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ABSTRACT
Volunteers’ motives have been differentially linked to various aspects of successful volunteering. Using self-determination theory, we propose that volunteer functions are systematically related to the experience of self-determined versus controlled motivation. This “quality of motivation,” in turn, explains why motives are differentially associated with satisfaction. We conducted two studies: Study 1 (N1 = 824) addressed motives, quality of motivation, and satisfaction; Study 2 (N2 = 323) additionally examined function-specific benefits and the extent to which they match volunteers’ motives. Overall, our hypotheses were supported: values, understanding, and social justice motives were positively associated with relatively self-determined motivation (RSM), whereas career, social, protective, and enhancement motives showed negative correlations. The relationships between motives and satisfaction were partially mediated by RSM. Concerning benefits, Study 2 corroborated these findings for values, protective, enhancement, and social justice. This research introduces a new perspective on the quality of volunteers’ motives—with theoretical and practical implications.

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A great amount of research on volunteerism has been devoted to its motivational foundations. From helping people in need to improving one’s résumé, several functions that can be served by volunteering have been identified. Both the importance of these functions—experienced as motives—and the extent to which they are matched by environmental affordances have been linked to successful volunteerism (e.g., Clary et al., 1998; Stukas, Worth, Clary, & Snyder, 2009).

Volunteer motives are differentially related to positive outcomes (e.g., Stukas, Hoye, Nicholson, Brown, & Aisbett, 2014). However, the mechanisms underlying these associations are still unclear. To shed light on the mediating processes, we made use of self-determination theory (SDT; Deci & Ryan, 1985, 2000). We proposed that volunteer functions are systematically related to the quality of motivation—that is, to the experience of either self-determination and volition, on the one hand, or pressure and control, on the other hand. This SDT perspective on volunteer functions offers an explanation for why some motives are more strongly related to favorable outcomes than others. This research contributes an innovative classification of volunteer motives that does not coincide with previously suggested dichotomies of self- versus other-oriented motives. The purpose is to stimulate the discussion about the quality of volunteer motivation in terms of self-determination versus control.

The present research integrates the findings of two studies:

● Based on a longitudinal design, Study 1 examined the relationship between volunteers’ motives at one time and the self-determined versus controlled quality of motivation and satisfaction at a later time.

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• Employing a cross-sectional design, Study 2 not only addressed volunteers’ motives, but also investigated function-specific benefits (i.e., environmental affordances). Furthermore, Study 2 additionally included the recently developed “social justice” function as another motive dimension.

In the following, we give an overview of the functional approach to volunteerism, previous classifications of volunteer motives, and SDT’s perspective on human motivation. Against this background, we propose that different motives for volunteering can be associated with either self-determined or controlled types of motivation—leading to Hypotheses 1 and 2, which were tested in both studies.

Subsequently, we present the social justice motive as an extension to the functional approach and discuss the functionalist matching hypothesis—leading to Hypothesis 3 and 4, which were tested only in Study 2.

**Functional approach to volunteerism**

Volunteering can be described as planned helping that is thoughtfully decided on and not just spontaneously chosen. The question of what motivates people to give their time for the benefit of another person or organization without receiving any tangible benefits stimulated the interest of many researchers. The most influential psychological approach to volunteering, the functional approach, assumes that individuals can adopt the same attitudes or be involved in the same behaviors despite the fact that these attitudes or behaviors may serve very different psychological functions (Snyder, Clary, & Stukas, 2000). This functionalist rationale has been successfully applied to volunteerism. In line with this assumption, Clary et al. (1998) developed an instrument, the Volunteer Functions Inventory (VFI), measuring the following six motivational functions:

1. **Values**: Through volunteering, people can express values related to humanitarian concerns for others.
2. **Understanding**: Volunteering provides opportunities to explore and exercise one’s skills and to learn about the world and the specific cause the individual is volunteering for.
3. **Enhancement**: Through volunteering, the individual’s ego can grow.
4. **Protective**: Personal problems such as loneliness can be addressed; negative feelings of guilt might be reduced.
5. **Social**: If voluntary work is highly valued by important others, volunteering is a good way to adjust to the environment and strengthen one’s social relationships.
6. **Career**: Experience gained in volunteering can be beneficial to one’s professional career.

**Classification of volunteer motives**

In line with the debate in social psychology about whether helping is mainly an altruistic or egoistic action (e.g., Batson, Duncan, Ackerman, Buckley, & Birch, 1981), researchers often distinguish between altruistic (or other-oriented) and egoistic (or self-oriented) motives for volunteering. With respect to the VFI, the values function is mainly considered altruistic or other-oriented (e.g., Briggs, Peterson, & Gregory, 2010; Cornelis, Van Hiel, & De Cremer, 2013; Erez, Mikulincer, van IJzendoorn, & Kronnenberg, 2008), as opposed to the remaining functions that are supposed to focus on personal benefits and, thus, to be egoistic, me- or self-oriented (e.g., Briggs et al., 2010; Cornelis et al., 2013; Pelozza, Hudson, & Hassay, 2009). This distinction of two dimensions is also supported by factor analytical results (Cornelis et al., 2013; McDougle, Greenspan, & Handy, 2011). The understanding function is usually seen as part of this second group. However, Erez et al. (2008),
who regard volunteer motivation from an attachment-theoretical point of view, classify the understanding motivation as exploration-related and, thus, differentiate it from the more self-serving career, enhancement, social, and protective motives.

The differentiation of altruistic versus egoistic motives for prosocial behaviors has been criticized as being too simplistic (e.g., Dovidio, Piliavin, Schroeder, & Penner, 2006); the functional approach emphasizes that volunteering may simultaneously serve multiple functions for the same individual. Despite this legitimate critique, the categorizations can provide some parsimonious orientation with regard to qualities that are represented by the various motivations. In a recent study by Stukas et al. (2014), the categorization of volunteers’ motives into either self-oriented or other-oriented motives proved useful in explaining their differential relationships with satisfying and sustained volunteering; more specifically, other-oriented motives showed positive correlations with satisfaction and intent to continue, whereas self-oriented motives showed negative associations. Nevertheless, these categorizations do not represent underlying mechanisms that explain why some motives are more strongly associated with favorable outcomes than other motives. In this research, we suggest the quality of motivation as a mediating process.

**Self-determination theory**

In contrast to most motivation theories, SDT takes a qualitative perspective (Deci & Ryan, 2000). If motivation was simply studied as a unitary quantitative construct, an essential dimension of human motivation would be missed: the degree to which individuals experience either self-determination or control when regulating the behavior. The experience of self-determined motivation has been associated with increased overall functioning, personal growth, and both physical and psychological health (e.g., Deci & Ryan, 2008, for an overview).

SDT differentiates between several types of motivation that can be either described as self-determined or as controlled (see Figure 1). There is some discussion about whether these facets should be combined into a single indicator of relative self-determination (see Gagné et al., 2015); depending on the study’s focus, a more differentiated perspective might be chosen (see Güntert, 2015). The purpose of the present article was to introduce the general idea that the quality of motivation in terms of self-determination versus control represents an explanation for why some motives for volunteering might be more strongly associated with favorable outcomes than others. Thus, we chose a parsimonious index representing the quality of motivation in order to keep hypotheses and analyses clearly laid out.

This is how the index of relatively self-determined motivation (RSM) was formed: We combined controlled and self-determined types of motivation into scales for controlled motivation and self-determined motivation, respectively. Subsequently, the RSM index was created by subtracting...
controlled motivation from self-determined motivation. In the following, the components of the RSM index are explained in detail.

The first differentiation made by SDT is between intrinsic and extrinsic motivation. *Intrinsic motivation* refers to the innate propensity of human beings to seek optimal challenges, to exercise their capacities, and to explore the environment (Deci & Ryan, 2000). No external rewards or punishments are necessary to sustain the effort; individuals are motivated because they are interested in or simply enjoy the activity they are engaged in.

Intrinsic motivation represents the prototype of self-determined motivation. This, however, does not imply that extrinsic motivation is necessarily associated with the experience of control, pressure, and alienation. *Extrinsic motivation* means that the activity is instrumental to some goal external of the activity itself. From a developmental perspective, these behaviors are usually required by socializing agents as necessary and useful. However, regulation of extrinsically motivated behaviors can be internalized; these behaviors as well can be experienced as “owned” and endorsed by one’s core sense of self.

With respect to extrinsic motivation, SDT differentiates three types of regulation:

- **External regulation** relates to rewards and (the avoidance of) punishments as immediate external contingencies regulating the behavior.
- **Introjected regulation** relates to contingencies that are not part of the social environment but still external to the core sense of self—that is, the behavior is regulated by feelings of guilt, shame, or contingent self-worth.
- **Identified regulation** implies that the behavior is regulated by goals and values the individual considers as personally important and identifies with.

To sum up, external and introjected regulation (of extrinsic motivation) represent controlled motivation. On the contrary, identified regulation (of extrinsic motivation) and intrinsic motivation denote self-determined motivation.

SDT assumes that the quality of motivation—that is, the experience of self-determination versus control—affects a variety of outcomes, ranging from well-being to performance. This assumption has been successfully tested in various applied domains such as work and organizations (e.g., Gagné & Deci, 2005; Gagné et al., 2015). In the context of volunteering, self-determined motivation has been linked to satisfaction, low intent to quit (Millette & Gagné, 2008), or volunteers’ work effort (Bidee et al., 2013).

Against this background, we suggest that SDT’s perspective on the quality of motivation provides an explanation for why some volunteer motives are more strongly related to positive outcomes than others. In contrast, the mere “quantity” of motivation—of either controlled or self-determined nature—may suffice with respect to mundane tasks (see Gagné & Deci, 2005).

From an SDT perspective, we proposed that volunteers’ motives can be systematically associated with either self-determined or controlled types of motivation. These assumptions generalize across individuals—that is, any motive could be associated with either self-determination or control for a single volunteer. Overall, however, we suggested that there are inherent characteristics of volunteer motives that link them more strongly to self-determination than to control, or vice versa.

Two motives were categorized as “self-determined motives”:

- The motive to express one’s altruistic and humanitarian *values* in volunteering can be aligned with identified regulation of extrinsic motivation—that is, with efforts that are endorsed by the core sense of self because the individual strongly values the goals of the respective activity.
- The *understanding* motive, with its focus on opportunities for learning and practicing one’s skills, can be linked to both types of self-determined motivation (i.e., intrinsic motivation and identified regulation of extrinsic motivation).
The remaining four VFI functions were categorized as “controlled motives”:

- The enhancement motive contains both favorable and problematic aspects: On the one hand, there are positive aspects (e.g., making friends), and on the other hand, “ego involvement” (Deci & Ryan, 1985, p. 108) can be associated with this function (i.e., a person’s self-esteem might be “on the line” if he or she volunteers in order to feel more important). For introjected regulation, “the prototypical examples are contingent self-worth (pride) or threats of guilt and shame” (Deci & Ryan, 2000, p. 236). Given the fact that most enhancement items refer to some kind of contingent self-worth (e.g., “Volunteering increases my self-esteem”), we expected the enhancement function to correlate more strongly with controlled than self-determined motivation.

- The protective motive refers to instrumental aspects: Volunteering is regarded as a means to address one’s personal problems. One VFI item explicitly addresses feelings of “guilt over being more fortunate than others,” which can be reduced by one’s volunteering. Thus, there is a link to controlled types of motivation.

- The social function clearly refers to external “regulators” of the volunteers’ behavior. Being concerned about social rewards and punishments should definitely be associated with controlled motivation.

- The career motive shows an obvious link to instrumentality. If volunteering is expected to improve one’s business or career, external evaluation should become more salient for the regulation of this behavior and might foster the experience of control.

The above classification resembles most closely the distinction made by Gillath et al. (2005; see also Erez et al., 2008), who separated the understanding motive, which is focused on the exploration of one’s environment, from what they label as “self-serving” motives (enhancement, protective, social, and career). In contrast to Konrath, Fuhrer-Forbis, Lou, and Brown (2012), however, our SDT-based classification clearly puts the values and the social motive (both labeled as “other-oriented” by Konrath et al.) into different categories. From an SDT perspective, we argue that complying with the influence or even pressure from others rather represents a controlled motive for volunteering.

The present research examined whether specific volunteer motives are—on average or typically—more strongly associated with either self-determined motivation or controlled motivation. An elegant way to simplify this research question is to make use of the RSM index, which only focuses on the “relative dominance” of self-determined versus controlled motivation. Using the parsimonious RSM index, we hypothesized:

**Hypothesis 1 (H1):** Self-determined motives for volunteering are positively associated with RSM, whereas controlled motives are negatively related to RSM.

Making use of SDT, we introduced RSM as a mediating process linking motives to volunteer outcomes. Self-determined types of motivation have been associated with favorable outcomes in various applied domains and, more recently, in the context of volunteerism as well (e.g., Haivas, Hofmans, & Pepermans, 2014; Wu, Li, & Khoo, 2015). The quality of motivation is typically conceptualized as a process linking aspects of both the environment (such as work design or leadership) and the individual (such as motivational orientations) to a variety of work outcomes (e.g., Gagné & Deci, 2005). Thus, we hypothesized:

**H2:** Mediated by RSM, self-determined motives show a positive indirect effect on satisfaction, whereas controlled motives show a negative indirect effect.

It is important to note that we did not hypothesize that controlled motives show a negative total effect on volunteers’ satisfaction. However, we expected that, due to the negative impact of controlled motives on RSM, controlled motives have a weaker impact on volunteers’ satisfaction.
Hypotheses 1 and 2 were tested in both studies. In Study 2, another self-determined motive—the social justice function—was additionally addressed. Furthermore, not only motives, but also function-specific benefits and their matching with volunteers’ motives were examined as antecedents of RSM and satisfaction.

**Social justice function**

The six volunteer functions described by Clary et al. (1998) represent a parsimonious set of volunteer motives; still, “there will be circumstances where either fewer functions, or more functions for that matter, will emerge” (p. 1528). Building on psychological justice research, the social justice function, was added recently (Jiranek, Kals, Humm, Strubel, & Wehner, 2013). This branch of research has proven fruitful for a better understanding of human action in various areas of application (e.g., Kals & Maes, 2012; Skitka & Crosby, 2003). Volunteering as well has been shown to be influenced by justice perceptions and dispositions (e.g., Moschner, 1994; Neufeind, Jiranek, & Wehner, 2014). These findings are in accordance with the assumption of a justice motive as a distinct source of motivation in addition to self-interest (Lerner, 1977; Montada, 1998). However, the motivation to provide social justice through volunteering has not been examined within the VFI.

Even though social justice might also be conceptualized as value (Schwartz, 1994), it is not covered by the values function of the VFI. Focusing on caring and compassion for other people, the latter stresses benevolence values, whereas social justice and equality constitute universalistic values—a distinction that also proves true across cultures (Schwartz, 1994). Moreover, it has been shown that altruistic motivations—like those addressed by the value function—are distinct from justice motivations (Batson, Klein, Hightberger, & Shaw, 1995). Consequently, an other-oriented social justice function that assesses the motive to contribute to social justice by volunteering was successfully added to the VFI (Jiranek et al., 2013). Departing from the principle of equality, it captures the motivation to implement different facets of this principle, like equality of opportunity and participatory justice, as well as overlapping principles like the principle of need. The distinction between the values and the social justice function is empirically supported by both exploratory and confirmatory factor analyses (Jiranek et al., 2013).

Due to the conceptual similarity with the values motive, we categorized the social justice function as a self-determined motive and hypothesized the respective relationships (see Hypotheses 1 and 2).

**Matching motives and benefits**

In Study 2, we examined not only motives, but also the function-specific benefits that might match volunteers’ motives. Central to the functional approach is the so-called matching hypothesis. For volunteering to be successful and sustained, it is essential that volunteers’ motives are matched with corresponding environmental affordances—that is, opportunities of the volunteer activity. The matching hypothesis has been supported in several studies (e.g., Clary et al., 1998; Stukas et al., 2009).

Stukas et al. (2009) proposed a parsimonious index to represent the overall motive-benefit match across the six VFI dimensions and were able to support the superiority of a “total match index” over motive or benefit scores alone. As the present research focused rather on particular functions than on the overall matching, we formed univariate match indices by multiplying the corresponding motive and benefit scores of an individual.

Although the primary focus of this research was on volunteers’ motives, we expected similar associations with respect to function-specific benefits. The rationale for this assumption is derived from goal content theory (GCT), a “mini-theory” within the broader framework of SDT (Vansteenkiste, Niemiec, & Soenens, 2010). GCT differentiates between intrinsic and extrinsic life goals and posits that the pursuit of intrinsic goals (e.g., personal growth and close relationships) contributes to satisfaction of basic psychological needs for competence, relatedness, and autonomy.
In contrast, pursuit of extrinsic goals (e.g., money and fame) is expected to be either unrelated or negatively related to basic need satisfaction. A study by Niemiec, Ryan, and Deci (2009) showed that even attaining extrinsic aspirations—which should be experienced as a success—was leading to anxiety and negative affect.

On the basis of GCT, we assumed that function-specific benefits show similar patterns as the corresponding motives that we classified as either self-determined or controlled:

**H3:** Benefits corresponding to self-determined motives are positively associated with RSM, whereas benefits corresponding to controlled motives are negatively related to RSM.

In parallel to Hypothesis 2, we assumed with respect to benefits and match indices:

**H4:** Mediated by RSM, benefits and match indices corresponding to self-determined motives show a positive indirect effect on satisfaction, whereas benefits and match indices corresponding to controlled motives show a negative indirect effect.

The functional approach does not differentiate between more or less desirable motives: Any personally relevant motive that is matched by environmental affordances will lead to positive outcomes. Thus again, it is important to note: SDT does not predict that matching controlled motives will negatively affect volunteers’ satisfaction. However, because of their negative impact on RSM, benefits and match indices corresponding to controlled motives should result in lower levels of satisfaction as compared to benefits and match indices that correspond to self-determined motives.

**Method**

**Procedure and participants**

In Study 1, data were gathered as part of a more extensive longitudinal project addressing a wider range of topics. We focused on volunteering in the social sector and asked several organizations in the German-speaking part of Switzerland to invite their volunteers to participate in this research. The nonprofit organizations provided various services, for example, a crisis helpline, support for elderly people, or projects for people with disabilities. Volunteers could answer either a paper-based or an identical online version of the questionnaire.

At Time 1, a total of 2,017 volunteers answered the questionnaire (response rate: 41%); at Time 2 (i.e., 16 months after the first measurement point), 1,506 people also answered a second questionnaire. A large number (41%) of the participants who answered both questionnaires did not remember the code we had asked them to create at Time 1 (obviously, many participants had chosen some “password” instead of following our advice to create a code based on information they could more easily remember at a later time). Thus, we were able to match the individual data of only 889 participants. We dealt with missing data in a conservative way. Missing data were missing completely at random (Little’s MCAR test: $\chi^2 = 5358.6$, $df = 5205$, $p > .05$). Using the expectation-maximization algorithm (e.g., Graham, 2009, for an overview), imputation was applied if either there was no more than one missing value among the items pertaining to a scale of up to four items (i.e., satisfaction and four types of motivation), or there were only one or two missing values among the items pertaining to a scale of five items (i.e., VFI scales); otherwise, list-wise deletion was applied. Consequently, the final sample size for Study 1 was $N_1 = 824$.

The cross-sectional sample of Study 2 represents a convenience sample. Using a broad range of channels (e.g., postings in social networks), volunteers from various fields were invited to participate in an anonymous online survey. In total, 342 participants answered the questionnaire. The number of missing values was very low; and missing data were missing completely at random (Little’s MCAR test: $\chi^2 = 5015.7$, $df = 4868$, $p > .05$). Applying the same criteria for imputation as mentioned with
respect to Study 1, the final sample size for Study 2 was $N_2 = 323$. As the recruitment of participants strongly relied on personal networks, some areas of volunteering and particular organizations were highly represented in this convenience sample: 30% of the respondents, for example, worked for Amnesty International; 43% were engaged in various types of social-sector or church-related volunteering; 15% volunteered in the areas of sports or cultural activities; the remaining 12% worked in areas such as animal protection or politics.

For Study 1, the mean age of the participants was 64.7 years ($SD = 10.1$), and 59% of the volunteers were female. On average, the participants spent 3.9 hours ($SD = 3.2$) per week volunteering for the organization. With reference to Time 1, 81% (or 51%) of the volunteers had been staying with this organization for at least 2 years (or 5 years, respectively).

For Study 2, the mean age was 45.7 years ($SD = 18.2$), and 67% of the participants were female. The participants spent an average of 3.8 hours ($SD = 3.7$) per week volunteering for the organization, and 76% (or 47%) of the participants had been volunteering for at least 2 years (or 5 years, respectively).

**Measures**

In Study 1, volunteers’ motives were measured at Time 1, whereas quality of motivation and satisfaction were measured at Time 2. In Study 2, all variables were part of the same cross-sectional questionnaire.

**Volunteer motives**

Using the German version of the VFI (Oostlander, Güntert, van Schie, & Wehner, 2014), we measured all of the six volunteer functions addressed by Clary et al. (1998). Items were rated on a scale from 1 (not at all important) to 5 (very important). Each scale was measured by five items; sample items are: “I feel compassion toward people in need” (values); “I can learn more about the cause for which I am working” (understanding); “Volunteering makes me feel important” (enhancement); “Doing volunteer work relieves me of some of the guilt over being more fortunate than others” (protective); “People I’m close to want me to volunteer” (social); and “Volunteering experience will look good on my résumé” (career). In Study 2, we additionally measured the social justice function introduced by Jiranek et al. (2013), also using five items (sample item: “Volunteering enables me to create equal opportunities for all people”).

**Function-specific benefits**

In Study 2, we also addressed function-specific benefits. These environmental affordances match the individual volunteer’s motives to a certain degree. Matching motives and benefits has been considered crucial for successful volunteering (Stukas et al., 2009). Stukas et al. suggested two items for each of the six VFI functions. In order to obtain decent internal consistencies, we extended this set to three items for each function-specific benefit. Benefit items were rated on a scale from 1 (not at all accurate) to 5 (very accurate). Sample items are: “Through volunteering here, I can help other people” (values); “Through volunteering, I am learning how to deal with a greater variety of people” (understanding); “I feel better about myself as a result of my volunteering” (enhancement); “Volunteering allows me the opportunity to escape some of my own troubles” (protective); “People I know consider my volunteering as important” (social); “I have the opportunity to make new contacts that might help my business or career” (career); and “Volunteering at this organization allows me to even out unequal social conditions” (social justice).

Multiplying the individual motive and benefit scores, we formed match indices for the respective volunteer functions. As recommended by Stukas et al. (2009), these product terms were based on unstandardized scores of the motive and benefits scales, respectively. In doing so, we took into account that a combination of low motive and low benefit is not considered a “positive match” leading to higher satisfaction; only the high-high combination—that is, motives met by affordances—is expected to have a
positive impact. If we used standardized scores instead, both low-low and high-high combinations would represent a motive-benefit match.

**Quality of motivation**

To measure the quality of volunteers’ motivation, we used an earlier version of the Multidimensional Work Motivation Scale (Gagné et al., 2015) and adapted it to the context of volunteering. All items represented answers to the following introductory question: “Why do you or would you put effort into your volunteer activity?” The answers were rated on a scale from 1 (strongly disagree) to 5 (strongly agree). Each scale consisted of four items; sample items are: “Because the volunteer activity I do is interesting” (intrinsic motivation); “Because I personally consider it important to put efforts in this activity” (identified regulation); “Because otherwise I will feel bad about myself” (introjected regulation); and “Because others will respect me more (e.g., supervisor, clients, family)” (external regulation). The scale for self-determined motivation was formed as the average of the intrinsic and identified subscales. Correspondingly, the controlled motivation scale was built as the average of the introjected and external subscales. The index for RSM was formed as the difference of standard scores (i.e., self-determined motivation minus controlled motivation). We went for standardization to ensure that the overall score equally represented the self-determined and the controlled quality of motivation.

**Satisfaction**

Whereas motives and quality of motivation were operationalized exactly the same way in both studies, the measurement of volunteers’ satisfaction differed to a minor degree. The items “Overall, I like my volunteer activity a lot” and “All in all, I am very satisfied with my volunteer activity” were used in both studies. In Study 1, one additional item was employed: “I am satisfied with my volunteer tasks.” In Study 2, there were two additional items: “My volunteer activity gives me a lot of satisfaction” and “Overall, my volunteer activity is great.” All items were rated on a scale from 1 (strongly disagree) to 5 (strongly agree).

**Statistical analyses**

Using the procedure recommended by Preacher and Hayes (2008), we conducted mediation analyses for the relationships of each antecedent (i.e., motive, benefit, or match index) and volunteers’ satisfaction, mediated by RSM (see Figure 2).

This approach has the advantage that it estimates and tests the size of the indirect effect. To conduct the analyses, we used the SPSS macro “PROCESS” (Hayes, 2012). As suggested by Preacher and Kelley (2011), we employed $\kappa^2$ as an effect size measure for indirect effects: .01, .09, and .25 can be used as benchmarks for small, medium and large effect sizes, respectively.

![Figure 2. Conceptual diagram illustrating the mediation hypothesis.](image-url)
**Results**

**Descriptive statistics and correlations**

Table 1 and Table 2 show means, standard deviations, intercorrelations, and internal consistencies for all variables in Study 1 and Study 2, respectively.

In both samples, the expression of personal values was ranked as the most important function of one’s volunteering, followed by the understanding motive. With respect to the quality of motivation, self-determined types of behavioral regulation clearly dominated as compared to controlled forms of motivation.

As hypothesized, volunteers’ motives were differentially associated with the quality of motivation. In Study 1, self-determined motives (values and understanding) were positively associated with RSM, whereas controlled motives (enhancement, protective, social, and career) were negatively correlated to RSM. Thus, Hypothesis 1 was fully supported in Study 1. In Study 2, however, Hypothesis 1 was only partially supported, because the understanding motive was not significantly associated with RSM.

Function-specific benefits (addressed by Study 2) showed a similar correlational pattern as the respective motives—with two exceptions: the benefits corresponding to the social and the career function were not significantly related to RSM. Hypothesis 3 was supported with respect to the values, enhancement, protective, and social justice benefits—and, thus, only partially confirmed.

Volunteers’ motives showed differential associations with satisfaction. In Study 1, four out of six motives positively correlated with satisfaction: the values and understanding motives showed the strongest positive correlations, whereas the protective and career motives were not significantly related to satisfaction. In Study 2, with respect to all but the protective function, both motives and benefits showed significant positive correlations with satisfaction. The size of these correlations, however, differed considerably among the various motives and benefits. The mediation analyses, presented in the following, examined whether RSM explains these differential relationships.

**Mediation analyses**

For each antecedent, Table 3 shows estimates and bias-corrected confidence intervals (based on 5,000 bootstrap samples) for the total effect, the direct effect, the indirect effect, and the

| Table 1. Descriptive statistics for all variables of Study 1. |
|-------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Variable                | M      | SD     | 1  | 2   | 3    | 4  | 5  | 6  | 7   | 8   | 9   | 10   | 11   | 12   | 13   |
| VFI motive (Time 1)     |         |        |    |     |      |    |    |    |     |     |     |      |      |      |      |
| 1. Values               | 4.21    | 0.60   | .78 |      |      |    |    |    |     |     |     |      |      |      |      |
| 2. Understanding        | 3.74    | 0.78   | .33 | .82  |      |    |    |    |     |     |     |      |      |      |      |
| 3. Enhancement          | 3.00    | 0.85   | .29 | .47  | .81  |    |    |    |     |     |     |      |      |      |      |
| 4. Protective           | 1.96    | 0.83   | .20 | .33  | .62  | .83 |    |    |     |     |     |      |      |      |      |
| 5. Social               | 2.20    | 0.88   | .29 | .27  | .39  | .37 | .84 |    |     |     |     |      |      |      |      |
| 6. Career               | 1.91    | 0.81   | .15 | .48  | .42  | .48 | .48 | .83 |    |     |     |      |      |      |      |
| Quality of motivation (Time 2) |       |        |    |     |      |    |    |    |     |     |     |      |      |      |      |
| 7. Intrinsic            | 4.28    | 0.66   | .28 | .43  | .25  | .12 | .18 | .19 | .88  |      |      |      |      |      |      |
| 8. Identified           | 4.23    | 0.60   | .34 | .34  | .23  | .12 | .20 | .17 | .57  | .73  |      |      |      |      |      |
| 9. Introjected          | 2.94    | 0.93   | .25 | .20  | .36  | .28 | .31 | .26 | .20  | .44  | .70  |      |      |      |      |
| 10. External            | 2.30    | 0.93   | .17 | .15  | .35  | .30 | .39 | .33 | .06  | .25  | .70  | .82  |      |      |      |
| 11. Self-determination  | 4.26    | 0.56   | .35 | .43  | .27  | .14 | .21 | .21 | .90  | .87  | .35  | .17  | .86  |      |      |
| 12. Control             | 2.62    | 0.86   | .23 | .19  | .39  | .31 | .38 | .32 | .14  | .37  | .92  | .92  | .28  | .85  |      |
| 13. RSM                 | 0.00    | 1.20   | .10 | .20  | -.10 | -.15| -.14| -.09| .63  | .42  | -.48| -.63 | .60  | -.60 | —     |
| Outcome (Time 2)        |         |        |    |     |      |    |    |    |     |     |     |      |      |      |      |
| 14. Satisfaction        | 4.50    | 0.60   | .20 | .21  | .12  | .05 | .11 | .04 | .58  | .42  | .10  | .03  | .57  | .07  | .42  |

*Note. N = 824. VFI = Volunteer Functions Inventory; RSM = relatively self-determined motivation. All measures (except for RSM) were on a scale from 1 to 5. Cronbach’s coefficient α is displayed in the diagonal. Level of significance concerning the correlations: p < .05, if abs (r) ≥ .07; p < .01, if abs (r) ≥ .09.*
## Table 2. Descriptive statistics for all variables of Study 2.

| Variable             | M     | SD    | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   |
|----------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| VFI motive           |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1. Values            | 4.12  | 0.66  | .78  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2. Understanding    | 3.56  | 0.78  | .79  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 3. Enhancement      | 3.00  | 0.81  | .54  | .78  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4. Protective       | 1.97  | 0.76  | .38  | .61  | .75  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 5. Social           | 2.25  | 0.79  | .36  | .36  | .32  | .83  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 6. Career           | 2.10  | 1.09  | .14  | .58  | .45  | .27  | .30  | .92  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 7. Social justice   | 3.91  | 0.90  | .65  | .09  | .01  | .04  | .07  | .88  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| VFI benefit          |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 8. Values            | 4.29  | 0.66  | .59  | .21  | .14  | .10  | .06  | .70  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 9. Understanding    | 3.68  | 0.90  | .00  | .78  | .50  | .38  | .36  | .50  | .01  | .23  | .82  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 10. Enhancement     | 3.04  | 0.95  | .41  | .72  | .56  | .34  | .27  |      | .21  | .54  | .82  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 11. Protective      | 1.96  | 0.97  | .00  | .32  | .45  | .78  | .24  | -.23 | .04  | .06  | .40  | .56  | .88  |      |      |      |      |      |      |      |      |      |      |      |      |
| 12. Social          | 3.07  | 0.92  | .16  | .34  | .32  | .22  | .63  | .21  | .08  | .26  | .48  | .43  | .23  | .85  |      |      |      |      |      |      |      |      |      |      |
| 13. Career          | 2.56  | 1.32  | -.12 | .56  | .34  | .22  | .28  | .82  | -.03 | .02  | .59  | .28  | .28  | .92  |      |      |      |      |      |      |      |      |      |      |
| 14. Social justice  | 3.57  | 0.94  | .48  | -.06 | -.10 | .01  | .07  | -.15 | .75  | .55  | -.05 | -.01 | -.00 | .10  | -.09 | .85  |      |      |      |      |      |      |      |
| Quality of motivation|      |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 15. Intrinsic       | 4.26  | 0.69  | .41  | .27  | .08  | .15  | .18  | .35  | .37  | .14  | .04  | .24  | .24  | .13  | .88  |      |      |      |      |      |      |      |      |
| 16. Identified      | 4.28  | 0.69  | .37  | .28  | .27  | .07  | .18  | .08  | .34  | .50  | .29  | .27  | .04  | .31  | .14  | .30  | .57  | .84  |      |      |      |      |      |
| 17. Introjected     | 2.85  | 0.85  | .17  | .30  | .50  | .43  | .19  | .18  | .06  | .11  | .32  | .44  | .30  | .21  | .16  | .01  | .14  | .31  | .65  |      |      |      |      |
| 18. External        | 2.40  | 0.88  | .04  | .30  | .49  | .46  | .40  | .34  | -.03 | -.01 | .32  | .40  | .36  | .23  | .26  | -.09 | -.01 | .14  | .55  | .76  |      |      |      |
| 19. Self-determination| 4.27  | 0.61  | .28  | .38  | .30  | .09  | .18  | .15  | .28  | .48  | .37  | .23  | .04  | .31  | .22  | .24  | .89  | .89  | .26  | .07  | .88  |      |      |
| 20. Control         | 2.63  | 0.76  | .12  | .34  | .56  | .51  | .34  | .30  | .02  | .06  | .36  | .48  | .38  | .25  | .24  | -.05 | .07  | .26  | .88  | .89  | .19  | .80  |      |
| 21. RSM              | 0.00  | 1.28  | .13  | .03  | -.20 | -.33 | -.12 | -.20 | .20  | .33  | -.19 | -.26 | -.05 | -.02 | .23  | .64  | .49  | -.49 | -.64 | .64  | -.64 |      |
| Outcome             |       |       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 22. Satisfaction    | 4.17  | 0.67  | .17  | .28  | .23  | .07  | .17  | .13  | .16  | .36  | .30  | .17  | .06  | .23  | .17  | .18  | .75  | .49  | .11  | -.02 | .70  | .05  | .51  | .88  |
Table 3. The impact of volunteers’ motives, function-specific benefits, and match indices on satisfaction mediated by RSM.

<table>
<thead>
<tr>
<th>Type of antecedent</th>
<th>Motive (Study 1)</th>
<th>95% CI</th>
<th>Motive (Study 2)</th>
<th>95% CI</th>
<th>Benefit (Study 2)</th>
<th>95% CI</th>
<th>Match index (Study 2)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Est.</td>
<td>LL</td>
<td>UL</td>
<td>Est.</td>
<td>LL</td>
<td>UL</td>
<td>Est.</td>
<td>LL</td>
</tr>
<tr>
<td>Total effect (c)</td>
<td>3.23</td>
<td>2.98</td>
<td>3.48</td>
<td>3.16</td>
<td>2.91</td>
<td>3.42</td>
<td>3.20</td>
<td>2.85</td>
</tr>
<tr>
<td>Indirect effect via RSM (a × b)</td>
<td>0.091</td>
<td>0.072</td>
<td>0.110</td>
<td>0.101</td>
<td>0.082</td>
<td>0.122</td>
<td>0.097</td>
<td>0.078</td>
</tr>
<tr>
<td>Understanding Total effect (c)</td>
<td>3.16</td>
<td>2.91</td>
<td>3.42</td>
<td>3.16</td>
<td>2.91</td>
<td>3.42</td>
<td>3.20</td>
<td>2.85</td>
</tr>
<tr>
<td>Direct effect (c)</td>
<td>3.07</td>
<td>2.81</td>
<td>3.33</td>
<td>3.07</td>
<td>2.81</td>
<td>3.33</td>
<td>3.19</td>
<td>2.85</td>
</tr>
<tr>
<td>Indirect effect via RSM (a × b)</td>
<td>0.091</td>
<td>0.072</td>
<td>0.110</td>
<td>0.101</td>
<td>0.082</td>
<td>0.122</td>
<td>0.097</td>
<td>0.078</td>
</tr>
<tr>
<td>Social Justice Total effect (c)</td>
<td>3.30</td>
<td>3.05</td>
<td>3.55</td>
<td>3.30</td>
<td>3.05</td>
<td>3.55</td>
<td>3.38</td>
<td>3.09</td>
</tr>
<tr>
<td>Direct effect (c)</td>
<td>3.29</td>
<td>3.04</td>
<td>3.54</td>
<td>3.29</td>
<td>3.04</td>
<td>3.54</td>
<td>3.37</td>
<td>3.10</td>
</tr>
<tr>
<td>Indirect effect via RSM (a × b)</td>
<td>0.091</td>
<td>0.072</td>
<td>0.110</td>
<td>0.101</td>
<td>0.082</td>
<td>0.122</td>
<td>0.097</td>
<td>0.078</td>
</tr>
</tbody>
</table>

Note. N1 = 824 (Study 1); N2 = 323 (Study 2). CI = Confidence interval, bias-corrected and based on k = 5000 bootstrap samples; Est. = Estimate; LL = Lower limit; UL = Upper limit; RSM = relatively self-determined motivation. In Study 1, motives were measured at Time 1, RSM and satisfaction at Time 2 (16 months later). Benefits and the social justice function were only addressed in Study 2. Match indices were calculated as the product of motive and benefit scores.
of the indirect effect (i.e., the antecedent’s effect on RSM, and RSM’s effect on satisfaction). The estimates for indirect effects have been bolded when statistically significant.

In Study 1, Hypothesis 2 was supported for all of the six volunteer functions. There were significant positive indirect effects of self-determined motives via RSM on satisfaction; and the indirect effects of controlled motives were negative and also significantly different from zero. In Study 2, however, Hypothesis 2 was not confirmed with respect to the understanding motive: The indirect effect via RSM was not significantly different from zero.

Benefits and match indices were only addressed in Study 2. Hypothesis 4 was partially supported: The indirect effects via RSM of benefits and match indices concerning both the values and the social justice function were positive; and the indirect effects via RSM of benefits and match indices concerning both the enhancement and the protective functions were negative. However, with respect to the understanding, social, and career function, the indirect impact of benefit and match indices was not significantly different from zero.

In order to gauge the size of the indirect effects, we analyzed $\kappa^2$ as an effect size measure recommended by Preacher and Kelley (2011). Overall, most effect sizes indicated indirect effects in the small to medium range. In Study 2, the size of the indirect effects related to the enhancement and protective functions can be labeled as medium to large.

Discussion

Volunteers’ motives have been differentially linked to favorable outcomes; however, the mediating processes still remain unclear (Stukas et al., 2014). Applying SDT, we suggested that the quality of motivation that is associated with a specific volunteer function will account for some part of the relationship between volunteers’ motives and satisfaction. Study 2 further extended this rationale to the impact of function-specific benefits and match indices.

Our hypotheses were fully supported in Study 1: Self-determined motives (values and understanding) positively correlated with RSM, whereas controlled motives (enhancement, protective, social, and career) showed negative correlations. The relationships between motives and satisfaction were partially mediated by RSM. In Study 2, our assumptions were confirmed for five out of six VFI motives and for the social justice motive. Taken together, the present research mostly confirmed RSM as a process that mediates the relationships between volunteers’ motives and satisfaction. In line with SDT’s core assumptions, it is the relative quality of self-determined versus controlled motivation that makes a meaningful distinction between various volunteer functions. This result is consistent with findings on the different effects of pleasure- versus pressure-based prosocial motivation on favorable outcomes (Gebauer, Riketta, Broemer, & Maio, 2008).

Overall, the indirect effects via RSM were of small to medium size. Furthermore, all direct effects, except for the social justice function, were still significant, which indicates that there are additional mediating processes. The quality of motivation, as conceptualized by SDT, represents a relevant mediator, but it is only one. It is important to note that all volunteer motives show positive correlations with both self-determined and controlled motivation. In Study 2, for example, the understanding motive did not correlate significantly with RSM, but it showed equally strong associations with self-determined and controlled motivation. These correlations demonstrate that the RSM index represents the quality of motivation in terms of a “relative dominance” of self-determined versus controlled motivation. Consequently, the quantity of motivation—across the spectrum of both self-determined and controlled types of motivation—can be suggested as another mediator of the motive-satisfaction relationship. However, as the purpose of the present research was to address volunteer functions from an SDT perspective, we exclusively focused on RSM—that is, the quality dimension of motivation (see also Footnote 2).

Volunteers in Study 2 were considerably younger than participants in Study 1. This difference with respect to age may account for the zero correlation between the understanding motive and RSM.
in Study 2. Probably, the meaning of understanding changes depending on the volunteers’ age. For younger volunteers, the understanding motive might bear some similarity to the career motive and be perceived as instrumental to a goal that is relatively unrelated to the cause one is volunteering for. Conversely, for elder volunteers the understanding function might be less instrumental and rather reflect interest and curiosity. This interpretation is in line with socioemotional selectivity theory (Carstensen, Isaacowitz, & Charles, 1999) and corresponding findings on age-related differences. They suggest that older individuals rather concentrate on the present and are, therefore, motivated to derive meaning from their voluntary activity and to strengthen close social ties, whereas younger individuals focus on the more distant future and, thus, attach more importance to knowledge seeking and forming new relationships (Okun & Schultz, 2003; Omoto, Snyder, & Martino, 2000).

Concerning benefits and match indices, our hypotheses were confirmed with respect to the values, enhancement, protective, and social justice functions. Although, however, social and career motives were negatively related to RSM, the respective benefits showed no significant associations with RSM. Based on GCT, we had expected that affordances corresponding to social adjustment and career benefits should negatively affect RSM. Obviously, reactions of important others were not perceived as pressure toward continued volunteering but rather as positive feedback. Similarly, the opportunity to make career-relevant contacts did not result in feelings of external pressure or control.

Limitations of the present research concern the studies’ design and the generalizability of the findings. The cross-sectional design of Study 2 did not allow for testing assumptions about causality. And, although Study 1 was part of a longitudinal project, more sophisticated analyses regarding the causality of the relationships require repeated measurements of all variables. Nevertheless, because of the separate measurement points, the likelihood that the relationships between motives and RSM are merely due to common method variance was considerably reduced. Future research should track both volunteers’ motives and the quality of motivation over an extended period of time. In doing so, reversed or reciprocal effects of satisfaction with the activity on specific motives for volunteering might be explored. Furthermore, future research addressing these structural relationships should model all variables as latent constructs in order to take measurement error into account. Both studies had a strong focus on social-sector volunteering and made use of convenience samples, which challenges the generalizability of our findings. Future research should systematically compare various areas of volunteering and investigate whether the relationships are dependent on, for example, the volunteers’ age. Furthermore, generalizability is limited with respect to outcomes. The present research focused on satisfaction, which is important, but it is only one facet of successful volunteering. In Study 1, we were, unfortunately, not able to identify those volunteers who had actually given up volunteering at Time 2. Future research might examine a wider range of favorable volunteer outcomes (e.g., Stukas et al., 2014, who examined five facets of well-being) and should, in particular, include measures from an independent source (e.g., ratings from supervisors or beneficiaries, and data on actual retention). From an SDT perspective, future studies should particularly address outcomes that have been closely linked to self-determined motivation such as creativity, cognitive flexibility, extra-role behaviors, and health benefits (see Gagné & Deci, 2005).

This leads us to an important theoretical consideration. Although both intrinsic motivation and identified regulation represent self-determined motivation, they are distinct motivational qualities, differentially related to outcomes (e.g., Güntert, 2015). Identified regulation will be “more effective in predicting persistence on uninteresting, but effort-driven tasks, whereas intrinsic motivation will be more effective in predicting persistence on interesting tasks” (Gagné & Deci, 2005, p. 348). In the present research, the values and social justice functions correlated more strongly with identified regulation than with intrinsic motivation, whereas the understanding function showed the reverse pattern. In a recent study by Wu et al. (2015), volunteers’ experience of competence and efficacy (which can be associated with the understanding function) was linked to satisfaction via the mediating process of intrinsic motivation. Thus, we suggest that future research should also investigate different types of motivation as separate mediating processes.
Some studies differentiate between self-oriented (egoistic) and other-oriented (altruistic) motives of volunteers (see Stukas et al., 2014, for an overview). Making use of SDT, this research contributes to overcoming the egoistic-altruistic dichotomy. Volunteering may serve both other- and self-oriented functions at the same time. Whether these motives are accompanied by the experience of either self-determination or control significantly affects volunteers’ satisfaction. Remarkably, the latter differentiation between self-determination and control does not coincide with a self-other dichotomy that separates the values and the understanding function (cf. Konrath et al., 2012). The SDT-based categorization presented in this research most closely resembles the one proposed by Gillath et al. (2005). Both values and understanding motives represent functions that can be aligned with the human propensity toward personal endorsement of values and psychological growth (see Deci & Ryan, 2000). In a longitudinal study by Omoto and Snyder (1995), understanding and personal development motives were positively related to duration of volunteer service. Against the background of the present SDT-based research, those motives could be described as highly self-determined in nature.

Our research showed that values, social justice, and—in Study 1—understanding motives were positively related to volunteers’ experience of RSM. Therefore, organizations might prefer to recruit exclusively those volunteers who strongly emphasize these motives. There are, however, important caveats. The aim of this research was not to create new categories of “favorable” versus “unfavorable” motives. Instead, we wanted to illustrate that volunteers’ efforts can be grounded either in interest and identification or in external pressure and control. Among the VFI functions, there are, of course, prototypical “candidates” for self-determination versus control—as shown in this research. These relationships, however, only tell us something about the average volunteer. Volunteers not fitting into average pattern shrink the overall size of correlations and mediational effects. An example illustrates this idea: A volunteer with a strong career motive does not necessarily experience a low level of self-determination; maybe the person is so passionate about the volunteer task that he or she regards this activity as the first step of a professional career.

As a consequence, the practical implication of this research is to focus on the self-determined motivation of the individual volunteer rather than to select people on the basis of a broad category of “adequate” motives. In addition to recruiting the right volunteers, organizations may also proactively cultivate motives that are more strongly associated with self-determination (e.g., Clary & Snyder, 2002). Although motives showed comparatively weak correlations with RSM, the association between RSM and satisfaction was remarkably strong in both studies. Consequently, practitioners should foster the experience of self-determination. Volunteers’ tasks, for example, can be designed to be more motivating (Millette & Gagné, 2008), and supervisors should provide an autonomy-supportive work environment (Haivas, Hofmans, & Pepermans, 2012). We hope that our research further stimulates an SDT-based approach to volunteerism and contributes to human flourishing in this life domain.

Notes

1. A fourth type, integrated regulation, represents the highest form of internalized extrinsic motivation: The respective behaviors reflect a person’s integrated sense of self; this quality of motivation, however, is rarely addressed by established instruments.
2. We also explored mediation models using two parallel mediators (i.e., self-determined motivation and controlled motivation) instead of RSM as a single mediator. The results were equivalent to the findings presented in this article. However, due to collinearity problems (self-determined and controlled motivation are positively correlated), we decided to use RSM as a summarizing index representing the quality of motivation.
3. Low response rates and attrition might lead to selection biases (e.g., to an over-representation of very satisfied volunteers). According to Graham (2009), however, these effects of selective participation and drop-out need to be very strong in order to seriously affect the validity of the overall correlational findings. The present research did not focus on the level of volunteer satisfaction, but on the relationships between variables.
4. We checked for biases due to selective dropout and found only one significant difference: Volunteers, who participated at Time 1, but either did not participate at Time 2 or actually participated but did not provide the
correct code, showed slightly lower levels of the understanding motive \((M = 3.67, SD = 0.80)\) than the participants who returned at Time 2 and provided the correct code \((M = 3.74, SD = 0.78)\); the effect size of this difference, however, is only small (Cohen’s \(d = 0.10\)).

5. Despite conceptual similarities, intrinsic motivation and identified regulation represent distinct qualities of motivation. An exploratory factor analysis of the eight items clearly resulted in a two-factor solution, with items representing intrinsic motivation and identified regulation, respectively, loading on separate factorial components.

6. An exploration with respect to Study 2 revealed that, for younger participants (40 years old or younger), the understanding motive was more strongly related to the career motive \((r = .62)\) than for participants aged 50 years or older \((r = .39)\).

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**References**


