M = -0.02$; $SD = 6.40$). Table 2 provides means and standard deviations for each of the six self-regulatory styles of the Blood Donor Identity Survey at pre-call baseline and post-call. As shown in Figure 3, analyses of the individual regulatory style subscale scores revealed significant group differences in Non-Regulation, $F(1, 482) = 5.81$, $p = 0.01$, $d = 0.22$, Introjected Regulation, $F(1,482) = 7.92$, $p = 0.005$, $d = 0.59$, Integrated Regulation, $F(1,482) = 7.21$, $p = 0.007$, $d = 0.24$, and Intrinsic Regulation, $F(1,482) = 14.46$, $p < 0.001$, $d = 0.34$, but no significant difference in External Regulation, $F(1, 482) = 0.09$, $p = 0.765$, $d = 0.03$, or Identified Regulation, $F(1,482) = 0.00$, $p = 0.998$, $d = 0.00$. Specifically, relative to the Control group, participants in the Interview group had greater decreases in Non-Regulation and larger increases in the more autonomous Introjected, Integrated, and Intrinsic regulatory styles. When these analyses were repeated as a series of 2 Group $\times$ 2 Sex ANOVAs, there were no significant main effects of sex nor any group $\times$ sex interactions; hence, the observed changes in overall motivational autonomy and subscale scores did not differ as a function of sex.

Interview effects on Theory of Planned Behavior constructs

As shown in Table 3, analysis of the Theory of Planned Behavior constructs revealed that the interview had significant effects on the primary constructs of affective attitude, $F(1, 478) = 8.26$, $p = 0.004$, $d = 0.26$, self-efficacy, $F(1, 482) = 4.51$, $p = 0.034$, $d = 0.19$, and intention, $F(1, 481) = 13.58$, $p = 0.000$, $d = 0.34$. Specifically, relative to the Control group, participants in the Interview group reported more positive changes in their emotional response to blood donation, increased confidence in their ability to donate, and greater intention to give within the subsequent eight weeks. With respect to the extended Theory of Planned Behavior constructs, relative to the Control group, participants in the interview group reported greater increases in anticipated regret if they did not donate again within eight weeks, $F(1, 482) = 11.65$, $p = 0.001$, $d = 0.31$, and greater reductions in anxiety about blood donation, $F(1, 482) = 6.25$, $p = 0.013$, $d = 0.23$. When these analyses were repeated as a series of $2 \text{ Group} \times 2 \text{ Sex}$ ANOVAs, there were no significant group $\times$ sex interactions; hence, the effects of the interview on Theory of Planned Behavior constructs did not differ as a function of donor sex. A main effect of sex was observed for descriptive norm, reflecting greater increases in descriptive norm scores for women ($M = 0.6$; $SD = 1.3$) versus men ($M = 0.3$; $SD = 1.5$), $F(1, 480) = 4.56$, $p = 0.03$, $d = 0.01$.

DISCUSSION

Results of the present study support and extend our previous findings that, relative to controls, donors who complete a brief, telephone-delivered motivational interview report more positive donation attitudes, enhanced self-efficacy, and stronger intention to donate again.¹⁶ The interview was also associated with a larger increase in relative autonomy as well as a pattern of changes in the underlying regulatory styles that suggest: 1) movement away from a lack of intent or interest in giving blood (i.e., decreased Non-regulation), 2) an increased sense of personal responsibility to donate blood (i.e., increased Introjected Regulation), 3) enhanced recognition of blood donation as consistent with larger life goals and values (i.e., increased Integrated Regulation), and 4) greater inherent satisfaction from the act of donating (i.e., increased Intrinsic Regulation). While each of these regulatory style changes were in the small to medium effect size range (i.e., $d = 0.22$ – 0.59), they were consistently in the direction of enhanced motivation to give. First, whereas the positive change in Non-Regulation among participants in the Control group suggest a small increase in a motivation, those in the Interview group showed a contrasting decrease on this subscale. Second, group differences in Introjected Regulation indicated that participants in the Interview group experienced greater growth in a relatively external form of motivation based on expected feelings of guilt or shame at the idea of not donating in the future. Although Self-Determination Theory would suggest that such motivation may not be optimal in promoting a sustained commitment to giving, this change nonetheless reflects a growing sense of responsibility to others that may be a particularly powerful motivational influence among relatively new donors. Interestingly, change in Introjected Regulation was positively related to changes in both Integrated Regulation ($r = 0.33$, $p < 0.001$) and Intrinsic Regulation ($r = 0.31$, $p < 0.001$), suggesting that, at least for some, the motivational interview strengthened both external motivation for giving as well as more autonomous forms of motivation. At the same time, given the modest correlation it is also likely that for others the

interview may have increased their perception of blood donation as an important and satisfying part of their lives without promoting negative affect such as regret, guilt or shame. Although identified regulation did not change significantly, the fact that the average score at pre-call baseline was 6 on a 7 point scale suggests ceiling effects wherein the group as a whole could not show much increase on this subscale relative to the other regulatory style subscales. On the whole, the observed pattern of regulatory style changes suggest that donors who participated in the brief interview experienced a potentially important shift towards more internal, self-determined motivation to give again in the future.

In addition to the observed effects on motivational autonomy, it is notable that the motivational interview also produced significant increases in three components of the Theory of Planned Behavior – attitude, self-efficacy, and intention. Attitudes and self-efficacy are typically the most powerful predictors of donation intention, which, in turn, is the best single predictor of subsequent donation behavior.^{12,14,25,26,35,37} Hence, while we are continuing to follow this cohort to carefully examine repeat donation attempts, it is not unreasonable to predict higher donation rates among the Interview versus Control group based on the relatively larger increases observed in affective attitude, self-efficacy, and intention. Interestingly, one component of the Theory of Planned Behavior that was not differentially affected by the interview was subjective norm, or perceived pressure to donate from important others. Given that the motivational interview is designed to help interviewees clarify their own goals rather than steer them towards donation, it is not surprising that participants did not report significant changes in either injunctive norms (i.e., extent to which important others were recommending that the participant engage in blood donation) or descriptive norms (i.e., the extent to which important others were engaging in donation behavior). Further, despite being one of the original components of the Theory of Planned Behavior, subjective norm has not been a reliable predictor of blood donation intention and behavior.^{12,14,25,26,29,30,35,37,38}

The results of the present study are consistent with previous research regarding the efficacy of motivational interviewing as a tool to resolve ambivalence and increase motivation towards the adoption of a variety of health-related behaviors, such as lifestyle changes to modify diabetes risk, interventions to promote treatment adherence, and adoption of diet and exercise regimens.^{39–44} Our brief, scripted telephone interview allows donors to explore their reasons for and against a future donation attempt, encourages them to reflect upon how donation behavior corresponded to their larger goals and values, and supports their confidence to engage in future donations. Importantly, the current study also extends our prior work on motivational interviewing¹⁶ by incorporating action and coping planning components. Specifically, interviewers used implementation intention techniques (i.e., simple if-then plans) to facilitate the translation of donation intentions into specific action and coping plans to address the when, where, and how to donate. Unfortunately, because of limited resources, we were not able to conduct a full factorial model that allowed for separate groups with and without the motivational interview and implementation intention components. As a result, it is not possible from the current data to determine whether both of these components are needed to achieve similar benefits, or whether equivalent effects may be observed with a shorter intervention that includes only one or the other. Another limitation that is worthy of note is the challenge inherent in implementing a motivational

interview among typical blood donors. On a practical level, it may be difficult to get most donors to participate in the interview. In this study 81% (254/315) of those assigned to the interview group completed the phone call; however, this high level of adherence is likely to be inflated by the monetary incentive that was offered to study participants. Ongoing personnel costs may also limit the viability of a live interview approach. In anticipation of these implementation challenges, we have developed an automated interview that can be delivered online using a variety of interfaces such as a computer, tablet, or smartphone. While an automated approach has unique limitations relative to a live interview, it also has distinct advantages in terms of cost, accessibility, and consistency. Pending empirical evidence in support of its efficacy, we believe that an automated post-donation interview may offer an alternative, cost-effective method of encouraging donor retention.

In sum, the current study demonstrates that a motivational interview that focuses on the unique barriers faced by individual donors enhances key predictors of future donation behavior and promotes an overall increase in autonomous motivation.

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Figure 1.

Types of motivations and their associated regulatory styles according to Self-Determination Theory (adapted from Ryan & Deci, 2000).

Figure 2.
Participant flow chart.

Figure 3.
Mean (SEM) pre-call baseline to post-call survey change scores for each of the six self-regulatory styles of the Blood Donor Identity Survey.

Table 1

Survey measures completed by participants.

Survey	Description	Sample item	Response Anchors
Blood Donor Identity Survey	An 18-item multidimensional measure of motivations that yields an overall Relative Autonomy Index as well as six regulatory style subscales, ranging from unmotivated to increasingly autonomous motivation.	"Donating blood is consistent with my life goals."	(1) Not at all true to (7) Very true
Attitude	A 6-item measure that yields a total attitude score as well as subscale scores of cognitive attitude (evaluative judgments) and affective attitude (emotional reactions).	"For me, donating blood within the next 8 weeks would be..."	(1) Unpleasant to (7) Pleasant
Perceived Behavioral Control	A 6-item measure that yields a total perceived behavioral control score as well as subscale scores of self-efficacy (confidence) and controllability (perceived ability).	"How confident are you that you will be able to donate blood within the next 8 weeks?"	(1) Not very confident to (7) Very confident
Subjective Norm	A 6-item measure of perceived social pressure or expectations of significant others as well as subscale scores of injunctive norms (perceived expectations of others) and descriptive norms (perceived behavior of others).	"The people who are most important to me think I should give blood in the next 8 weeks."	(1) Disagree to (7) Agree
Intention	A 3-item measure of one's intention to donate blood within the next 8 weeks.	"I plan to donate blood in the next 8 weeks."	(1) Disagree to (7) Agree
Moral Norm	A 3-item measure of perceived moral correctness associated with the act of donating blood.	"I feel a moral obligation to give blood."	(1) Strongly agree to (7) Strongly Disagree
Anticipated Regret	A 3-item measure of negative feelings associated with failing to act in accordance with one's intention to donate within the next 8 weeks.	"If I do not donate blood within the next 8 weeks, I will regret it."	(1) Very unlikely to (7) Very likely
Anxiety	A 3-item measure of anxiety expected during blood donation.	"If I donate blood I will feel nervous."	(1) Not at all to (7) Very much

Table 2

Means (SDs) of pre-call baseline and post-call scores for each of the six self-regulatory styles of the Blood Donor Identity Survey.

Measure	Range	Group	Pre-call		Post-call	
			Mean	(SD)	Mean	(SD)
Non-Regulated	1-7	Control	3.00	1.36	3.09	1.34
		Interview	3.09	1.34	2.91	1.39
External Regulation	1-7	Control	1.61	0.97	1.66	1.11
		Interview	1.61	1.06	1.68	1.14
Introjected Regulation	1-7	Control	3.59	1.78	3.80	1.78
		Interview	3.31	1.79	3.85	1.91
Identified Regulation	1-7	Control	6.08	0.94	6.09	0.92
		Interview	5.98	1.07	5.99	1.16
Integrated Regulation	1-7	Control	5.27	1.44	5.41	1.29
		Interview	5.18	1.47	5.56	1.44
Intrinsic Regulation	1-7	Control	4.67	1.53	4.76	1.49
		Interview	4.52	1.54	4.99	1.52

Table 3

Means (SDs) of pre-call baseline, post-call, and pre-call baseline to post-call survey change scores. Effect sizes are provided as Cohen's d values.

			Pre-call		Post-call		Pre-call to Post-call Change			
Measure	Range	Group	Mean	(SD)	Mean	(SD)	Mean	(SD)	p	d
Cognitive Attitude	1-7	Control	6.3	1.1	6.2	1.1	-0.1	1.3	0.556	0.05
		Interview	6.2	1.1	6.2	1.3	0.0	1.4		
Affective Attitude	1-7	Control	5.3	1.3	5.2	1.4	-0.1	1.3	0.004	0.26
		Interview	5.1	1.5	5.4	1.4	0.3	1.3		
Self-Efficacy	1-7	Control	5.3	1.6	5.6	1.4	0.3	1.3	0.034	0.19
		Interview	5.2	1.7	5.8	1.4	0.6	1.3		
Controllability	1-7	Control	5.8	1.4	5.7	1.4	0.0	1.2	0.739	0.03
		Interview	5.8	1.5	5.8	1.4	0.0	1.4		
Injunctive Norm	1-7	Control	4.3	1.8	4.6	1.6	0.3	1.4	0.159	0.13
		Interview	4.2	1.8	4.8	1.8	0.5	1.6		
Descriptive Norm	1-7	Control	2.5	1.4	3.0	1.6	0.4	1.2	0.432	0.07
		Interview	2.7	1.5	3.3	1.6	0.5	1.5		
Intention	1-7	Control	4.9	1.9	5.3	1.7	0.5	1.3	< 0.001	0.34
		Interview	4.7	2.0	5.7	1.6	1.0	1.6		
Moral Norm	1-7	Control	3.8	1.9	3.9	1.9	0.1	2.4	0.202	0.12
		Interview	3.8	1.9	3.7	2.0	-0.1	2.0		
Anticipated Regret	1-7	Control	3.6	1.9	4.0	1.9	0.4	1.4	0.001	0.31
		Interview	3.3	1.9	4.2	2.0	0.9	1.5		
Anxiety	1-7	Control	2.9	1.9	2.9	1.9	0.0	1.2	0.013	0.23
		Interview	3.0	2.0	2.7	1.9	-0.3	1.2		