

Special section article: Putting the Social (Psychology) into Social Media

Self-determination theory, social media and charitable causes: An in-depth analysis of autonomous motivation

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Abstract

Using the framework of the self-determination theory continuum, we investigated the influence of the distinct autonomous and controlled motivational regulations for engaging participants in online and offline support of charitable events for the causes of breast cancer and homeless youth. Participants were exposed online to Facebook event pages appealing to helping others. When the often omitted integrated autonomous regulation was included in the model, it was the strongest predictor of supportive intentions. Without integrated regulation in the model, we would have overestimated the relatively minor influence of controlled introjected regulation. Furthermore, rather than one overall measure of autonomous intrinsic regulation, we assessed the differential influences of three separate dimensions (to experience stimulation, to learn and to accomplish). Intrinsic motivation to experience stimulation had a unique influence on online and offline supportive intentions. Such was not the case for the dimensions of to learn or to accomplish. Follow-up meditation analyses of self-reported behaviours confirmed that autonomous integrated and intrinsic to experience stimulation regulations led to stronger intentions to support online behaviours, which, in turn, increased the likelihood of actual online engagement. The findings in a social media context highlight the importance of analysing distinct regulatory styles within the self-determination theory continuum. Copyright © 2015 John Wiley & Sons, Ltd.

The medium is the message

– Marshall McLuhan

The impact of a theory in social psychology is greater if, over time, it not only provides a better understanding of behaviour in existing domains but also when it becomes pertinent in new ones. McLuhan (1964) pointed out that because of new technology, our values, norms and ways of doing things change; it is then we realize the important social implications. Social media is one such fundamentally new domain that offers exciting opportunities to address research questions in social psychology (Greitemeyer, 2011; Greitemeyer & Kunz, 2013; Muscanell & Guadagno, 2012). Such is the case for the self-determination theory (SDT), a pertinent framework for improving our understanding of human motivation in a vast array of life domains including education, workplace, parenting, health care, sport and exercise, and interpersonal relationships (Banack, Sabiston, & Bloom, 2011; Deci et al., 2001; Ryan & Deci, 2000b; Ryan, Patrick, Deci, & Williams, 2008; Vallerand et al., 1992; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). A highly relevant domain that SDT has yet to venture into is that of the role of motivation within the context of social media.

The Self-determination Theory

Self-determination theory is a “macro-theory” dealing with multiple components of human motivation (Moller, Ryan, & Deci, 2006). Motivation is viewed as the interplay between internal states and external factors impacting those states. It is both influenced by and dependent upon social and environmental factors (Deci & Ryan, 1985). SDT explains motivation through the concept of need satisfaction, whereby individuals are at their most self-determined in an activity when the psychological needs of autonomy, competence and relatedness can be satisfied (Deci & Ryan, 2000). Autonomy refers to feeling volitional, with a sense of deliberate choice in one’s behaviour; competence refers to the feeling of control and mastery over one’s environment; and relatedness refers to the close relationships one develops in various life domains (Deci & Ryan, 2000; Ryan & Deci, 2000a). The more that individuals experience these need satisfactions in a given domain, the greater is the likelihood they will internalize and take responsibility and ownership of their actions (Pelletier, Rocchi, Vallerand, Deci, & Ryan, 2013). The fulfilment of these psychological needs is associated with a number of positive outcomes

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including well-being, vitality and work satisfaction (e.g. Deci & Ryan, 2008; Gagné & Deci, 2005).

Self-determination theory expands on the concepts of intrinsic and extrinsic motivation by positing a continuum of motivational regulation ranging from amotivation through controlled to autonomous motivation (Deci & Ryan, 2000; Gagné & Deci, 2005; Pelletier et al., 2013). The lowest form of self-determination is amotivation where a person lacks intention or is not conscious of why he or she is doing an activity. Conceptually, self-determined motivation increases up the continuum moving from external, introjected, identified, integrated and on to intrinsic regulation of motivation. Controlled motivation involves both external and introjected regulation. *External* regulation occurs when behaviour is imposed on the person through implicit approval or punishment and rewards. *Introjected* regulation explains behaviour resulting from feelings of guilt, lowered self-esteem or attacks on ego. Autonomous motivation can be engendered through extrinsic regulation regardless of whether the person perceives the behaviours to be intrinsically interesting (Vallerand, 1997). *Identified* regulation of autonomous motivation describes behaviours that are experienced as personally important and worthwhile. *Integrated* regulation of autonomous motivation occurs when a person's behaviour is experienced as an integral part of who they are and is congruent with their sense of self. *Intrinsic* autonomous regulation results from the inherently interesting characteristics of the behaviour itself. Finally, three dimensions of intrinsic motivation are also postulated by Vallerand (1997): to experience stimulation, to know and to accomplish. Vallerand (1997) proposed a hierarchical model describing three levels of factors that influence SDT motivation: global, contextual and situational motivation. The present research assessed motivation for prosocial behaviour using a combination of contextual (charitable causes) and situational (particular events) factors.

Self-determination theory research consistently shows that autonomous motivation tends to engender well-being, personal endorsement of behaviour and a fuller engagement with it (Moller et al., 2006; Ryan & Deci, 2000a; Vansteenkiste et al., 2004). Autonomous motivation is most likely to result in these positive outcomes, whereas controlled motivation is often unrelated or negatively related to such adaptive outcomes (Vallerand, Pelletier, & Koestner, 2008). Similar to the positive and negative outcomes of dichotomous autonomous versus controlled motivations in SDT, Gebauer, Riketta, Broemer, and Maio (2008) reported that pleasure-based prosocial motivation was related, among other things, to self-actualization, well-being and positive affect, whereas pressure-based motivation was related only to negative affect. People have a fundamental need to be autonomous and to feel that they are freely choosing their own actions. Autonomous motivation prompts changes that are likely to be maintained over time because it facilitates full internalization and self-regulation (Moller et al., 2006). Social media possess the essential characteristics of autonomy-supportive contexts because they foster the exchange of user-generated content among participants who can by choice build relationships, collaborate, establish trust, and help others more effectively and efficiently than in the past (Kaplan & Haenlein, 2010).

Substantial research over the last three decades indicates that the social context can diminish or enhance autonomous

motivation (Moller et al., 2006). The differential nature of autonomous and controlled motivation is particularly relevant in the context of prosocial behaviours, defined as acts undertaken to protect or enhance the welfare of others. Weinstein and Ryan (2010) suggested that autonomous motivation results in people putting more effort and care into their actions because they experience a greater sense of personal volition and have more meaningful reasons for engaging in prosocial acts. Gagné (2003) proposed a mediational effect of autonomous motivation on prosocial behaviour. In this respect, the relationship between empathy identification with people in need (Pavey, Greitemeyer, & Sparks, 2012), or with a charitable cause, (Paulin, Ferguson, Jost, & Fallu, 2014) and the willingness to help others was found to be mediated by autonomous motivation but not by controlled motivation.

Vallerand (1997) postulated that the overall SDT continuum reflects sequentially low to high levels of self-determination. Thus, in the autonomous motivation section of the continuum, intrinsic regulation should engender the most positive consequences followed by integrated and identified regulations. This progression was the basis for the calculation of the relative autonomy index (RAI), whereby differential weightings were applied to the individual regulations (Ryan & Connell, 1989). However, the ability of the SDT continuum of regulations to progressively predict positive outcomes has since been questioned (Chemolli & Gagné, 2014; Koestner & Losier, 2002). In many research contexts, there is a need to focus on the distinct regulatory styles rather than relying on a composite score such as the RAI (Koestner & Losier, 2002). Chemolli and Gagné (2014) pointed out that the multidimensionality of motivation, being one of SDT's strengths relative to other motivation theories, is lost with the use of the RAI because it fails to take into account a person's multiple motives. Also, when the nature of the task does not involve intrinsically interesting tasks, identified regulation might be more predictive of positive consequences than intrinsic motivation (Vallerand et al., 2008). Integrated regulation as a dimension of autonomous motivation has been conspicuously absent in the aforementioned critique of the sequential predictive power of the SDT continuum. In many contexts, there may be a need to study the implications of both integrated regulation and the three dimensions of intrinsic regulation.

Two Issues Concerning the Assessment of Autonomous Motivation

The Inclusion of Integrated Regulation

Although the integrated regulation construct is conceptually justified within the SDT continuum, it has been omitted in several scales such as the Academic Motivation Scale (Vallerand et al., 1992), the Behavioural Regulation in Exercise Questionnaire (Mullan, Markland, & Ingledew, 1997) and the Sport Motivation Scale (Pelletier et al., 1995). The justifications for the omission of integrated motivation allude to the following: young respondents not having a well-developed sense of self (Vallerand, 1997), perceived difficulty in psychometrically differentiating integrated and identified regulation (Gagné et al., 2010) and to obtain parsimony of scale items (Guay, Vallerand, & Blanchard, 2000). However,

Mallett, Kawabata, Newcombe, Otero-Forero, and Jackson (2007) suggested that the scale should include a measure of integrated regulation, and recent studies have included both identified and integrated constructs in the assessment of autonomous motivation (Amiot & Sansfaçon, 2011; Pelletier et al., 2013).

In the present study, we employed the Motivation Scale of Guay, Mageau, and Vallerand (2003) with the addition of integrated regulation as assessed by Amiot and Sansfaçon (2011). This adapted scale reflected the conceptual differences between identified and integrated regulations as described by Pelletier et al. (2013). Identified regulation is when one's behaviour is experienced as personally important and worthwhile (i.e. become the person I aim to be, attain my objectives and goals, or invest in what is important to me). Integrated regulation occurs when the behaviour is not only seen as valued but also congruent with the individual's other life goals, objectives and needs (i.e. part of who I am, very meaningful for me, something I value deeply or in line with my personal goals). We suggest that given the participants, contexts and situations investigated in the present research, there may be an even greater justification for including integrated regulation in the assessment of autonomous motivation. Our participants' sense of self may be more developed than that of younger subjects. Also, the outcomes evaluated in our research were prosocial behaviours for online and offline support of charitable events.

The Inclusion of Three Dimensions of Intrinsic Motivation

Although intrinsic motivation was originally defined and described as a unidimensional construct (Deci, 1971), it is also posited to be multidimensional (Deci, 1975; White, 1959). Specifically, intrinsic motivation includes three dimensions: motivation towards experiencing stimulation, acquiring knowledge and accomplishment (Vallerand, Blais, Brière, & Pelletier, 1989; Vallerand et al., 1992, 1993). *Motivation to experience stimulation* is intrinsic when one engages in an activity for the sheer joy, fun or pleasurable sensations that arise from the task. It is operative when that engagement is associated with sensation seeking as well as aesthetic and peak experiences (Vallerand, 1997). *Motivation towards knowledge* (to know) occurs when one engages in an activity for the pleasure and satisfaction of learning, exploring or trying to understand something new (Vallerand, 1997). Intrinsic motivation to know is also related to concepts of curiosity and intellectuality (Harter, 1981; Lloyd & Barenblatt, 1984; Vallerand, 1997). *Motivation towards accomplishment* means being stimulated by the prospect of outdoing oneself or by creating something new. The most important aspect of intrinsic motivation towards accomplishment is that it does not focus on the end result but rather on the process (Vallerand, 1997). Furthermore, this concept is linked to mastery motivation, defined as a psychological force stimulating an individual to solve a problem or master a skill that is challenging in nature (Morgan, Harmon, & Maslin-Cole, 1990).

Therefore, the aim of this research was to closely analyse the distinct influences of the various regulations of autonomous motivation on online and offline support of events for two charitable causes. Specifically, this research addresses

two issues with regard to the regulation of autonomous motivation within the SDT continuum. First, because prosocial helping others behaviours are driven by moral values, integrated regulation should be an important motivating factor. Therefore, we hypothesize that the inclusion of assessments of integrated autonomous extrinsic regulation would result in stronger predictions of online and offline support of events for charitable causes promoted through social media. Second, the assessment of all three dimensions of intrinsic motivation could add to our knowledge of the possible role of each in predicting outcomes in this context? Amiot and Sansfaçon (2011) using an overall measure of intrinsic motivation could only speculate that an emotional or even an uncontrollable sense of excitement can explain the ability of intrinsic motivation to predict satisfaction and persistence in an online gaming activity. Therefore, we hypothesize that in a social media environment, the assessment of the three dimensions of intrinsic motivation would bring to light differences in the emotional (to experience stimulation) versus the more cognitive (to lean and to accomplish) influences on online and offline support of events for charitable causes.

METHOD

Participants

The subjects in this research were students at a Canadian university business school with 7500 undergraduate students, approximately 1500 of which are in their first year. The samples in our investigations were drawn from the same population of first-year students taking two compulsory courses. Students gain 2% of their course grade by participating in research projects. No monetary or other incentive for participation was offered. Historically, over 65% of the students participate in these research projects. Given the social media context of our studies, students participated online using platforms associated with their respective courses.

Design

Using identical frameworks, we conducted two separate online investigations of motivation in support of events for the causes of breast cancer and homeless youth. Participants were presented with Facebook private event page appeals describing the "Denim Night Party" for the cause of breast cancer and the "Five Days for the Homeless" event for homeless youth. The Facebook pages included the event picture, more information, likes, comments and videos designed to appeal to prosocial behaviours aimed at benefiting others. For example, the appeal for the breast cancer event focused on the following: we are doing good, we raised \$17 000 last year, we wear the pink flower, we can find a cure and we are proud of our community. Similarly, the homeless youth event emphasized that "we take to the streets to raise funds," "it makes 'cents' to participate," "working together we can help the homeless" and "there is strength in numbers."

The Denim Night Party was associated with the nonprofit "Cure Foundation" and Five Days for the Homeless with the

“In the Street” organization. At the breast cancer events, participants traditionally dress according to a denim theme. At Five Days for the Homeless, a few students, professors and celebrities live and sleep on the street adjacent to the university. Both events have been organized in past years as partnerships between these charitable organizations and student associations at their business schools. These events were purposely chosen because of their specific differences. The breast cancer event was for a cause that is normally more a concern later in life than is homeless youth. These events also differ as to the physical implications. At the Denim Night Party, the student is an active participant. However, unless the student is actually one of the few sleepers, or a street volunteer, participation at Five Days for the Homeless is passive observation and interactions with volunteers. Finally, the Denim Night Party was a proposed event, whereas Five Days for the Homeless was an actual event. This second event served to determine if the findings from breast cancer could be replicated and also to investigate the influences of online and offline supportive intentions on the relationship between significant SDT motivational regulations and actual self-reported behaviours.

Procedures

Social media are characterized as public or semi-public communication spaces where the visible display of connections is crucial. An others-benefit Facebook appeal was found to be more effective than a self-benefit appeal for engaging support of events for charitable causes (Paulin et al., 2014). Also, in a non-social media context, White and Pelozo (2009) found that when people were publicly accountable for their actions, an others-benefit appeal was more effective than a self-benefit appeal in soliciting volunteer intentions and monetary donations. The reverse was true when the prosocial actions were private. Therefore, in the present studies, the participants were shown Facebook pages appealing to the benefits others would receive from their support of the causes. They were instructed to carefully examine the event picture, the “more information” section, and the comments, “likes” and videos on the pages. In addition to assessing the study variables, the online survey contained questions asking the participant about the content of the aforementioned sections of the Facebook pages. Verification for non-compliance to the instructions, errors indicating that the pages had not been carefully scrutinized, substantial missing survey data or too little time taken to complete the task resulted in the exclusion of the participant’s data from subsequent analyses. Such data were judged to be unreliable and unusable.

The breast cancer investigation involved 250 students who viewed a Facebook appeal for the “Denim Night Party” breast cancer event and responded to a questionnaire. Verification procedures resulted in the exclusion of 42 participants leaving a sample of 208 (99 men; 109 women). The homeless youth investigation involved 423 students who viewed online a Facebook appeal for the “Five Days for the Homeless” event. Verification procedures resulted in the exclusion of 39 participants leaving a sample of 384 (159 men; 225 women). In a follow-up study of self-reported behaviours, the 384 participants were contacted by e-mail in the 2 weeks following

the Five Days for the Homeless event. They were asked to respond by indicating yes or no to items on a list of possible actions with regard to the event. Subsequently, the actions were grouped into the categories of online and offline behaviours. For example, online actions were any of the following: donating online, following the event, commenting and sharing information online. Offline actions included being a sleeper, visiting the site, being a volunteer, discussing with sleepers and volunteers, donating via a volunteer, or attending opening and closing ceremonies. No monetary or other incentives were offered in return for this information. A total of 149 participants (39%) responded to the e-mail request. The sub-sample of follow-up respondents appeared to be unbiased given that there were no significant differences in supportive intentions between those participants who did or did not respond to the e-mail request for behaviour information (online: $M = 3.33$, $SD = 0.88$ vs $M = 3.49$, $SD = 0.94$; $t(382) = -1.66$, $p = .10$ and offline: $M = 3.15$, $SD = 0.78$ vs $M = 3.24$, $SD = 0.94$; $t(382) = 0.96$, $p = .34$).

Materials

The eight regulation variables of the SDT continuum were measured using a 32-item scale adapted from Guay et al. (2003) and Amiot and Sansfaçon (2011). The scale included four items for each of the measures: amotivation, external, introjected, identified and integrated regulation, as well as intrinsic motivation to experience, to know and to accomplish. The SDT continuum scales were introduced with the statement “I would become engaged in events for social causes like the Denim Night Party or the Five Days for the Homeless.” The items are presented in the Appendix.

The dependent variables in both investigations included two 4-item scales of supportive intentions. The *online* intentions scale was prefaced with the statement “The Facebook event page makes me want to...” The items are: “... respond that I like some of the postings,” “... post my comments to it,” “... share it with my friends and others in my network” and “... share some of the videos, pictures and links.” The *offline* intentions scale was prefaced with the statement “Other things considered, I would...” The items are “... attend,” “... make a donation,” “... volunteer to help out” and “... willingly be on the organizing committee.” All measures were assessed with 5-point Likert scales with endpoints of strongly disagree to strongly agree.

RESULTS

Similar results for the descriptive statistical analyses were found for the breast cancer and homeless youth investigations (Tables 1 and 2, respectively). All variables were fairly well normally distributed, and no outliers greater than three standard deviations were detected. Hence, parametric analyses could be applied. The Cronbach alphas ($\alpha = .70$ to $.88$) demonstrated appropriate construct reliabilities in both data sets. The mean values for the variables within the SDT motivation continuum tended to increase moving up from amotivation to extrinsic controlled to extrinsic autonomous

Table 1. Descriptive statistics, internal consistencies and correlations (breast cancer event)

Variable	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7	8	9
1 Amotivation	2.04	0.70	.71									
2 External regulation	2.43	0.78	.72	.32***								
3 Introjected regulation	2.12	0.79	.77	.31***	.52***							
4 Identified regulation	3.07	0.74	.72	-.05	.34***	.22**						
5 Integrated regulation	3.15	0.83	.80	-.23**	.06	.18*	.63***					
6 IM to experience stimulation	3.39	0.80	.80	-.10	.24**	.25***	.60***	.54***				
7 IM to know	3.32	0.78	.88	.02	.26***	.21**	.60***	.49***	.54***			
8 IM to accomplish	3.16	0.84	.83	-.03	.37***	.27***	.62***	.45***	.57***	.57***		
9 Online intentions	3.05	0.92	.88	-.12	.06	.20**	.39***	.49***	.48***	.37***	.28***	
10 Offline intentions	3.02	0.93	.83	-.18**	.03	.19**	.36***	.52***	.39***	.35***	.32***	.67***

Note: $N=208$. IM, intrinsic motivation.

* $p < .05$;

** $p < .01$;

*** $p < .001$.

Table 2. Descriptive statistics, internal consistencies and correlations (homeless youth event)

Variables	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7	8	9
1 Amotivation	2.03	0.80	.82									
2 External regulation	2.38	0.80	.75	.38***								
3 Introjected regulation	2.10	0.80	.79	.37***	.49***							
4 Identified regulation	3.22	0.76	.70	.11*	.42***	.23***						
5 Integrated regulation	3.26	0.86	.84	-.05	.14**	.24***	.62***					
6 IM to experience stimulation	3.46	0.85	.84	.03	.27***	.21***	.51***	.52***				
7 IM to know	3.52	0.84	.87	.06	.20***	.13*	.54**	.45***	.56***			
8 IM to accomplish	3.09	0.85	.80	.19***	.37***	.25***	.66***	.44***	.59***	.67***		
9 Online intentions	3.43	0.92	.88	-.03	.14**	.17**	.23***	.41***	.33***	.18***	.18**	
10 Offline intentions	3.21	0.88	.83	-.07	.07	.21***	.31***	.50***	.39***	.31***	.25***	.66**

Note: $N=384$. IM, intrinsic motivation.

* $p < .05$;

** $p < .01$;

*** $p < .001$.

motivation. Not surprisingly, in the two studies, respectively, the three forms of intrinsic motivation were significantly inter-related ranging from $r = .54$ to $.57$; $p < .001$ and $r = .56$ to $.67$; $p < .001$, as were the online and offline intentions to support the events ($r = .67$; $p < .001$ and $r = .66$; $p < .01$). In both the breast cancer and homeless youth events, there was a tendency for the correlations between the SDT motivation variables and the online and offline supportive intentions to increase progressively from amotivation to extrinsic controlled to extrinsic autonomous regulation. However, the correlations of the three intrinsic regulation variables with online and offline supportive intentions tended to be much lower than those found for integrated motivation.

Three-step hierarchical regression analyses were carried out with four models using the dependent variables of online and offline supportive intentions for both events. The process began with the entry of the independent variables of amotivation and external and introjected regulations, followed by identified and integrated regulations and finally the intrinsic regulations to experience, to know and to accomplish. The regression analyses (Table 3) showed that the incremental R^2 values increased significantly from the first to the second step in all four models. However, from the second to the third step, the incremental R^2 's were significantly smaller, except for offline intentions in the breast cancer event. Comparisons of

the significant beta coefficients indicate that in both investigations, integrated motivation was a significant predictor of supportive intentions in all four models and the strongest predictor of offline intentions ($\beta = .37$; $p < .001$, breast cancer event, and $\beta = .39$; $p < .001$, homeless youth event) and also of online intentions ($\beta = .39$; $p < .001$, homeless youth event). The intrinsic motivation to experience stimulation was a significant predictor of online intentions in both events ($\beta = .30$; $p < .001$, breast cancer, and $\beta = .20$; $p < .01$, homeless youth) and also in offline intentions in the homeless youth event ($\beta = .17$; $p < .01$). Introjected motivation was also found to be a significant positive predictor of offline intentions in both events ($\beta = .17$; $p < .05$, breast cancer, and $\beta = .15$; $p < .01$, homeless youth). Identified extrinsic motivation was not a significant predictor of online or offline intentions to support either of the charitable events.

Analyses of Two Issues Regarding the Assessment of Autonomous Motivation

The Assessment of Integrated Regulation

The aforementioned regression analyses suggested that integrated regulation was a major predictor of both online and offline supportive intentions for both charitable events

Table 3. Hierarchical linear modelling results

	Breast cancer event (N = 208)						Homeless youth event (N = 384)					
	Online			Offline			Online			Offline		
	ΔR^2	b	SE	β	ΔR^2	b	SE	β	ΔR^2	b	SE	β
Step 1												
Amotivation	.08**	-0.26	0.09	-.20**	.11***	-0.35	0.09	-.27***	.05***	-0.15	0.06	-.13*
External regulation		-0.03	0.10	-.02		-0.05	0.09	-.04		0.13	0.07	.11
Introjected regulation		0.31	0.09	.27*		0.35	0.09	.30***		0.19	0.07	.16**
Step 2												
Amotivation	.19***	-0.07	0.09	-.05	.20***	-0.15	0.09	-.11	.14***	-0.07	0.06	-.06
External regulation		-0.10	0.09	-.08		-0.10	0.09	-.08		0.15	0.07	.13*
Introjected regulation		0.19	0.09	.16*		0.21	0.09	.18*		0.05	0.07	.05
Identified regulation		0.19	0.10	.15		0.09	0.10	.07		-0.15	0.08	-.13
Integrated regulation		0.40	0.09	.36***		0.47	0.09	.42***		0.49	0.07	.46***
Step 3												
Amotivation	.07***	-0.06	0.09	-.05	.02	-0.15	0.09	-.11	.02*	-0.05	0.06	-.04
External regulation		-0.10	0.09	-.09		-0.12	0.09	-.10		0.12	0.07	.11
Introjected regulation		0.16	0.08	.13		0.19	0.09	.17*		0.05	0.07	.04
Identified regulation		0.03	0.12	.03		-0.04	0.12	-.03		-0.15	0.09	-.13
Integrated regulation		0.30	0.09	.27**		0.42	0.09	.37***		0.42	0.07	.39***
IM to experience stimulation		0.34	0.09	.30***		0.11	0.09	.10		0.22	0.07	.20**
IM to know		0.14	0.08	.13		0.12	0.09	.12		-0.02	0.07	-.02
IM to accomplish		-0.13	0.09	-.11		0.04	.09	.04		-0.07	0.08	-.06

Note: IM, intrinsic motivation.
 * $p < .05$;
 ** $p < .01$;
 *** $p < .001$.

investigated, whereas identified regulation was not. We therefore ran the same three-step hierarchical regressions without including integrated motivation in the model. Important reductions were found in the variance explained with and without integrated motivation, respectively (online $R^2 = .30$ vs $.27$; offline $R^2 = .30$ vs $.23$ for the breast cancer event and online $R^2 = .20$ vs $.12$; and offline $R^2 = .28$ vs $.21$ for the homeless youth event). Furthermore, in the absence of integrated regulation in the model, identified regulation was not a significant predictor of supportive intentions, with the exception of offline intentions in the homeless youth event. Also, without integrated motivation in the model, introjected regulation became a significant predictor of supportive intentions in all the conditions studied.

The Assessment of the Three Dimensions of Intrinsic Regulation

The intrinsic motivation dimension to experience stimulation was a significant predictor of online supportive intentions for both events ($\beta = .30$; $p < .001$, breast cancer, and $\beta = .20$; $p < .01$, homeless youth). To experience stimulation also predicted supportive offline intentions ($\beta = .17$; $p < .01$) for the homeless youth event. On the other hand, the intrinsic dimensions of to know and to accomplish were not significant regulation variables predicting online or offline intentions to support either charitable event.

Follow-up Analyses of Self-reported Behaviours after the Homeless Youth Event

Analyses of the follow-up data showed that those respondents who reported that they actually engaged in supportive behaviours had previously indicated significantly higher intentions to do so than those who did not (online: $M = 3.62$, $SD = 0.88$ vs $M = 3.12$, $SD = 0.92$, $p < .001$, Cohen's $d = .56$ and offline: $M = 3.24$, $SD = 0.74$ vs $M = 2.93$, $SD = 0.86$, $p < .05$, Cohen's $d = .39$). We subsequently investigated further those motivational regulations that were found to be significant predictors of online and offline supportive intentions in the homeless youth event. These included intrinsic regulation to experience stimulation and integrated regulation for both online and offline behaviours, and introjected regulation for offline behaviours. Five mediation models were conceptualized with each of these regulations as the independent variable, the intentions as mediators and self-reported behaviour as the dependent variable. The models were run using Hayes' (2013) PROCESS software for SPSS. The paths from motivational regulation to the intentions (a path) were based on ordinary least square regressions, whereas the paths from the intentions (mediator) to the self-reported behaviours (b path) were based on logistic regressions. We used logistic regressions for the b path because the dependent variables were dichotomous; participants were asked whether they did or did not (yes = 0, no = 1) engage in either online or offline behaviour, respectively. In all models, a bias corrected bootstrap confidence interval, based on 10 000 bootstrap samples, was used to evaluate the indirect effects. The unstandardized coefficients are reported later.

In the first model, we tested whether integrated regulation had an effect on online behaviour as mediated through online

intentions. We confirmed that integrated regulation had an effect on online intentions ($a = 0.31$, $SE = 0.08$, $p < .00$, $CI = 0.15, 0.47$). Moreover, online intentions also had an effect on self-reported online behaviour ($b = -0.68$, $SE = 0.23$, $p = .003$, $CI = -1.12, -0.24$). More importantly, the confidence intervals of the indirect effect of integrated regulation on online behaviour through online intentions did not cross zero ($ab = -0.21$, $SE = 0.09$, $CI = -0.43, -0.08$), which means that this effect is statistically meaningful. The direct effect of integrated regulation on online behaviour was not significant ($c' = 0.05$, $SE = 0.22$, $p = .83$, $CI = -0.45, 0.38$), indicating that the effect does not occur independently from the intentions. According to Hayes (2013), this can still be interpreted as mediation, as long as there is an indirect effect (cf. Hayes, 2009; Hayes & Scharkow, 2013; Zhao, Lynch, & Chen, 2010).

In the second model, we tested whether intrinsic motivation to experience stimulation had an effect on online behaviour as mediated through online intentions. We confirmed that this intrinsic regulation had an effect on online intentions ($a = 0.41$, $SE = 0.08$, $p < .00$, $CI = 0.25, 0.57$). In addition, online intentions also had an effect on self-reported online behaviour ($b = -0.72$, $SE = 0.23$, $p = .002$, $CI = -1.17, -0.26$). More importantly, the confidence intervals of the indirect effect of intrinsic motivation on online behaviour through online intentions did not cross zero ($ab = -0.32$, $SE = 0.11$, $CI = -0.56, -0.12$), which means that this effect is statistically meaningful. Again, the direct effect of intrinsic motivation on online behaviour was not significant ($c' = 0.07$, $SE = 0.23$, $p = .78$, $CI = -0.38, 0.51$). Although showing a similar pattern, the remaining three models, integrated regulation, intrinsic motivation to experience stimulation or introjected regulation, were not found to effect offline behaviour as mediated by offline intentions.

DISCUSSION

We have attempted to respond to Greitemeyer's (2011) assertion that whereas media research in general is flourishing, prosocial media research is almost nonexistent. Using the framework of the SDT continuum, the present research investigated participants' motivations to support two charitable events (breast cancer and homeless youth) after exposure to online Facebook appeals to helping others. Our aim was to closely analyse the distinct influences of the various SDT regulations of autonomous motivation on online and offline support of these events. First, we postulated that the inclusion of the often omitted extrinsic integrated autonomous regulation would result in stronger predictions of support for the events. Second, we postulated that in a social media environment, the assessment of the three dimensions of intrinsic motivation would bring to light differences in the emotional (to experience stimulation) versus the more cognitive (to learn and to accomplish) influences on support for the events.

Our findings demonstrated that when integrated regulation of autonomous motivation was included in the model, it was the strongest predictor of online and offline supportive intentions. Identified autonomous regulation was not a significant predictor. Without integrated regulation in the model,

identified regulation was still not a significant predictor, but controlled introjected regulation surfaced as a significant for both online and offline supportive intentions. When all three dimensions of autonomous intrinsic regulation were in the model, “to experience stimulation” was found to be a significant predictor of online supportive intentions with both events and offline for homeless youth. The intrinsic motivation dimensions of “to learn” and “to accomplish” were not significant predictors of online and offline supportive intentions in the case of either event. A study of self-reported behaviours following the homeless youth event found that compared with those who did not actually engage in online and offline activities, those who did had previously indicated higher intentions of doing so. Finally, the effects of integrated and intrinsic “to experience stimulation” forms of autonomous motivation on actual online behaviours were found to be mediated by the previously determined online intentions to support the event. No significant mediation effects were found for offline behaviours.

These results lend support to the literature cautioning that one must not automatically assume that the SDT continuum provides progressively stronger predictions of positive outcomes moving up from amotivation through to autonomous regulations of motivation (Chemolli & Gagné, 2014; Koestner & Losier, 2002). Although Vallerand (1997) indicated that intrinsic motivation would normally lead to the most positive outcomes, he allowed for exceptions due to the nature of the task or activity. Our studies in the context of support for charitable causes demonstrated that compared with intrinsic regulation, integrated regulation of autonomous motivation tended to be a stronger predictor of intentions to support charitable events. The relative predictive strength of integrated or intrinsic regulation may depend on the outcome variable studied. For example, Amiot and Sansfaçon (2011) demonstrated that intrinsic motivation was the stronger predictor of patriotism, whereas for well-being, it was integrated motivation.

Furthermore, when identified regulation was assessed alone, it did not replace the predictive contribution captured by the inclusion of integrated regulation. Our findings indicate that without including integrated regulation in the model, the research conclusions can be substantially different. As reported, the exclusion of integrated regulation may lead to an over-estimate of the relative importance of intrinsic motivation because, as we found, autonomous identified regulation did not take the place of autonomous integrated regulation as a motivator of supportive intentions. Also, the exclusion of autonomous integrated regulation would lead to the conclusion that controlled introjected regulation was a major predictor of both online and offline supportive intentions when in fact, with the inclusion of integrated regulation, it had only a minor effect for offline intentions.

We suggest that integrated regulation is a strong dimension of autonomous motivation to support charitable events because they involve prosocial activities that may be highly meaningful and associated with a person’s deeply held values and sense of self, rather than the identification with instrumentally useful goals and achievements. Our findings also strengthen the argument that one should assess all three dimensions of intrinsic motivation rather than one overall measure. Doing so may provide a more in-depth understanding

of engagement in specific activities (Pelletier et al., 2013). In the context of social media, we find that the intrinsic motivation to experience stimulation had a particularly important influence on online and offline intentions to support events for charitable causes. Given that intrinsic motivations to know and to accomplish were not significant outcome predictors, it is quite possible that this important finding regarding experiencing stimulation would have gone undiscovered had we used an overall intrinsic measure. As previously mentioned, Amiot and Sansfaçon (2011) using an overall measure of intrinsic motivation could only speculate that an emotional or even an uncontrollable sense of excitement can explain the ability of intrinsic motivation to predict satisfaction and persistence in an online gaming activity. In addition to the predominant influence of autonomous motivation on supportive intentions and behaviours, controlled introjected regulation was found to also be a motivator of offline intentions. This may be attributed to the fact that the prosocial behaviours in question would take place in a highly visible public space where they may be driven also by a desire to avoid guilt (Peloza, White, & Shang, 2013).

Research Implications and Limitations

Our findings on self-determined motivation with respect to intentions and behaviours in support of events for charitable causes confirm previous research in other autonomy-supportive contexts whereby autonomous motivation is associated with positive outcomes. Although not pertinent in the present study, the fact that the SDT literature emphasizes the positive outcomes of autonomy-supportive contexts does not preclude the possibility that the autonomous nature of social media could also engender negative behaviours (e.g. bullying). In a social media environment promoting prosocial behaviours, we uncovered the important motivational influences of the SDT regulations of integrated and intrinsic to experience stimulation. Future research should explore the mechanisms by which these results can best be applied in communications with and among specific constituencies of charitable causes. We do not wish to infer that the present findings with university age subjects can be directly generalized to other generational cohorts. Also, the overall increase in the frequency and intensity of social media use in the population in general would suggest that the motivational regulations proposed in SDT should also be investigated in older populations. As pointed out by Bolton et al. (2013), there is a need for research into subgroups of constituencies and their behaviours within social media. We employed Facebook because it is the most ubiquitous example of social media. However, social media are evolving, and new research avenues are offered by others (e.g. Twitter, Instagram and Pinterest).

Research on charitable causes often includes measures of intentions or hypothetical behaviours (Reed, Aquino, & Levy, 2007; Shang, Reed, & Croson, 2008; White & Peloza, 2009). When possible, it is fruitful to validate intentions with actual observed or self-reported behaviours in field studies or recorded observations in the laboratory. The self-reported behavioural data following the homeless youth event provided important empirical evidence that these intentions data are indeed valid precursors of behaviours. However, one must recognize that self-reported behaviours may not be as reliable as observed behaviours. On the other hand, self-reports of

behaviours in the field context may intuitively provide more realistic information than can be achieved with laboratory observations. A more complete understanding of the behavioural outcomes involved in a given research question can certainly be achieved as we have done by integrating the results from a combination of methods.

ACKNOWLEDGEMENTS

This research is a pertinent activity within Dr Paulin's *Royal Bank of Canada Professorship in Strategic Relationship Marketing*.

We also wish to thank Dr Marylène Gagné for her encouragement during the initial stages of this research. We greatly appreciate the support of JoAnne Brun of the "Cure Foundation," Josh Reddler of "Five Days for the Homeless" and Dr Paul Shrivastava of the David O'Brien Center for Sustainable Enterprise.

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APPENDIX

Situational/Contextual Motivation Scale

I would become engaged in events for social causes like the Denim Night Party/5 Days for the Homeless...(Scale from 1 *Strongly Disagree* to 5 *Strongly Agree*)

Amotivation

- ... although I do not see the benefit of what I am doing
- ... although it does not make a difference whether I do them or not
- ... even though I do not have a good reason for doing them
- ... even though I believe they are not worth the trouble

External extrinsic

- ... because I do not want to disappoint certain people

- ... because I want to be viewed more positively by certain people
- ... in order to show others what I am capable of
- ... in order to attain prestige

Introjected extrinsic

- ... because I would beat myself up for not doing it
- ... because otherwise I would feel guilty for not doing them
- ... because I force myself to do them
- ... because I would feel bad if I do not do them

Identified extrinsic

- ... in order to help myself become the person I aim to be
- ... because I chose them as means to attain my objectives
- ... because I chose them in order to attain what I desire
- ... because I choose to invest myself in what is important to me

Integrated extrinsic

- ... because it is really a part of who I am.
- ... because it is very meaningful for me
- ... because it is something I value deeply
- ... because it is in line with my personal goals

Intrinsic to experience stimulation

- ... in order to feel pleasant emotions
- ... because of the sense of well-being I feel while I am doing them
- ... for the pleasant sensations I feel while I am doing them
- ... for the enjoyable feelings I experience

Intrinsic to know

- ... because I like making interesting discoveries
- ... for the pleasure of acquiring new knowledge
- ... for the pleasure of learning new, interesting things
- ... for the pleasure of learning different interesting facts

Intrinsic towards accomplishment

- ... because of the pleasure I feel as I become more and more skilled
- ... for the pleasure I feel mastering what I am doing
- ... because of the satisfaction I feel in trying to excel in what I do
- ... because of the pleasure I feel outdoing myself