



The Roles of Personality Traits and Vocational Interests in Explaining What People Want Out of Life

Gundula Stoll^{a,*}, Sif Einarisdóttir^b, Q. Chelsea Song^c, Peter Ondish^d, Joyce Jotzu Sun^e, James Rounds^f

^a Hector Research Institute of Education Sciences and Psychology, University of Tübingen, Germany

^b Faculty of Sociology, Anthropology and Folkloristics, University of Iceland, Iceland

^c Department of Psychological Sciences, Purdue University, USA

^d Center for Social and Behavioral Science, University of Illinois at Urbana-Champaign, USA

^e Department of Educational Psychology, University of Illinois at Urbana-Champaign, USA

^f Department of Psychology, University of Illinois at Urbana-Champaign, USA

ARTICLE INFO

Article history:

Received 26 August 2018

Revised 29 September 2019

Accepted 1 March 2020

Available online 2 March 2020

Keywords:

Vocational interests

RIASEC

Major life goals

Personality traits

Values

ABSTRACT

Life goals reflect people's aspirations of what they want to become and what kind of life they want to live. In two student samples from the United States ($N = 385$) and Iceland ($N = 1338$), we used hierarchical regression and relative weights analyses to first replicate Roberts and Robins (2000) finding that Big Five personality traits predict major life goals, and then to test whether vocational interests have incremental validity in explaining major life goals over and above personality traits. Overall, vocational interests explained larger amounts of variance in major life goals than personality traits, and added incremental validity above and beyond personality traits. Expectations about specific linkages were largely confirmed across the two samples, providing implications for theory and practice.

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1. Introduction

What do you value most in life? Spending time with your family? Having a successful career? Doing something helpful for society? There are plenty of things you can strive for in life, but most likely you choose certain life goals that you find most desirable, and these goals guide your decisions and behaviors. Understanding why people strive for different goals in their lives might help to understand how people organize their lives and why people end up with different life plans. Knowing more about the nature and scope of life goals might also help to improve career guidance. Especially with regard to the idea of work-life balance, more integrative approaches to career development that include individual's life goals are promising. With the present research, we aimed to contribute to the understanding of different life courses by investigating Big Five personality traits and vocational interests—as potential predictors of major life goals.

Drawing on Socioanalytic Theory (Hogan, 1983), the Neo-Socioanalytic Model of Personality (Roberts & Wood, 2006), and

Holland's (1997) broader conception of vocational interests, we would expect that both personality traits and vocational interests explain variability in major life goals. Recent research drawn from these theoretical and conceptual considerations showed that vocational interests can provide incremental validity over Big Five personality traits in predicting life outcomes (Stoll et al., 2017). These life outcomes encompass major life goals. Using a similar line of reasoning, we expected vocational interests to contribute to the prediction of major life goals and to possibly have stronger relations with major life goals than Big Five personality traits. This idea builds upon integrative frameworks and theories of personality (McAdams & Pals, 2006; Roberts & Wood, 2006) which suggest that personality traits and vocational interests are related but distinct constructs (Roberts & Wood, 2006) that work through different processes (Low & Rounds, 2006). Relations between personality traits and major life goals have been established in previous studies (Lüdtke, Trautwein, & Husemann, 2009; Roberts & Robins, 2000), but to date, no study has investigated relations between vocational interests and major life goals. To address this issue, in the present research, we tested whether vocational interests would be associated with major life goals and whether vocational interests would offer incremental validity in explaining major life goals over and above the Big Five personality traits.

* Corresponding author at: University of Tübingen, Europastraße 6, 72072 Tübingen, Germany.

E-mail address: gundula.stoll@uni-tuebingen.de (G. Stoll).

1.1. Life goals and their importance for an individual's life course

Goals are action-oriented because they direct behavior and decisions. They are always related to certain end states that a person wants to achieve and commits to attaining through action (Hennecke & Freund, 2017). Specifically, goals combine ends with means as they comprise cognitive representations of desired end states as well as cognitive representations of how to achieve these end states (Kruglanski et al., 2002). In doing so, goals guide attention and action so that people can focus on possible opportunities for goal attainment (Kruglanski et al., 2002). Therefore, goals are regarded as action-oriented: If people choose to engage in activities that will help them reach the desired end states, their goals affect their behaviors and decisions.

Goals can range from the very broad to the very specific (Roberts & Robins, 2000) and can be organized hierarchically, depending on their breadth. Located at the top of this goal hierarchy are global aspirations for a certain worldview (e.g., Royce & Powell, 1983) and idealized notions of the self (Beach, 1990). At the next level down are more concrete "principles" of what individuals see as desirable. These principles are most often expressed as values (e.g., Rokeach, 1973), and these values in turn subsume major life goals (Winnel, 1987)—representing the next level down the hierarchy. At an even more specific level are contextualized goals, described as "midlevel units," such as personal strivings (Emmons, 1989), current concerns (Klinger, 1987), personal projects (Little, 1983), or life tasks (Cantor, Norem, Niedenthal, Langston, & Brower, 1987). And at the lowest level of the hierarchy, goals for immediate actions and discrete events can be found.

In contrast to most studies that have focused on goals at the relatively concrete level of day-to-day personal strivings (Little, 1983; see also Hennecke & Freund, 2017), we focused on *major life goals* because they resemble personality traits and vocational interests in breadth (Allport, 1961; Roberts & Robins, 2000). Compared with more concrete goal units, major life goals influence an individual's life across years and decades rather than days and weeks. Because they have greater generality and are more stable than more concrete goal units, major life goals are more comparable to broader dispositions such as personality traits or vocational interests.

Major life goals reflect people's aspirations of what they want to become and what they generally strive for in their lives (Lüdtke et al., 2009; McAdams, 1994; Pervin, 1989). They reflect the importance people assign to broader trans-situational end states. For example, they might reflect how much people value having a family, a successful career, or a certain kind of lifestyle (Roberts & Robins, 2000; Roberts, O'Donnell, & Robins, 2004). In doing so, major life goals are similar to values that function as the standards or criteria by which people evaluate things and attach importance to things (Dawis, 1991).

Major life goals can shape life courses. Although major life goals are related to broader trans-situational end states, they are nevertheless action-oriented. Major life goals direct behaviors over longer periods because people choose to engage in activities, situations, and contexts that will help them reach desired end states. In this way, major life goals reflect what a person wants to achieve in his or her life and commits to attaining through action. Therefore, major life goals have been defined as a person's aspirations to shape his or her life context and establish general life structures (Roberts & Robins, 2000).

In the present research, we draw on the structure of major life goals proposed by Roberts and Robins (2000), who explored the structure of the only existing measure of major life goals developed by Richards (1966). Using principal component and internal consistency analyses, they organized Richards' life goals into seven broad domains: Economic, Aesthetic, Social, Relationship, Political,

Table 1
Descriptions of the Investigated Constructs.

Personality Traits, Vocational Interests, and Major Life Goals	
Major Life Goals	
Economic	The desire to have a high status career and a high standard of living and wealth.
Aesthetic	The desire to produce good artistic work or to become accomplished in music or arts.
Social	The desire to help others in need and to promote the welfare of others.
Relationship	The desire to have a family and harmonious relationships with others.
Political	The desire to be influential in public affairs and to become, for example, a community leader.
Hedonistic	The desire to have fun and an exciting lifestyle.
Religious	The desire to participate in religious activities and devote attention to a spiritual life.
Educational	The desire to have good grades (in school) and to obtain, for example, a high school degree.
Big Five Personality Traits	
Neuroticism	The tendency to experience negative emotions such as anger, worry, and sadness as well as being interpersonally sensitive.
Extraversion	The tendency to be talkative, sociable, and enjoy others; the tendency to have a dominant style.
Openness	The tendency to appreciate new art ideas, values, and behaviors.
Agreeableness	The tendency to agree and go along with others rather than to assert one's own opinions and choices.
Conscientiousness	The tendency to be careful, to be on time for appointments, to follow rules and to be hardworking.
RIASEC Vocational Interests	
Realistic	A preference for the explicit manipulation of objects, tools, machines, and animals.
Investigative	A preference for the observational, symbolic, systematic, and creative investigation of physical, biological, and cultural phenomena.
Artistic	A preference for the manipulation of physical, verbal, or human materials to create art.
Social	A preference to influence others to inform, train, develop, cure, or enlighten.
Enterprising	A preference to influence others to attain organizational goals or economic gain.
Conventional	A preference for the explicit, ordered, systematic manipulation of data.

Note. Description of the Big Five personality traits summarized from McCrae and Costa (2008); description of the RIASEC vocational interests: summarized from Holland (1997); description of the major life goals: summarized from Roberts and Robins (2000).

Hedonistic, and Religious life goals. Table 1 provides brief descriptions of these seven major life goal domains.

1.2. Linking major life goals and personality traits

Personality traits are stable and broad dispositions that reflect individuals' consistent, patterned ways of thinking, feeling, and behaving (McAdams & Pals, 2006; Roberts & Wood, 2006). The most universal taxonomy of personality traits is the Five-Factor Model (FFM) of personality traits, encompassing Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (Goldberg, 1993, see Table 1 for a description of the five personality traits). They represent broad schemas for how individuals typically behave while trying to navigate myriad situations in their lives. As such, the Big Five personality traits have been shown to be important predictors of various life outcomes in the domains of work, relationships, and health (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). On the basis of these findings, we believe that personality traits should also be associated with major life goals because life outcomes can be viewed as the long-term conse-

quences of specific behaviors and decisions that are in turn associated with the respective life goals.

On the basis of Socioanalytic Theory (Hogan & Roberts, 2000; Hogan, 1983), Roberts and Robins (2000) argued that major life goals could be regarded as the central link between dispositions and the many social contexts people choose in their lives. According to Socioanalytic Theory, most behavior is motivated by the primary needs of social acceptance (getting along), status (getting ahead), and personal meaning. It is assumed that in the pursuit of these needs, people develop consistencies in their behaviors and life choices. By reflecting how people manage social acceptance, status negotiations, and meaning in their lives, these behaviors and choices constitute individual dispositions. Thus, it is assumed that people establish certain relations to other people and choose specific social roles to develop and shape what they think of themselves (identity) and what others think of them (reputation; Hogan & Roberts, 2000). As people aim to reinforce their identity, it is assumed that personality traits direct people to choose social contexts that allow them to act in ways that are compatible with their identity and their broader dispositions.

Against this background, Roberts and Robins (2000) argued that selecting major life goals allow people to shape their social environments in ways that reinforce their existing dispositions. Major life goals comprise the construction of concrete social contexts—e.g., having a large family, being married, or attaining an affluent lifestyle. And these contexts in turn reflect specific roles that people enact or want to enact (Roberts et al., 2004). Choosing goals for one's life, therefore, comprises choices about certain roles to adopt as well as decisions about how to enact these roles. Because people strive to choose roles that reinforce their identity, there should be relations between major life goals and broad dispositions such as personality traits. In this way, major life goals may link people's identities with the roles they enact.

Roberts and Robins (2000) were the first to demonstrate modest but theoretically meaningful associations between major life goals and the Big Five personality traits. When put together with findings from later studies (Bleidorn et al., 2010; Roberts & Robins, 2000; Roberts et al., 2004), there was evidence of a systematic relation between the importance of major life goals and personality traits. The modest strength of these relations, however, raised the question of whether there might be other individual difference constructs that are related to major life goals.

1.3. Linking major life goals and vocational interests

On the basis of theoretical reasons and recent empirical findings (Stoll et al., 2017), we propose that *vocational interests* may be a compelling predictor of major life goals. Vocational interests are defined as trait-like preferences for activities, environments, and outcomes that motivate goal achievement through specific behaviors and attitudes (Rounds, 1995; Su, Rounds, & Armstrong, 2009; Su, Stoll, & Rounds, 2019). The most studied theory of vocational interests is Holland's (Holland, 1959, 1997) RIASEC model, which clusters interest orientations into six broad domains: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (see Table 1 for a description of the six RIASEC interests).

Vocational interests are known to direct individuals' goal-oriented behaviors and the decisions they make about their lives (Rounds & Su, 2014). A long line of research has demonstrated that vocational interests predict educational and occupational choices (Campbell, 1971; Kuder, 1977; Strong, 1943) as well as academic and work performance (for meta-analyses see Nye, Su, Rounds, & Drasgow, 2012; Nye, Su, Rounds, & Drasgow, 2017). But only recently, it has been shown that vocational interests also predict outcomes in other life domains (Stoll et al., 2017), and even demonstrate incremental validity over the Big Five personality

traits in predicting these life outcomes (e.g., gross income, being married, and having children). These findings raise the question, if vocational interest are also better predictors of major life goals than Big Five personality traits. Although the present study focuses on major life goals more broadly than the life outcomes investigated in the Stoll et al. study, parallels can be drawn because concrete life outcomes (e.g. having children) can be viewed as the long-term consequences of certain behaviors and decisions that should in turn be associated with respective life goals (e.g. the goal of having a family).

Against this background, we see three main reasons for why vocational interests should be associated with major life goals and may even be better predictors of major life goals than personality traits: their conceptual associations with values, their contextualization and motivational nature, and their distinctness from Big Five personality traits. First, according to Holland's broader conceptualization, the RIASEC orientations not only reflect preferences for specific activities but also comprise information about individuals' goals and values (Holland, 1997; see also Stoll & Trautwein, 2017). This means that people with a specific interest orientation (or a specific personality type) are assumed to have certain values and life goals. For example, people with high Realistic interests are described as possessing traditional values, whereas people with high Social interests tend to value relationships and serving others; and people with high Enterprising interests are characterized as valuing economic and political achievement (Holland, 1997). A similar linkage between interests and values has been described by Super (Super, 1995), who defined *interests* as preferences for activities in which individuals expect to attain or satisfy their needs and values. This means that people prefer those activities and contexts that allow them the pursuit of their goals and values. For example, social values will lead a person to prefer activities, contexts and roles that provide an opportunity to help others. In this view, an interest is one of the many manifestations of a value. That is, pairing values and interests is not a one-to-one assignment because values can often be linked to several different interest areas.

Several researchers (Armstrong, Day, McVay, & Rounds, 2008; Rounds & Armstrong, 2014; Smith & Campbell, 2009; Sodano, 2011) have linked pattern of values and needs to different interest areas. Results from these studies provide empirical support for meaningful associations between interests, life goals, and values and provide certain domain specific associations. Rounds and Armstrong (2014) demonstrated that, for example, the values postulated in Allport, Vernon, and Lindzey (1970) Study of Values nicely map onto the RIASEC model: Artistic interests were associated with Aesthetic values, Social interests were associated with Social and Religious values, and Enterprising and Conventional interests were associated with Political and Economic values (Rounds & Armstrong, 2014). In addition, Investigative interests were associated with Achievement goals (see personal preferences; Edwards, 1959). Because several of the values postulated by Allport, Vernon, and Lindzey correspond to the major life goal domains examined in the present study, these findings can be used to derive expectations of relations between vocational interests and major life goals.

Second, due to their contextualization and motivational nature, vocational interests might even be better predictors of major life goals than personality traits are. Vocational interests are contextualized and always refer to an object or situation. This means that vocational interests directly capture the relationship between a person and a certain object (Su, Murdock, & Rounds, 2015). Due to this contextualization, the six RIASEC interests also reflect certain kinds of contexts or situations because people with a certain interest orientation prefer specific kinds of environments or contexts. Life goals are also contextualized because they comprise the construction of concrete social contexts—having a large family, being married, or attaining a prestigious career (Roberts et al.,

2004). Therefore, committing to a life goal and trying to pursue this goal also entails decisions and choices about the specific contexts or end states associated with this life goal.

On the basis of their contextualization (Renninger & Hidi, 2011; Su et al., 2019), vocational interests are assumed to serve multiple motivational functions because they focus attention toward specific domains, energize goal-striving efforts, and help individuals continue to strive toward goals (Nye et al., 2012). Therefore, vocational interests are assumed to be important for goal setting (Nye et al., 2012) and goal attainment (Rounds & Su, 2014). Due to their contextualization and motivational nature, vocational interests serve as mechanisms for selecting specific contexts and environments. By directing individuals to engage in activities and contexts similar to those that have interested them in the past, interests predict human behaviors and choices. This is part of the explanation of why vocational interests are such strong predictors of occupational and educational choices. Beyond this, the implication is that vocational interests—as contextualized, motivational aspects of personality—should explain more variance in major life goals than personality traits. More precisely, vocational interests and life goals should be related to one another because both are contextualized and both concern the relationship between a person and specific objects. This means that the relationship between a particular interest orientation and a particular life goal should be especially strong if they both refer to similar objects.

In addition, vocational interests may contribute uniquely to major life goals because they reflect aspects of personality that are distinct from Big Five personality traits. Vocational interests reflect aspects of personality (Holland, 1997; Stoll & Trautwein, 2017), and the six vocational preferences are characterized as unique personality styles (Holland, 1997). Consistent with the understanding that vocational interests are trait-like dispositions, meta-analytic rank-order continuity coefficients were found to be higher for interests than for personality traits (Low, Yoon, Roberts, & Rounds, 2005). In addition, heritability estimates of interests were found to be comparable (Betsworth et al., 1994; Lykken, Bouchard, McGue, & Tellegen, 1993) or even higher (Kandler, Zimmermann, & McAdams, 2014) than those for personality traits. Therefore, integrative frameworks of personality, such as the Neo-Socioanalytic Model of Personality (Roberts & Wood, 2006), regard vocational interests as reflecting aspects of personality (see also Stoll & Trautwein, 2017).

However, even though vocational interests reflect aspects of personality, they are distinct from personality traits (Roberts & Wood, 2006). A meta-analysis on the relations between personality traits and the RIASEC interests found that Extraversion was substantially related to Enterprising and Social interests ($\rho = .41$ and $.29$, respectively) and that Openness to Experience was related to Artistic and Investigative Interests ($\rho = .39$ and $.25$, respectively). But the relations between other vocational interests and personality traits were found to be only modest—around or below $.10$ (Barrick, Mount, & Gupta, 2003)—thus demonstrating that vocational interests are not simply substitutes for Big Five personality traits but instead capture information that is not included in the Big Five. For example, the Neo-Socioanalytic Model of Personality (Roberts & Wood, 2006) represents interests as aspects of a motivational domain of personality that is conceptually distinct from personality traits. If vocational interests represent a separate domain of personality and are at least as stable as personality traits, this would suggest that they may contribute to major life goals independent of personality traits.

1.4. Expectations for domain-specific associations

We assume that major life goals, personality traits, and vocational interests are meaningfully related to each other. Although

our research is mainly exploratory, expectations about specific linkages can be derived from the reviewed literature and the available empirical findings. Regarding associations between the Big Five personality traits and major life goals, we mainly built on the findings from Roberts and Robins (2000). They found that Economic life goals were related to higher Extraversion and Conscientiousness and lower Agreeableness and Openness; Aesthetic life goals were related to Openness to Experience; Social life goals were related to higher Agreeableness, Neuroticism, and Openness to Experience; and Relationship life goals were associated with higher levels of Extraversion and Agreeableness. By contrast, Political life goals were related to higher Extraversion but lower Agreeableness. Similarly, Hedonistic life goals were associated with higher Extraversion, lower Agreeableness, and higher Openness to Experience. The only life goal domain that was generally not associated with the Big Five was Religious life goals.

In the absence of empirical results on relations between vocational interests and major life goals, we drew on Holland's (1997) broader conceptualization of the six RIASEC types as well as empirical results on the associations between vocational interests and values to formulate expectations on domain-specific relations. According to Holland (1997), people with high Realistic interests are described as possessing traditional values, and value concrete things and tangible personal characteristics. As Realistic interests do not directly map on pattern of needs and values (Rounds & Armstrong, 2014), we expected no specific associations between Realistic interests and the major life goals in our study.

Because people with high Investigative interests are assumed to value scientific and scholarly achievement, self-determination, as well as being intellectual and ambitious (Holland, 1997), and Investigative interests have been demonstrated to be associated with Achievement goals (Rounds & Armstrong, 2014) and the choice of higher academic school tracks (Usslepp et al., 2020), we assumed Investigative interests to be related to Educational life goals.

People with high Artistic interests are assumed to value aesthetic experiences and achievements, self-expression as well as being imaginative and courageous (Holland, 1997). We therefore expect Artistic interests to be related to Aesthetic life goals—and assumption that is supported by empirical relations between Artistic interests and Aesthetic values (Rounds & Armstrong, 2014).

According to Holland (1997), people with high Social interests value social and ethical activities, serving others, and aspire to become a competent parent, teacher or therapist. In addition, they are assumed to “believe in equality of all and the desirability in being helpful and forgiving” (Holland, 1997, p. 25) and to value religion. Therefore, we expect Social interests to be related to Social, Relationship and Religious life goals. This expectation is supported by findings of strong associations between Social interests and Social and Religious values (Rounds & Armstrong, 2014), as well as findings on the predictive validity of Social interests in predicting relationship outcomes such as being married and having children (Stoll et al., 2017).

People with high Enterprising interests are assumed to value economic and political achievement, controlling others and being ambitious; they also aspire to become a leader in commerce, a community leader or influential in public affairs (Holland, 1997). In line with these assumptions, Enterprising interests have been shown to be associated with Political and Economic values (Rounds & Armstrong, 2014). Therefore, we expect Enterprising interests to be associated with Economic and Political life goals.

According to Holland (1997), people with high Conventional interests value business and economic achievement, being hard working, obedient and polite and aspire to become an expert in finance or commerce and to lead a comfortable life. Because Conventional interests have also been shown to be associated with

Political and Economic values (Rounds & Armstrong, 2014), we expect associations between Conventional interests and Political and Economic life goals.

In summary, based on theoretical considerations and previous empirical findings, we expected to find several links among personality traits, interests, and major life goals. (a) Economic life goals should be linked to Extraversion and Conscientiousness as well as Enterprising and Conventional interests. (b) Aesthetic life goals should be linked to Openness to Experiences and Artistic interests. (c) Social life goals should be linked to Agreeableness as well as Social interests. (d) Relationship life goals should be linked to Agreeableness and Extraversion as well as Social interests. (e) Political life goals should be linked to Extraversion as well as Enterprising interests. (f) Hedonistic life goals should be linked with Extraversion, whereas no specific link to vocational interests could be derived from the literature. (g) Religious life goals might not be linked to Big Five personality traits but should be linked to Social interests. Finally, (h) Educational life goals should be linked to Conscientiousness as well as Investigative interests.

1.5. The present research

The purpose of this study were threefold: First, we aimed to replicate Roberts and Robins (2000) finding that Big Five personality traits explain variance in major life goals. Second, we aimed to test whether vocational interests—as trait-like dispositions and aspects of personality—explain variance in major life goals. Third, we aimed to investigate whether vocational interests—as contextualized, motivational constructs—may be even more suitable than Big Five personality traits for explaining major life goals. Our study extends other research in this field (e.g., Lüdtke et al., 2009; Roberts & Robins, 2000) by bringing the construct of vocational interests into play. The present research was exploratory in nature, and no explicit hypotheses were preregistered.

To investigate the relative importance of the Big Five personality traits and vocational interests in explaining major life goals, we used hierarchical regression analysis and relative weights analysis. We began by using the goal structure first proposed by Roberts and Robins (2000) in which major life goals were clustered into seven value domains. With regard to the student samples used in this investigation, we further studied Educational life goals. To test whether the obtained results could be generalized, we examined our expectations in two independent samples from two countries—the US and Iceland.

Against the background of the reviewed theoretical assumptions and empirical results, we expected that major life goals would be significantly associated with both personality traits and vocational interests. However, due to their contextualization and motivational nature, we expected vocational interests to be more closely related to major life goals than personality traits. Therefore, we also expected that vocational interests would offer incremental validity in explaining major life goals over and above the Big Five personality traits.

We believe that providing evidence for the relative importance of vocational interests in explaining major life goals will contribute to the understanding of vocational interests. Although they are broad dispositions with a large impact on life decisions and life outcomes (Stoll et al., 2017), vocational interests are still often overlooked or at least regarded as limited to the domain of work and work-related outcomes. Therefore, demonstrating that vocational interests are more suitable than the Big Five personality traits for explaining major life goals in various value domains will help reveal that vocational interests are important aspects of individual differences. In addition, a better understanding of the interrelations between interests, personality and life goals may contribute to more integrative approaches in career counseling

that help people make more satisfying and successful career choices as well as attaining a better work-life balance, wellbeing and greater life satisfaction.

2. Study 1

2.1. Method

2.1.1. Sample and procedure

The sample in Study 1 consisted of 385 undergraduate students—62% young women and 38% young men—from a large mid-western U.S. university. The sample was composed of 58.7% White, 21.6% African American, and 7.3% Asian American students who were 16–24 years old ($M = 19.32$ years, $SD = 1.20$). Participants were recruited from an elective career development course in which students from a wide range of majors enrolled. Participation in the study was voluntary, and students were not paid but given extra credit toward their final grade. Because the data was gathered across two semesters of career development classes, we expected approximately 350–400 participants, a sufficient sample size for the multivariate analyses. No cases were excluded from the data set.¹

University Institutional Review Board approval was obtained prior to the study, and all students provided written consent. Students filled out a paper and pencil questionnaire containing measures on personality traits, values, vocational interests, and life goals, as well as demographic questions. In addition to the measures that were examined in the current study, the participants also completed the Strong Interest Inventory (Donnay, Morris, Schaubhut, & Thompson, 2005) and the Schwartz Value Inventory (Schwartz & Bilsky, 1990; Schwartz, 1992). The questionnaire took approximately one hour to complete. Data collection was introduced in class, but students could complete the questionnaire outside of class.

2.1.2. Measures

2.1.2.1. Vocational interests. Vocational interests (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional interests) were assessed with the short form of the Interest Profiler (IP; Rounds, Su, Lewis, & Rivkin, 2010). The IP short form consists of 60 work activities (10 per RIASEC scale) such as *build kitchen cabinets*, *teach high school classes*, and *write books or plays*. Participants were asked to indicate how much they like each activity—responding on a 5-point scale ranging from 1 (*strongly dislike*) to 5 (*strongly like*). Previous research has demonstrated that the IP short form has good internal consistencies (Cronbach's α values ranging from .78 to .90), high test-retest reliabilities (r_{tt} values ranging from .78 to .86), structural validity, and convergent validity with other RIASEC interest inventories (Rounds et al., 2010; for more information on the psychometric characteristics of the IP short form, see Phan, Amrhein, Rounds, & Lewis, 2017).

2.1.2.2. Big Five personality traits. The Big Five personality traits (Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness) were assessed with the 100-item International Personality Item Pool-Five Factor Model (IPIP-FFM; Goldberg, 1999). Items were rated on a 5-point scale ranging from 1 (*not very true to me*) to 5 (*very true to me*). Internal consistencies for the IPIP-FFM scales were found to range from .77 to .91

¹ The data set has not appeared in any other publications to date—except an unpublished dissertation (Sun, 2011). The data are not openly accessible because this would fail to comply with participants' written consent. However, to support future replicability efforts, we provide the variance-covariance matrices, the mean structure of all used variables, as well as the data analysis scripts online: https://osf.io/wtrmg/?view_only=75a54e14a8164f9c96e9490c17353af7.

(Goldberg, 1999), and the IPIP-FFM demonstrated high convergent validity with the NEO-PI-R (Costa & McCrae, 1992)—with correlations for subscales ranging from .85 to .92 (International Personality Item Pool, 2001).

2.1.2.3. Major life goals. Major life goals were assessed with a measure developed by Richards (1966) and revised by Roberts and Robins (2000). This measure comprises seven scales (numbers of items in parentheses): Economic (7), Aesthetic (5), Social (3), Relationship (3), Political (2), Hedonistic (3), and Religious (2) life goals (all items are presented in Table S4 in the supplemental material). The students were asked to rate the personal importance of each life goal item on a 5-point scale ranging from 1 (*not important to me*) to 5 (*very important to me*). Internal consistencies for the major life goal scales were found to range from .65 to .82 (Roberts & Robins, 2000). We added Educational life goals as an eighth life goal category because educational goals might be especially relevant for our student sample. The Educational life goal scale included two items: “*Having good grades*” and “*Doing well in school.*”

2.1.3. Statistical analyses

To address our research questions, we applied two sets of statistical analyses: hierarchical regression analysis and relative weights analysis. First, we used hierarchical regression analysis to estimate the amount of variance in each major life goal that could be explained by personality traits or vocational interests alone, as well as by personality traits and vocational interests together. In addition, we compared the hierarchical regression results to estimate the incremental validity of vocational interests over and above personality traits as well as the incremental validity of personality traits over and above vocational interests.

More specifically, we conducted hierarchical regression analysis for each life goal domain using three linear regression models: Model 1 containing only the Big Five personality traits, Model 2 containing only vocational interests, and Model 3 containing both personality traits and vocational interests as predictors. All models were estimated using the “lavaan” R package (Core, 2018; Rosseel, 2012). We assessed the statistical significance of the coefficients with a two-tailed test at a significance level of .05. We estimated differences in R^2 (ΔR^2) between Model 1 and Model 3 to describe the incremental validity of vocational interests in explaining the variance in major life goals over and above the Big Five personality traits. Conversely, we estimated differences in R^2 (ΔR^2) between Models 2 and 3 to describe the incremental validity offered by the Big Five personality traits in explaining variance in major life goals over and above vocational interests. Chi-square tests were used to test for differences between Models 1 and 3 and Models 2 and 3.

Second, we conducted relative weights analysis (Johnson, 2000) to examine the variance in major life goals explained by each personality trait and vocational interest. Relative weights analysis allow the total variance predicted in a regression model (R^2) to be decomposed into weights that accurately reflect the proportional contribution of the various predictor variables. It takes into account the potential intercorrelations of the predictors and helps isolate the unique contribution of each predictor. In doing so, relative weights analysis complement hierarchical regression analysis (e.g., LeBreton & Tonidandel, 2008) because more accurate inferences can be drawn concerning the relative contribution (i.e., relative importance) of each predictor out of multiple (often correlated) predictor variables.

We conducted relative weights analysis separately for each life goal to investigate which personality trait or vocational interest explained the most variance in each major life goal after all other personality traits and vocational interests were accounted for. In

addition, we conducted multivariate relative weights analysis (LeBreton & Tonidandel, 2008), that further take into account the intercorrelations among the different types of life goals, to examine how personality traits and vocational interests are related to life goals in general.

Univariate and multivariate analyses were conducted using RWA-Web (Tonidandel & LeBreton, 2015). For all predictor variables, we report the raw relative weights (RW) and the rescaled relative weights (RS-RW). To determine the statistical significance of the relative weights, we estimated 95% confidence intervals based on bootstrapping with 10,000 replications, an approach recommended by Tonidandel, LeBreton, and Johnson (2009).² For the multivariate analysis, we report P^2_{YX} (analogous to R^2 ; Azen & Bodescu, 2006) to reflect the multivariate association.

For all analyses, we used the full information maximum likelihood procedure (FIML) to handle missing data (see Enders, 2001; Graham, 2009; Newmann, 2014). Instead of replacing missing data with alternative values or imputation, this method utilizes all available information to estimate the models (Finkbeiner, 1979). All data analysis scripts are openly accessible (https://osf.io/wtrmg/?view_only=ac05dfe41fb94001a285330b1cd7cde1).

2.2. Results

2.2.1. Descriptive statistics

Descriptive statistics for the Big Five personality traits, vocational interests, and major life goals are displayed in Table 2. Correlations among all variables are presented in Table 3. Cronbach's α ranged from .82 to .89 for the personality scales, .86 to .94 for the vocational interest scales, and .65 to .92 for the major life goal scales.

2.2.2. Personality traits and vocational interests as predictors of major life goals

The Big Five personality traits alone explained between 2% and 20% of the individual differences in major life goals (see the results for Model 1 in Table 4; detailed results for Model 1 are presented in Table S1 in the supplement). The amount of variance explained by personality traits was highest for Social ($R^2 = .20$) and Relationship life goals ($R^2 = .18$); somewhat lower for Educational ($R^2 = .12$), Hedonistic ($R^2 = .11$), Economic ($R^2 = .11$), and Aesthetic life goals ($R^2 = .10$); and lowest for Political ($R^2 = .04$) and Religious life goals ($R^2 = .02$).

In comparison, vocational interests alone explained between 5% and 43% of the individual differences in major life goals (see the results for Model 2 in Table 4; detailed results for Model 2 are presented in Table S2 in the supplement). The amount of variance explained by vocational interests was highest for Aesthetic ($R^2 = .43$) and Social life goals ($R^2 = .40$); somewhat lower for Economic ($R^2 = .24$) and Political ($R^2 = .17$) life goals; and lowest for Relationship ($R^2 = .11$), Educational ($R^2 = .06$), Hedonistic ($R^2 = .06$), and Religious ($R^2 = .05$) life goals.

2.2.3. The incremental validity of vocational interests in explaining major life goals

The results of the hierarchical regression analyses for Model 3 (see Table 4; detailed results for Model 3 are presented in Table S3 in the supplement) demonstrated that personality traits and vocational interests were both significant predictors of major life goals. Personality traits and vocational interests together explained between 7% and 45% of the variability in major life goals. The largest amounts of variance were explained in Aesthetic

² We used FIML to create the correlation matrix that was the input for the relative weights analyses.

Table 2
Descriptive Statistics for Personality, Vocational Interests, and Major Life Goals.

	Study 1 (U.S. sample)			Study 2 (Icelandic sample)		
	M	SD	# of items	M	SD	# of items
Personality						
Neuroticism	62.98	11.71	20	34.17	7.80	12
Extraversion	69.26	11.70	20	43.02	6.12	12
Openness	70.26	8.96	20	38.73	6.44	12
Agreeableness	76.25	9.57	20	42.22	5.70	12
Conscientiousness	69.03	11.62	20	41.41	7.60	12
Vocational interests						
Realistic	19.40	8.20	10	48.07	17.99	23
Investigative	24.07	8.63	10	46.74	15.54	19
Artistic	27.12	9.58	10	54.68	15.77	18
Social	32.82	7.97	10	53.32	15.98	19
Enterprising	31.81	7.83	10	40.21	12.49	15
Conventional	24.50	8.16	10	40.33	12.71	18
Major life goals						
Economic ^a	27.92	4.21	7	–	–	–
Business ^a	–	–	–	9.76	2.83	3
Prestige ^a	–	–	–	7.33	2.10	2
Aesthetic	12.23	4.85	5	13.79	5.14	5
Social ^b	11.82	2.33	3	–	–	–
Social-Religious ^b	–	–	–	16.17	3.91	5
Relationship	13.89	1.58	3	13.45	2.00	3
Political	7.12	1.84	2	5.73	1.96	2
Hedonistic	13.35	1.75	3	8.65	1.30	2
Religious ^b	7.14	2.28	2	–	–	–
Educational	9.11	.98	3	12.47	2.25	3

Note. $N = 385$ for the U.S. sample. $N = 1,338$ for the Icelandic sample. # of items = number of items in each scale.

^a Economic goals were split into Business goals and Prestige goals in the Icelandic goal model.

^b Social goals and Religious goals were combined into Social-Religious goals in the Icelandic goal model.

Table 3
Correlations between Personality, Vocational Interests, and Major Life Goals in the U.S. Sample.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Personality																			
1. Neuroticism	(.87)																		
2. Extraversion	.34	(.89)																	
3. Openness	.26	.49	(.82)																
4. Agreeableness	.26	.48	.41	(.85)															
5. Conscientiousness	.13	.24	.29	.35	(.88)														
Vocational Interests																			
6. Realistic	.04	-.19	.00	-.15	-.14	(.94)													
7. Investigative	-.06	-.12	.13	-.10	-.12	.50	(.92)												
8. Artistic	-.07	-.02	.19	-.01	-.21	.28	.35	(.92)											
9. Social	-.06	.20	.14	.45	.09	.07	.24	.26	(.89)										
10. Enterprising	.05	.15	.11	-.05	.14	.13	.09	.15	.16	(.86)									
11. Conventional	-.06	-.06	.01	-.09	.15	.33	.27	.06	.12	.53	(.93)								
Major Life Goals																			
12. Economic	.01	.17	.06	.00	.26	-.02	-.04	-.07	-.03	.46	.25	(.76)							
13. Aesthetic	-.05	-.02	.19	-.06	-.14	.20	.20	.65	.15	.02	.03	.02	(.88)						
14. Social	.02	.15	.16	.42	.03	-.10	.07	.13	.61	.00	-.03	.02	.22	(.84)					
15. Relationship	.09	.22	.14	.39	.25	-.11	-.08	-.14	.21	.13	.03	.33	-.11	.21	(.65)				
16. Political	.05	.20	.13	.09	.03	.01	.07	.07	.33	.28	.12	.42	.15	.35	.08	(.81)			
17. Hedonistic	.14	.24	.22	.31	.08	-.12	-.06	.01	.14	.06	-.12	.24	.05	.28	.34	.19	(.76)		
18. Religious	.05	.00	-.01	.12	.01	-.06	-.08	.00	.19	.01	-.01	.14	.17	.36	.14	.26	.17	(.92)	
19. Educational	-.02	.07	.03	.26	.25	-.20	-.03	-.09	.09	.05	-.04	.29	-.11	.19	.38	.06	.21	.17	(.92)

Note. $N = 385$. Reliability estimates (Cronbach's α) are shown in parentheses. Coefficients in bold are statistically significantly different from 0 ($p < .05$, two-tailed).

($R^2 = .45$), Social ($R^2 = .44$), and Economic life goals ($R^2 = .29$). The smallest amounts of variance were explained in Educational ($R^2 = .16$), Hedonistic ($R^2 = .14$), and Religious ($R^2 = .07$) life goals.

A comparison of the results of the hierarchical regression analyses (see Table 4) revealed that the amount of variance explained in each life goal (R^2) increased from Model 1 to Model 3—with $\Delta R^2_{1,3}$ ranging from .03 to .35—indicating that vocational interests explained additional variability over and above the Big Five personality traits in all major life goals. Increases in the R^2 values were

statistically significant for all life goals except Hedonistic life goals. By contrast, the amount of incremental validity that personality traits offered over and above vocational interests was lower overall—with $\Delta R^2_{2,3}$ ranging from .02 to .11.

Incremental validity was higher for vocational interests ($\Delta R^2_{1,3}$) than for personality traits ($\Delta R^2_{2,3}$) in five of the eight life goals: Economic (18% vs. 5%), Aesthetic (35% vs. 2%), Social (24% vs. 4%), Political (16% vs. 3%), and Religious (5% vs. 2%) life goals (see Table 4). By contrast, incremental validity was higher for personality traits

Table 4
Comparison of Hierarchical Regression Results of the U.S. Sample.

Major Life Goals	Model 1		Model 2		Model 3		Incremental Validity	
	Multiple R	R ²	Multiple R	R ²	Multiple R	R ²	ΔR ² _{1,3}	ΔR ² _{2,3}
Economic	.34	.11	.49	.24	.54	.29	.18	.05
Aesthetic	.31	.10	.66	.43	.67	.45	.35	.02
Social	.45	.20	.64	.40	.66	.44	.23	.03
Relationship	.42	.18	.33	.11	.46	.22	.04	.10
Political	.21	.04	.41	.17	.44	.20	.15	.02
Hedonistic	.34	.11	.25	.06	.37	.14	.03	.08
Religious	.16	.02	.23	.05	.26	.07	.04	.01
Educational	.34	.12	.25	.06	.40	.16	.04	.10

Note. N = 385. Model 1 = personality traits as predictor variables, Model 2 = vocational interests as predictor variables, Model 3 = personality traits and vocational interests as predictor variables, ΔR²_{1,3} = Increase in R² from Model 1 to Model 3 (i.e., the contribution of vocational interests over and above personality traits). ΔR²_{2,3} = Increase in R² from Model 2 to Model 3 (i.e., the contribution of personality traits over and above vocational interests). Coefficients in bold are statistically significantly different from 0 (p < .05, two-tailed).

than for vocational interest in three life goals: Relationship (11% vs. 4%), Hedonistic (8% vs. 3%), and Educational (10% vs. 4%) life goals.

2.2.4. Relative weights analysis

The results of the relative weights analysis (see Table 5) confirmed the hierarchical regression results. Similar to the hierarchical regression results, the results of the relative weights analysis suggested that the five Big Five personality traits and the six RIA-SEC vocational interests in combination explained the most variance for Aesthetic (R² = .45) and Social life goals (R² = .44) and the lowest amounts of variance for Religious (R² = .07) and Hedonistic life goals (R² = .14).

In addition, the relative weights analysis allowed us to estimate the unique contribution of each predictor. The multivariate relative-weight analysis revealed that overall vocational interests

explained more variance (14%) in life goals than personality traits (6%; see Fig. 1). Findings from the univariate relative weights analysis (see Table 5) suggested that domain-specific vocational interests explained most of the variance in five of the eight investigated life goals: 59.68% of the explained variance (RW = .17) in Economic life goals was explained by Enterprising interests; 78.54% of the explained variance (RW = .35) in Aesthetic life goals was explained by Artistic interests; 66.82% of the explained variance (RW = .29) in Social life goals was explained by Social interests; 46.52% of the explained variance in Political life goals was explained by Social interests (RW = .09); and 54.70% of the explained variance in Religious life goals was explained by Social interests (RW = .04).

For three of the eight life goals, personality traits explained most of the variance. Specifically, Agreeableness explained 44.26% of the explained variance in Relationship life goals,

Table 5
Results of the Relative Weights Analyses in the U.S. Sample.

Major Life Goals																		
	Economic		Aesthetic		Social		Relationship		Political		Hedonistic		Religious		Educational		Overall	
	RW	%	RW	%	RW	%	RW	%	RW	%	RW	%	RW	%	RW	%	RW	%
Personality																		
N	.00	.73	.00	.39	.00	.49	.00	1.18	.00	.95	.01	5.09	.00	6.75	.00	1.95	.00	1.75
	[.00, .01]		[.00, .01]		[.00, .00]		[.00, .01]		[.00, .01]		[.00, .03]		[.00, .03]		[.00, .02]		[-.01, .01]	
E	.02	6.89	.00	.47	.01	1.57	.01	6.40	.02	11.26	.02	12.34	.00	4.25	.00	2.29	.01	4.22
	[.00, .05]		[.00, .00]		[.00, .01]		[.00, .03]		[.00, .06]		[.00, .04]		[.00, .02]		[.00, .01]		[.00, .01]	
O	.00	.82	.03	6.32	.01	2.50	.01	2.98	.01	3.31	.02	13.95	.00	1.59	.00	2.76	.01	4.33
	[.00, .00]		[.01, .06]		[.00, .03]		[.00, .01]		[.00, .03]		[.00, .05]		[.00, .00]		[.00, .01]		[.00, .01]	
A	.00	1.17	.01	1.54	.09	20.35	.10	44.26	.01	3.79	.05	36.84	.01	12.58	.05	33.32	.03	13.31
	[.00, .01]		[.00, .02]		[.05, .13]		[.05, .15]		[.00, .01]		[.02, .10]		[.00, .03]		[.02, .10]		[.02, .03]	
C	.05	15.68	.01	2.42	.00	1.04	.03	12.33	.00	.41	.00	1.55	.00	.64	.04	27.63	.01	6.39
	[.02, .09]		[.00, .03]		[.00, .01]		[.01, .06]		[.00, .00]		[.00, .00]		[.00, .00]		[.02, .08]		[.00, .02]	
Interests																		
R	.00	.47	.02	3.86	.01	2.72	.00	2.16	.00	.31	.01	5.47	.00	3.85	.03	17.61	.01	3.80
	[.00, .00]		[.00, .04]		[.00, .03]		[.00, .02]		[.00, .00]		[.00, .03]		[.00, .01]		[.01, .07]		[.00, .01]	
I	.00	.36	.01	2.63	.01	1.50	.00	1.13	.00	1.33	.00	1.20	.01	13.42	.00	2.93	.01	2.81
	[.00, .00]		[.01, .02]		[.00, .01]		[.00, .01]		[.00, .01]		[.00, .00]		[.00, .03]		[.00, .02]		[.00, .01]	
A	.01	1.93	.35	78.54	.01	1.99	.02	8.85	.00	.99	.00	.37	.00	1.33	.00	2.32	.05	24.33
	[.00, .02]		[.28, .43]		[.00, .02]		[.00, .05]		[.00, .00]		[.00, .00]		[.00, .00]		[.00, .02]		[.04, .05]	
S	.01	2.34	.01	2.85	.29	66.82	.02	11.44	.09	46.52	.01	7.01	.04	54.70	.00	2.62	.05	22.81
	[.00, .03]		[.00, .03]		[.23, .36]		[.01, .06]		[.04, .15]		[.00, .03]		[.01, .08]		[.00, .01]		[.03, .05]	
E	.17	59.68	.00	.84	.00	.62	.02	8.34	.05	27.90	.01	6.27	.00	.42	.01	3.77	.02	12.37
	[.12, .23]		[.00, .01]		[.00, .01]		[.00, .05]		[.02, .10]		[.00, .03]		[.00, .00]		[.00, .02]		[.01, .03]	
C	.03	9.93	.00	.15	.00	.40	.00	.92	.01	3.23	.01	9.92	.00	.47	.00	2.81	.01	3.89
	[.01, .05]		[.00, .00]		[.00, .00]		[.00, .00]		[.00, .02]		[.00, .04]		[.00, .00]		[.00, .02]		[.00, .01]	
R ²	.29		.45		.44		.22		.20		.14		.07		.16		P ² _X = .02	

Note. N = 385. RW = raw relative weight (within rounding error, the raw weights sum to R²), % = relative weight rescaled as a percentage of predicted variance in the criterion variable attributed to each predictor (within rounding error, the rescaled weights sum to 100%). Values in square brackets indicate the 95% confidence interval used to test the statistical significance of the raw weights. The confidence intervals were estimated using bootstrapping with 10,000 replications, as recommended by Tonidandel et al. (2009). Personality: N - Neuroticism, E - Extraversion, O - Openness to experience, A - Agreeableness, C - Conscientiousness. Interests: R - Realistic, I - Investigative, A - Artistic, S - Social, E - Enterprising, C - Conventional. Coefficients in bold are statistically significantly different from 0 (p < .05, two-tailed).

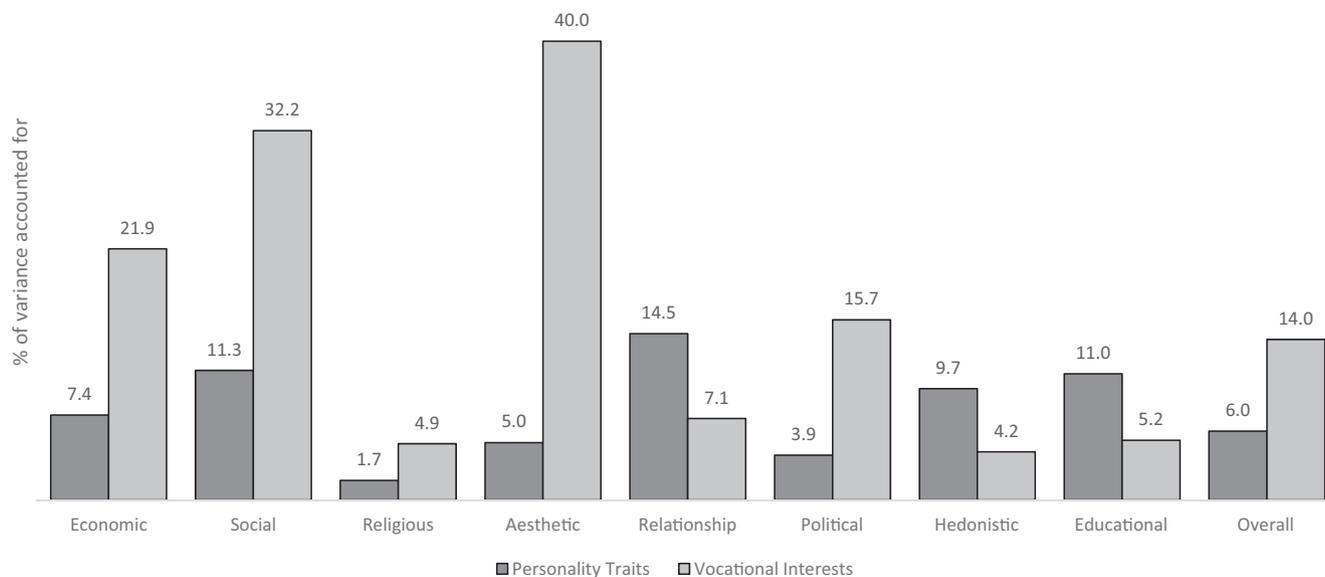


Fig. 1. Relative importance of personality traits and vocational interests in explaining major life goals in the U.S. sample ($N = 385$). Graphs show the percentage of variance in each major life goal domain accounted for by the personality traits and vocational interests in the relative weights analyses.

36.84% of the explained variance in Hedonistic life goals, and 33.32% of the explained variance in Educational life goals ($RW = .10, .05$, and $.05$, respectively).

2.2.5. Domain-specific associations

Relative weights indicate whether a predictor has explained a nontrivial amount of variance in the criterion variable, even if additional, correlated predictors are included in the model. Therefore, we refer to the results of the relative weights analysis for the description of the domain-specific associations between major life goals, the Big Five personality traits, and vocational interests. For each predictor variable, Table 5 displays the raw relative weights (RWs), the 95% confidence intervals for the relative weights, as well as the rescaled relative weights. RWs represent an additive decomposition of the total model R^2 and can be interpreted as the proportion of variance in the respective life goal that can be attributed to each predictor variable. Rescaled relative weights provide estimates of relative importance (LeBreton, Hargis, Griepentrog, Oswald, & Ployhart, 2007). They reflect the percentage of predicted variance in the criterion variable attributed to each predictor. Because rescaled relative weights represent an additive decomposition of the total variance explained in the model, they sum to 100%. The 95% confidence intervals were estimated using bootstrapping with 10,000 replications (Tonidandel et al., 2009). If zero is not included in the confidence interval, the relative weights are statistically significantly different from zero.

2.2.5.1. Economic life goals. Personality traits and vocational interests together explained 29% of the variance in Economic life goals. An examination of the relative weights (see Table 5) revealed that, in line with our expectations, Extraversion ($RW = .02$), Conscientiousness ($RW = .05$), Enterprising interests ($RW = .17$), and Conventional interests ($RW = .03$) explained statistically significant amounts of variance in Economic life goals. The most important variable was Enterprising interests, accounting for almost 60% of the explained variance. The relative weights results differed slightly from what was obtained from the multiple regression analysis (see Table S3 in the supplement). Specifically, Conventional interests ($\beta = -.10$) were not a statistically significant predictor of Economic life goals in the traditional regression analysis.

2.2.5.2. Aesthetic life goals. Personality traits and vocational interests together explained 45% of the variance in Aesthetic life goals. As expected, Openness to Experience ($RW = .03$) and Artistic interests ($RW = .35$) both explained a statistically significant amount of variance in Aesthetic life goals. Artistic interests were the most important variable, accounting for almost 79% of the explained variance. In addition to what we expected, Investigative interests were negatively associated with Aesthetic life goals and also explained a statistically significant amount of variance ($RW = .01$).

2.2.5.3. Social life goals. Personality traits and vocational interests together explained 44% of the variance in Social life goals. In line with our expectations, Agreeableness ($RW = .09$) and Social interests ($RW = .29$) explained a statistically significant amount of variance in Social life goals—with Social interests being the most important variable that accounted for almost 67% of the explained variance.

2.2.5.4. Relationship life goals. Personality traits and vocational interests together explained 22% of the variance in Relationship life goals. In line with our expectations, Agreeableness ($RW = .10$), Extraversion ($RW = .01$), and Social interests ($RW = .002$) each explained a statistically significant amount of variance in Relationship life goals. Agreeableness was the strongest predictor, accounting for about 44% of the explained variance. In addition to our expectations, Conscientiousness ($RW = .03$) also explained a statistically significant amount of variance in Relationship life goals.

2.2.5.5. Political life goals. Personality traits and vocational interests together explained 20% of the variance in Political life goals. In line with our expectations, Enterprising interests ($RW = .05$) explained a statistically significant amount of variance in Political life goals. In contrast to our expectations, Extraversion ($RW = .02$) did not explain a statistically significant amount of variance in Political life goals, and Social interests ($RW = .09$) constituted the strongest predictor—accounting for 47% of the explained variance. The relative weight results differed slightly from what was obtained from the multiple regression analysis (see Table S3 in the supplement). For example, the standardized regression coefficient for Extraversion ($\beta = .13$) was statistically significant in the multiple regression analysis.

2.2.5.6. Hedonistic life goals. Personality traits and vocational interests together explained 14% of the variance in Hedonistic life goals. In contrast to our expectations, Extraversion did not explain a statistically significant amount of variance in Hedonistic life goals ($RW = .02$). Instead, only Agreeableness ($RW = .05$) explained a statistically significant amount of variance in Hedonistic life goals, accounting for 37% of the explained variance.

2.2.5.7. Religious life goals. Personality traits and vocational interests together explained 7% of the variance in Religious life goals. As expected, Social interests ($RW = .04$) explained a statistically significant amount of variance in Religious life goals. Social interests were the only predictor that explained a statistically significant amount of variance in Religious life goals and therefore also constituted the strongest predictor, accounting for almost 55% of the explained variance.

2.2.5.8. Educational life goals. Personality traits and vocational interests together explained 16% of the variance in Educational life goals. In line with our expectations, Conscientiousness ($RW = .04$) explained a statistically significant amount of variance in Educational life goals. In addition, Agreeableness ($RW = .05$) and Realistic interests ($RW = .03$) also explained statistically significant amounts of variance in Educational life goals. Agreeableness and Conscientiousness were the strongest predictors, accounting for 33% and 28% of the explained variance, respectively.

2.3. Summary

In Study 1, we demonstrated that personality traits and vocational interests were both significant predictors of major life goals. In addition, both personality traits and vocational interests offered incremental validity in explaining major life goals, but the incremental validity tended to be larger for vocational interests ($.03 \leq \Delta R^2_{1,3} \leq .35$) than for personality traits ($.02 \leq \Delta R^2_{2,3} \leq .11$). In addition, relative weights analysis revealed that vocational interests constituted the strongest predictors of Economic, Aesthetic, Social, Political, and Religious life goals. There were only three life goals for which the incremental validity of personality traits was higher than that of vocational interests (i.e., Relationship, Hedonistic, and Educational life goals). For these life goals, personality traits also constituted the strongest predictors, but the total amount of explained variance tended to be smaller. In addition, our expectations about domain-specific associations were largely confirmed in the U.S. sample.

3. Study 2

To verify the generalizability of our results, we conducted a second study in which we tested our research question in a large and diverse sample of Icelandic students in upper secondary education.

3.1. Method

3.1.1. Sample and procedure

The sample in Study 2 consisted of 1338 students³ in upper secondary education in Iceland—53% young women and 47% young men who were between 14 and 25 years old ($M = 17.5$, $SD = 1.80$) and came from 22 upper secondary schools. In the Icelandic school system, young people finish compulsory education when they are 15 or 16 years old. They enter the upper secondary education system—both academic and vocational education—before they are eligi-

³ The original sample had $N = 1368$ students. We excluded 30 participants older than age 25 to obtain a normative age range.

ble to apply for higher education (university). Data were collected to standardize an Icelandic interest inventory (Einarsdóttir & Rounds, 2007, 2019). Therefore, the sample represented Icelandic students from all fields of study. A sample size of at least 1000 participants was desired to be sufficient to run most types of analyses.

Participants were recruited via schools. We contacted all of the 31 upper secondary schools in Iceland, and 22 schools agreed to participate. At each school, career counselors selected groups of students to represent the student body of each school with regard to the field of study. Participation was voluntary, and participants were not paid, but students were offered individual feedback regarding their interest profiles by the career counselors of the respective school. The study was approved by the Icelandic Data Protection Authority (Nr. S2655). All participants and parents of students under 18 were informed about the study and had the opportunity to decline to participate. Participants signed an informed consent form, and 99% of the selected students participated in the study. In our sample, the distribution of major demographic variables (e.g., gender, rural vs. urban areas, and enrollment in an academic vs. a vocational major) largely mirrored the upper secondary school population in Iceland (Einarsdóttir & Rounds, 2007).⁴ Students filled out an online questionnaire containing personality, vocational interests, and life goal measures, as well as demographic questions. There were three additional waves of data collection—spanning a period of 8 years; but in the present study, we refer only to data from the first wave.⁵

3.1.2. Measures

3.1.2.1. Vocational interests. Holland (1997) RIASEC (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) interest types were measured with the Icelandic Interest Inventory (III; Einarsdóttir & Rounds, 2007; Einarsdóttir & Rounds, 2019). The RIASEC scales contain 15–23 occupational titles (e.g., *elementary school teacher, architect, truck driver*) and work activities (e.g., *design a computer program, assist people with disabilities, cut fish with a machine*) that reflect the Icelandic labor market. Participants responded to the items on a 5-point scale ranging from 1 (*strongly dislike*) to 5 (*strongly like*). Einarsdóttir and Rounds (2019) identified high internal consistencies (α s ranging from .91 to .95), high test-retest reliabilities across 8 months (r_{tt} s ranging from .75 to .91), as well as an acceptable fit to the assumed RIASEC structure for the Icelandic Interest Inventory.

3.1.2.2. Big Five personality traits. The Big Five personality traits were measured with the Icelandic translation of the 60-item NEO-FFI-R (Costa & McCrae, 1992; Jónsson, 2005). Internal consistencies for the five scales have been identified as acceptable to good ($\alpha = .67$ –.84), and the five-factor structure of the measure

⁴ A total of 52% of participants lived in the capital (Reykjavík) and surrounding areas, compared with 60% of the upper secondary student population; 48% came from towns and rural areas outside the capital where 40% of the population lives. In the sample, 62% of the students were enrolled in classic academic tracks (language, social or natural sciences, and business) compared with 49% in the full upper secondary student population at that time. Around 16% were in preparatory programs compared with 20% in the student population, and 22% were in vocational education programs of diverse types compared with 31% in the student population, according to information from Iceland Statistics (spanning a greater age range).

⁵ The data set has been used in three other studies (Einarsdóttir, Eyjólfsson, & Rounds, 2013; Einarsdóttir, Rounds, & Su, 2010; Hoff, Song, Einarsdóttir, Briley, & Rounds, 2020). But these papers focused on the interest measure and did not investigate associations with major life goals. The data are not openly accessible because this would fail to comply with participant's written consent and the approval of the Data Protection Authority obtained prior to the data collection. But the variance-covariance matrices, the mean structure of all variables used in the present analyses, and the analyses scripts are openly accessible (https://osf.io/wtrmg/?view_only=75a54e14a8164f9c96e9490c17353af7).

has been validated in Icelandic samples (Jónsson & Bergþórsson, 2004; Jónsson, 2005).

3.1.2.3. Major life goals. Because no Icelandic life goal measure existed before this study, we translated the life goal measure used in Study 1. The resulting Icelandic life goal measure comprised 29 life goal statements that formed the following eight scales (number of items in parentheses): Business (3), Prestige (3), Aesthetic (5), Social-Religious (5), Relationship (3), Hedonistic (3), Political (2), and Educational (3) life goals. In contrast to the U.S. life goal measure, the Religious and Social scales were merged in the Icelandic version, and the Economic scale was split into the two scales Business (e.g., *having a high standard of living and wealth*) and Prestige (e.g., *having an influential and prestigious occupation*). We provide more information about the translation and the structural analyses in the supplemental material. The students were asked to rate the personal importance of each item on a 5-point scale ranging from 1 (*not important to me*) to 5 (*very important to me*). Internal consistencies of the eight scales ranged from $\alpha = .63$ –.86 in the present sample (see Table 2).

3.1.3. Statistical analyses

We applied the same set of hierarchical regression analysis and univariate and multivariate relative weights analysis as in Study 1. We used a Full-Information Maximum Likelihood (FIML) approach (Newman, 2014) to deal with missing data. To make the analyses transparent and comprehensible, we provide openly accessible data analysis scripts (https://osf.io/wtrmg/?view_only=ac05dfe41fb94001a285330b1cd7cde1).

3.2. Results

3.2.1. Descriptive statistics

The descriptive statistics for the Big Five personality traits, vocational interests, and major life goals in Study 2 are displayed in the right part of Table 2. Correlations between all variables are presented in Table 6. Cronbach's alpha ranged from .70 to .85 for the personality scales, .91–.95 for the interest scales, and .63–.86 for the major life goal scales.

3.2.2. Personality traits and vocational interests as predictors of major life goals

The Big Five personality traits alone explained between 10% and 22% of the individual differences in major life goals (see the results for Model 1 in Table 7; detailed results for Model 1 are presented in Table S5 in the supplement). The amount of variance explained by personality traits was highest for Aesthetic life goals ($R^2 = .22$); somewhat lower for Educational ($R^2 = .19$), Social-Religious ($R^2 = .18$), and Hedonistic life goals ($R^2 = .18$); and lowest for Relationship ($R^2 = .16$), Political ($R^2 = .14$), Business ($R^2 = .13$), and Prestige life goals ($R^2 = .10$).

By contrast, vocational interests alone explained between 7% and 43% of the individual differences in major life goals (see the results for Model 2 in Table; detailed results for Model 2 are presented in Table S6 in the supplement). The amount of variance explained by vocational interests was highest for Aesthetic ($R^2 = .43$) and Social-Religious life goals ($R^2 = .36$); somewhat lower for Business ($R^2 = .25$), Political ($R^2 = .18$), and Educational ($R^2 = .16$) life goals; and lowest for Prestige ($R^2 = .12$), Relationship ($R^2 = .10$), and Hedonistic ($R^2 = .07$) life goals.

3.2.3. The incremental validity of vocational interests in explaining major life goals

In line with the results from Study 1, the results from the hierarchical regression analysis for Model 3 in the Icelandic sample (see Table 7; detailed results for Model 3 are presented in Table S7 in the supplement) demonstrated that personality traits and vocational interests were both significant predictors of major life goals. Again, the Big Five personality traits and vocational interests together explained the largest amounts of variance in Aesthetic life goals ($R^2 = .46$) and Social-Religious life goals ($R^2 = .40$) and the smallest amounts of variance in the Prestige ($R^2 = .18$), Relationship ($R^2 = .20$), and Hedonistic ($R^2 = .21$) life goals.

A comparison of the results from the hierarchical regression analysis (see Table 7) revealed that the amount of variance explained in each life goal (R^2) increased significantly from Model 1 to Model 3—with $\Delta R^2_{1,3}$ ranging from .03 to .24—demonstrating the incremental validity of vocational interests over and above the

Table 6
Correlations between Personality Traits, Vocational Interests, and Major Life Goals in the Icelandic Sample.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Personality																			
1. Neuroticism	(.81)																		
2. Extraversion	-.27	(.75)																	
3. Openness	-.05	.15	(.70)																
4. Agreeableness	-.20	.20	.06	(.70)															
5. Conscientiousness	-.29	.34	.07	.22	(.85)														
Vocational Interests																			
6. Realistic	-.07	-.06	-.09	-.23	-.02	(.95)													
7. Investigative	-.10	.12	.35	-.09	.15	.47	(.92)												
8. Artistic	.07	.17	.49	-.02	.00	.19	.41	(.92)											
9. Social	.14	.27	.22	.10	.15	.16	.43	.49	(.92)										
10. Enterprising	-.06	.24	.11	-.14	.18	.41	.50	.39	.48	(.92)									
11. Conventional	-.01	.07	-.04	-.13	.14	.58	.54	.25	.41	.78	(.91)								
Major Life Goals																			
12. Business	-.10	.12	-.11	-.24	.15	.16	.06	-.01	-.10	.38	.29	(.78)							
13. Prestige	-.05	.22	-.02	-.05	.25	-.03	.10	-.02	.04	.27	.19	.57	(.75)						
14. Aesthetic	.08	.07	.45	-.04	-.05	.02	.20	.63	.19	.10	.04	.08	.12	(.86)					
15. Social-Religious	.09	.24	.27	.18	.18	.00	.25	.32	.59	.26	.19	-.09	.13	.34	(.73)				
16. Relationship	-.05	.31	-.01	.23	.28	-.07	.03	.01	.24	.14	.05	.20	.37	-.01	.26	(.71)			
17. Political	-.11	.18	.19	-.18	.18	.06	.21	.14	.08	.37	.22	.45	.53	.31	.28	.17	(.64)		
18. Hedonistic	-.10	.40	.18	.01	.14	-.03	.05	.21	.08	.07	-.07	.18	.21	.18	.16	.23	.15	(.63)	
19. Educational	-.02	.26	.04	.18	.38	-.18	.15	.04	.21	.19	.11	.25	.44	.02	.25	.48	.24	.22	(.74)

Note. $N = 1338$. Reliability estimates (Cronbach's α) are shown in parentheses. Coefficients in bold are statistically significantly different from 0 ($p < .05$, two-tailed).

Table 7
A Comparison of Hierarchical Regression Results in the Icelandic Sample.

Major Life Goals	Model 1		Model 2		Model 3		Incremental Validity	
	Multiple R	R ²	Multiple R	R ²	Multiple R	R ²	$\Delta R^2_{1,3}$	$\Delta R^2_{2,3}$
Business	.37	.13	.51	.26	.55	.30	.17	.05
Prestige	.32	.10	.35	.12	.43	.18	.08	.06
Aesthetic	.47	.22	.66	.43	.68	.46	.24	.03
Social- Religious	.43	.18	.60	.36	.63	.40	.21	.04
Relationship	.41	.16	.32	.10	.45	.20	.04	.10
Political	.37	.14	.43	.18	.48	.24	.10	.05
Hedonistic	.42	.18	.27	.07	.46	.21	.03	.14
Educational	.43	.19	.40	.16	.52	.27	.08	.11

Note. $N = 1,338$. Model 1 = personality traits as predictor variables, Model 2 = vocational interests as predictor variables, Model 3 = personality traits and vocational interests as predictor variables, $\Delta R^2_{1,3}$ = Increase in R^2 from Model 1 to Model 3 (i.e., the contribution of vocational interests over and above the personality traits). $\Delta R^2_{2,3}$ = Increase in R^2 from Model 2 to Model 3 (i.e., the contribution of the personality traits over and above vocational interests). Coefficients in bold are statistically significantly different from 0 ($p < .05$, two-tailed).

Big Five personality traits in predicting all major life goals. By contrast, the amount of incremental validity that personality traits offered over and above vocational interests was lower overall—with $\Delta R^2_{2,3}$ ranging from .03 to .14.

The incremental validity was higher for vocational interests ($\Delta R^2_{1,3}$) than for personality traits ($\Delta R^2_{2,3}$) for five of the eight life goals: Business (17% vs. 5%), Prestige (8% vs. 6%), Aesthetic (24% vs. 3%), Social-Religious (22% vs. 4%), and Political (10% vs. 6%) life goals (see Table 7). By contrast, the incremental validity was higher for personality traits in predicting three life goals: Relationship (10% vs. 4%), Hedonistic (14% vs. 3%), and Educational (11% vs. 8%) life goals.

3.2.4. Relative weights analysis

Results of the relative weights analysis (see Table 8) confirmed the hierarchical regression results. The multivariate relative-weight analysis revealed that overall vocational interests explained more variance (13%) in life goals than personality traits (8%; see Fig. 2). The results of the univariate relative weights analysis (see Table 8) suggested that the five Big Five personality traits and the six RIASEC vocational interests in combination explained the largest amounts of variance in Aesthetic ($R^2 = .46$) and Social-Religious ($R^2 = .40$) life goals and the smallest amounts of variance in Prestige ($R^2 = .18$), Relationship ($R^2 = .20$), and Hedonistic ($R^2 = .21$) life goals.

In addition, the relative weights analysis allowed us to estimate the unique contribution of each predictor. An examination of the relative weights (see Table 8) suggested that domain-specific vocational interests explained most of the variance in five of the eight life goals: 34.21% of the explained variance ($RW = .10$) in Business life goals was explained by Enterprising interests; 26.36% of the explained variance ($RW = .10$) in Prestige life goals was explained by Enterprising interests; 63.57% of the explained variance ($RW = .29$) in Aesthetic life goals was explained by Artistic interests; 53.18% of the explained variance ($RW = .21$) in Social life goals was explained by Social interests; and 35.66% of the variance in Political life goals was explained by Enterprising interests ($RW = .08$).

For three of the eight life goals, personality traits explained most of the variance: 21.49% of the explained variance in Relationship life goals was explained by Conscientiousness ($RW = .04$); 61.58% of the explained variance in Hedonistic life goals was explained by Extraversion ($RW = .13$); and 36.47% of the explained variance in Educational life goals was explained by Conscientiousness ($RW = .10$).

3.2.5. Domain-specific associations

We refer to the results of the relative weights analysis for the description of the domain-specific associations because relative

weights indicate whether a predictor can explain a nontrivial amount of variance in the criterion variable, even when additional, correlated predictors are included in the model.

3.2.5.1. Business life goals. Personality traits and vocational interests together explained 30% of the variance in Business life goals. An examination of the relative weights (see Table 8) revealed that in line with our expectations for Economic life goals, Extraversion ($RW = .01$), Conscientiousness ($RW = .02$), Enterprising interests ($RW = .10$), and Conventional interests ($RW = .04$) explained statistically significant amounts of variance in Business life goals. The most important variable was Enterprising interests, accounting for almost 34% of the explained variance. In addition to our expectations, Agreeableness ($RW = .04$), Realistic ($RW = .01$), Investigative ($RW = .01$), and Social interests ($RW = .04$) were negatively associated with Business life goals and also explained statistically significant amounts of variance.

3.2.5.2. Prestige life goals. The personality traits and vocational interests together explained 18% of the variance in Prestige life goals. In line with our expectations for Economic life goals, Extraversion ($RW = .03$), Conscientiousness ($RW = .04$), Enterprising interests ($RW = .05$), and Conventional interests ($RW = .02$) explained statistically significant amounts of variance in Prestige life goals. The most important variables were Enterprising interests and Conscientiousness, accounting for 26% and 23% of the explained variance, respectively. In addition to our expectations, Realistic interests ($RW = .01$) were negatively associated with Business life goals and also explained statistically significant amounts of variance.

3.2.5.3. Aesthetic life goals. Personality traits and vocational interests together explained 46% of the variance in Aesthetic life goals. In line with our expectations, Openness ($RW = .11$) and Artistic interests ($RW = .29$) explained statistically significant amounts of variance in Aesthetic life goals. The most important variable was Artistic interests, accounting for almost 64% of the explained variance. In addition to our expectations, Investigative ($RW = .01$), Social ($RW = .02$), and Enterprising interests ($RW = .01$) were negatively associated with Aesthetic life goals and also explained statistically significant amounts of variance.

3.2.5.4. Social-Religious life goals. Personality traits and vocational interests together explained 40% of the variance in Social-Religious life goals. In line with our expectations for Social life goals, Agreeableness ($RW = .02$) and Social interests ($RW = .21$) explained statistically significant amounts of variance in Social-Religious life goals. The most important variable was Social interests, accounting for about 53% of the explained variance. In addition

Table 8
Results of the Relative Weights Analyses in the Icelandic Sample.

	Major Life Goals																	
	Business		Prestige		Aesthetic		Social-Religious		Relationship		Political		Hedonistic		Educational		Overall	
	RW	%	RW	%	RW	%	RW	%	RW	%	RW	%	RW	%	RW	%	RW	%
Personality																		
N	.00	1.53	.00	.85	.00	.85	.01	3.19	.00	1.32	.01	2.65	.00	2.07	.01	1.95	.01	2.45
	[.00, .01]		[.00, .00]		[.00, .01]		[.01, .02]		[.00, .00]		[.00, .02]		[.00, .01]		[.00, .01]		[.00, .01]	
E	.01	4.79	.03	17.25	.00	.57	.02	5.06	.06	27.84	.02	6.60	.13	61.58	.03	11.28	.02	9.96
	[.01, .03]		[.02, .05]		[.00, .01]		[.01, .03]		[.03, .08]		[.01, .03]		[.10, .17]		[.02, .05]		[.02, .03]	
O	.01	2.98	.00	1.12	.11	23.45	.03	8.20	.00	1.16	.02	9.28	.01	6.51	.00	.68	.02	8.86
	[.00, .02]		[.00, .01]		[.09, .13]		[.02, .05]		[.00, .01]		[.01, .04]		[.01, .03]		[.00, .00]		[.02, .02]	
A	.04	14.71	.01	3.32	.00	.49	.02	5.26	.03	16.27	.03	14.19	.00	1.12	.02	6.21	.02	7.80
	[.03, .07]		[.00, .02]		[.00, .01]		[.01, .04]		[.02, .05]		[.02, .05]		[.00, .01]		[.01, .03]		[.01, .02]	
C	.02	5.73	.04	23.29	.00	.37	.01	3.73	.04	21.49	.02	7.79	.01	4.94	.10	36.47	.01	6.87
	[.01, .03]		[.02, .07]		[.00, .01]		[.01, .03]		[.03, .06]		[.01, .03]		[.00, .02]		[.07, .13]		[.01, .02]	
Interests																		
R	.01	2.83	.01	6.73	.00	.60	.00	.98	.00	1.88	.01	2.26	.00	.65	.05	18.30	.01	5.08
	[.01, .02]		[.01, .02]		[.00, .00]		[.00, .01]		[.00, .01]		[.00, .01]		[.00, .00]		[.03, .07]		[.01, .01]	
I	.01	2.81	.01	3.96	.01	3.22	.02	4.73	.00	1.19	.01	6.01	.00	.91	.02	8.25	.01	4.48
	[.01, .01]		[.00, .01]		[.01, .02]		[.01, .03]		[.00, .00]		[.01, .02]		[.00, .00]		[.01, .04]		[.01, .01]	
A	.01	2.25	.01	2.96	.29	63.57	.03	7.90	.00	2.45	.01	2.79	.03	13.89	.00	.94	.04	20.46
	[.00, .01]		[.00, .01]		[.26, .33]		[.02, .04]		[.00, .01]		[.00, .01]		[.02, .05]		[.00, .00]		[.04, .05]	
S	.04	13.92	.01	3.21	.02	4.00	.21	53.18	.04	18.49	.01	2.96	.00	1.94	.01	5.07	.04	17.76
	[.03, .06]		[.00, .01]		[.01, .02]		[.18, .24]		[.02, .05]		[.00, .01]		[.00, .01]		[.01, .02]		[.03, .04]	
E	.10	34.21	.05	26.36	.01	2.25	.02	4.67	.01	6.07	.08	35.66	.01	2.38	.02	6.67	.02	11.01
	[.08, .13]		[.03, .07]		[.01, .01]		[.01, .03]		[.01, .02]		[.06, .11]		[.00, .01]		[.01, .03]		[.02, .03]	
C	.04	14.24	.02	10.96	.00	.62	.01	3.10	.00	1.85	.02	9.81	.01	4.01	.01	4.17	.01	5.78
	[.03, .06]		[.01, .03]		[.00, .00]		[.01, .02]		[.00, .01]		[.02, .03]		[.00, .02]		[.01, .02]		[.01, .01]	
R ²	.30		.18		.46		.40		.20		.24		.21		.27		$P^2_{YX} = .22$	

Note. $N = 1338$. RW = raw relative weight (within rounding error, the raw weights sum to R^2), % = relative weight rescaled as a percentage of predicted variance in the criterion variable attributed to each predictor (within rounding error, the rescaled weights sum to 100%). Values in square brackets indicate the 95% confidence interval used to test the statistical significance of the raw weights. The confidence intervals were estimated using bootstrapping with 10,000 replications, as recommended by Tonidandel et al. (2009). Personality: N - Neuroticism, E - Extraversion, O - Openness to experience, A - Agreeableness, C - Conscientiousness. Interests: R - Realistic, I - Investigative, A - Artistic, S - Social, E - Enterprising, C - Conventional. Coefficients in bold are statistically significantly different from 0 ($p < .05$, two-tailed).

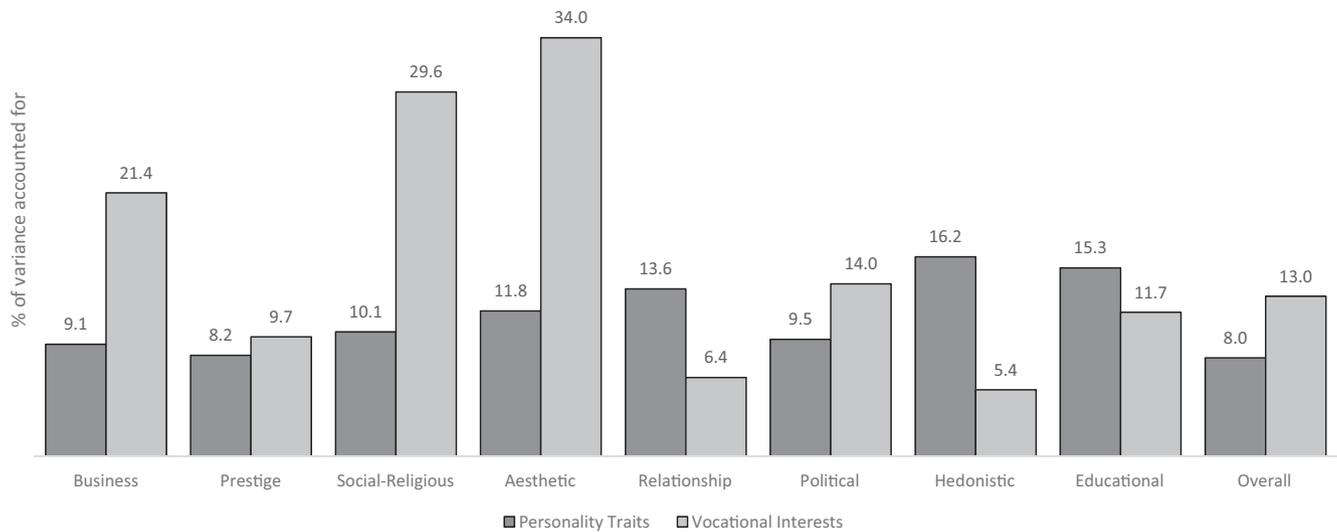


Fig. 2. Relative importance of personality traits and vocational interests in explaining major life goals in the Icelandic sample ($N = 1338$). Graphs show the percentage of variance in each major life goal domain accounted for by the personality traits and vocational interests in the relative weights analyses.

tion to our expectations, Neuroticism ($RW = .01$), Extraversion ($RW = .02$), Openness ($RW = .03$), and Conscientiousness ($RW = .01$) also explained statistically significant amounts of variance.

3.2.5.5. Relationship life goals. Personality traits and vocational interests together explained 20% of the variance in Relationship life goals. In line with our expectations, Extraversion ($RW = .06$), Agreeableness ($RW = .03$), and Social interests ($RW = .04$) explained statistically significant amounts of variance in Relationship life goals. The most important variable was Extraversion, accounting for about 28% of the explained variance. In addition to our expectations, Conscientiousness ($RW = .04$) and Enterprising interests ($RW = .01$) also explained statistically significant amounts of variance.

3.2.5.6. Political life goals. Personality traits and vocational interests together explained 24% of the variance in Political life goals. In line with our expectations, Extraversion ($RW = .02$) and Enterprising interests ($RW = .08$) explained statistically significant amounts of variance in Political life goals. The most important variable was Extraversion, accounting for about 36% of the explained variance. Beyond our expectations, Openness ($RW = .02$), Agreeableness ($RW = .03$), Conscientiousness ($RW = .02$), Investigative interests ($RW = .01$), and Conventional interests ($RW = .02$) also explained statistically significant amounts of variance—and Agreeableness and Conventional interests were negatively associated with Political life goals.

3.2.5.7. Hedonistic life goals. Personality traits and vocational interests together explained 21% of the variance in Hedonistic life goals. In line with our expectations, Extraversion ($RW = .13$) explained statistically significant amounts of variance in Hedonistic life goals. The most important variable was Extraversion, accounting for about 62% of the explained variance. Beyond our expectations, Openness ($RW = .01$), Artistic interests ($RW = .03$), and Conventional interests ($RW = .01$) also explained statistically significant amounts of variance—and Conventional interests were negatively associated with Hedonistic life goals.

3.2.5.8. Educational life goals. Personality traits and vocational interests together explained 27% of the variance in Educational life

goals. In line with our expectations, Conscientiousness ($RW = .10$) and Investigative interests ($RW = .02$) explained statistically significant amounts of variance in Political life goals. The most important variable was Conscientiousness, accounting for about 36% of the explained variance. Beyond our expectations, Extraversion ($RW = .03$), Agreeableness ($RW = .02$), and Realistic ($RW = .05$), Social ($RW = .01$), Enterprising ($RW = .02$), and Conventional interests ($RW = .01$) also explained statistically significant amounts of variance—and Openness and Realistic interests were negatively associated with Educational life goals.

3.3. Summary and comparison with study 1

The hierarchical regression and relative weights results from the Icelandic sample largely mirrored the results from the U.S. sample presented in Study 1. As in the U.S. sample, personality traits and vocational interests were both significant predictors of major life goals. Both personality traits and vocational interests offered incremental validity in explaining major life goals, but the incremental validity tended to be larger for vocational interests ($.03 \leq \Delta R^2_{1,3} \leq .24$) than for personality traits ($.03 \leq \Delta R^2_{2,3} \leq .14$). As in the U.S. sample, there were only three life goals—Relationship, Hedonistic, and Educational life goals—for which the incremental validity of personality traits was higher than that of vocational interests.

Again, relative weights analysis confirmed this pattern of results such that one of the six vocational interests was the strongest predictor of Business, Prestige, Aesthetic, Social-Religious, and Political life goals, whereas one of the Big Five personality traits was the strongest predictor of Relationship, Hedonistic, and Educational life goals.

Our expectations for domain-specific relations were confirmed across both samples for five of the eight life goals: Economic (or Business and Prestige), Aesthetic, Social (and Social-Religious), and Religious (or Social-Religious) life goals. In line with our expectations, Extraversion, Conscientiousness, and Enterprising and Conventional interests explained statistically significant amounts of variance in Economic (or Business and Prestige) life goals. Openness to Experiences and Artistic interests explained statistically significant amounts of variance in Aesthetic life goals. Agreeableness and Social interests explained statistically significant amounts of variance in Social (and Social-Religious) life goals. Agreeable-

ness, Extraversion, and Social interests explained statistically significant amounts of variance in Relationship life goals. And Social interests explained a statistically significant amount of variance in Religious (or Social-Religious) life goals. Although in some cases, additional personality traits or vocational interests also explained statistically significant amounts of variance, in all these life goals, the largest percentage of the explained variance could be attributed to one of the expected predictor variables.

Our expectations were only partly confirmed across the two samples for three life goals: Political, Hedonistic, and Educational life goals. Enterprising interests explained a statistically significant amount of variance in Political life goals in both samples. But only in the Icelandic sample did Extraversion explain a statistically significant amount of variance in Political life goals. In addition, the largest percentage of explained variance could be attributed to Social interests in the U.S. sample and to Enterprising interests in the Icelandic sample. In the Icelandic sample, Extraversion explained a statistically significant amount of variance in Hedonistic life goals and constituted the most important variable, whereas Extraversion did not explain a statistically significant amount of variance in Hedonistic life goals in the U.S. sample, and Agreeableness constituted the most important variable. Conscientiousness explained a statistically significant amount of variance in Educational life goals in both samples. But Investigative interests explained a statistically significant amount of variance in Educational life goals only in the Icelandic sample. In addition, Conscientiousness was the most important variable in the Icelandic sample, whereas Agreeableness was the most important variable in the U.S. sample.

4. General discussion

The main purpose of this study was to investigate the roles of personality traits and vocational interests in explaining major life goals in young adults. Using cross-cultural samples from two westernized countries (the US and Iceland), we evaluated the incremental validity of the Big Five personality traits and vocational interests. On the basis of theoretical considerations and empirical results, we expected that vocational interests would be better predictors of major life goals than the Big Five personality traits.

The results showed that personality traits and vocational interests both explained variability in major life goals and both independently contributed to the prediction of major life goals. Across both samples, vocational interests alone explained between 5% and 43% of the variance in eight major life goals. For each of the major life goals, at least one of the six RIASEC interests was a significant predictor. In addition, vocational interests demonstrated incremental validity over and above the Big Five personality traits for all eight major life goals. In both samples, the incremental validity of vocational interests above and beyond personality traits

ranged from 3% to 35%. By contrast, the incremental validity of personality traits over and above vocational interests ranged from 2% to 14%. Taken together, our results provide strong evidence that personality traits and vocational interests are important predictors of major life goals—with vocational interests being even stronger predictors than the Big Five personality traits. For graphical illustrations of the percentage of the total variance accounted for (VAF) contributed by vocational interests and personality traits in explaining major life goals, see Figs. 1 and 2.

The patterns of results in the U.S. and Icelandic data were surprisingly similar: In both samples, vocational interests demonstrated higher incremental validity for Economic (or Business and Prestige), Aesthetic, Political, Social, and Religious (or Social-Religious) goals; whereas personality traits demonstrated higher incremental validity for Relationship, Hedonistic, and Education goals. In addition, the pattern of the domain-specific associations was very consistent across the two studies. These similarities are striking because the US and Iceland provide young adults with different contexts, opportunity structures, and educational transitions. The young adults in the two studies came from different cultural contexts and slightly different age groups. In addition, the Icelandic sample was larger and more diverse, whereas the U.S. sample was more specific, suggesting that the present findings held across broad as well as specific populations. Furthermore, different measures of vocational interests and personality were used in the two studies. Despite these differences, the results were remarkably consistent. This cross-cultural replication provides strong evidence for the generalizability of our findings, thus further supporting our expectations that vocational interests are relevant predictors of major life goals—even over and above personality traits.

In addition to the cross-cultural generalizability, our results are also in line with previous research demonstrating that personality traits are important predictors of major life goals (Lüdtke et al., 2009; Roberts & Robins, 2000; Roberts et al., 2004). Similar to previous research, for each of the life goals we investigated, at least one of the Big Five personality traits was a significant predictor. Given that we used the same categorization of major life goals as Roberts and Robins (2000), we could directly compare the results for the personality traits (Model 1). Table 9 summarizes the Multiple *R*'s from our samples and Roberts and Robins (2000) study, demonstrating that the amount of variance explained in each life goal was similar across all three studies.

4.1. Why do personality traits and vocational interests explain variance in major life goals?

According to Socioanalytic Theory (Hogan & Roberts, 2000; Hogan, 1983), life goals are related to social roles (e.g., being a successful manager, being a caring parent) and therefore involve

Table 9
Predictive Validity of the Personality Traits in the Current Studies and Roberts and Robins (2000).

Major life goal domain		Multiple <i>R</i>		
		Roberts and Robins (2000) (<i>N</i> = 630)	Study 1 (<i>N</i> = 385)	Study 2 (<i>N</i> = 1338)
Economic ^a	Business	.42	.34	.37
	Prestige			.32
Social	Social-Religious ^b	.39	.45	.43
Religious		.16	.16	
Aesthetic		.42	.31	.47
Political		.32	.21	.37
Hedonistic		.43	.34	.42
Relationship		.32	.42	.41

^a Economic goal was split into Business goal and Prestige goal in the Icelandic goal model.

^b Social goal and Religious goal were combined into Social-Religious goal in the Icelandic goal model. Coefficients in bold are statistically significantly different from 0 ($p < .05$, two-tailed).

choices between different roles as well as between different ways to enact a specific role. People strive to choose roles (or contexts) that help them develop and maintain their own identities. And as traits and interests are both dispositional aspects of personality (Roberts & Wood, 2006), it is plausible to assume that these two constructs both influence the major goals that people choose as standards for their lives.

In addition, the conceptual differences between traits and vocational interests may explain why vocational interests explained more variance in life goals than traits did in our studies. In the Neo-Socioanalytic Model, personality traits and interests are regarded as broad dispositions that function on equal levels but reflect different aspects of individual differences (Roberts & Wood, 2006). Personality traits reflect patterns of thoughts, feelings, and behaviors and comprise how people typically behave or react in a given situation. Therefore, traits can explain how people behave in specific situations or how well they can perform a specific task. But traits are insufficient for capturing an individual's preferences and aspirations (Fleeson, 2012). By contrast, vocational interests are part of a motivational domain of personality and reflect what people want to do or would like to achieve in their lives. Vocational interests reflect preferences and aspirations and are therefore strong predictors of individual choices and decisions (Campbell, 1971; Dawis, 1991; Holland, 1997). Regarding these conceptual differences, it is certainly conceivable that major life goals—conceptualized as individual preferences and aspirations on a broad, abstract, and lifelong dimension—can be better explained by vocational interests than by personality traits.

More specifically, due to their contextualization and motivational nature, vocational interests can be assumed to lead individuals to select and value specific life goals that are in turn associated with specific contexts. Vocational interests are assumed to represent dispositional preferences for specific contexts and situations (Rounds & Su, 2014) and to serve as mechanisms for selecting specific contexts and situations (Nye et al., 2012). In a similar way, vocational interests may also direct individuals to select specific life goals.

Despite the finding that vocational interests offered incremental validity above and beyond traits in explaining all the life goals we investigated (across both samples), there were a few life goals—Relationship, Hedonistic, and Educational—to which traits added more incremental validity than vocational interests did. One reason for this finding might be that the items representing Relationship, Hedonistic, and Educational life goals are associated with a student's current life situation instead of future life situation. Relationship, Hedonistic, and Educational life goals were represented by items such as *having a harmonious relationship with my parents and siblings*, *having fun*, and *doing well in school*. In doing so, these life goals refer to situations or end states that may have already been reached by students. Therefore, these life goals do not refer to future end states and do not really reflect long-term aspirations. Because they refer more to aspects of a student's current life situation, these life goals may instead reflect the aim to maintain a certain status (maintenance goals; Freund, Napolitano, & Rutt, 2018).

By contrast, the items representing the remaining life goals were less embedded in young adults' current living contexts (e.g., *devoting attention to my spiritual life*) and referred more to end states in the future (e.g., *having a career*). Therefore, these goals seem to reflect long-term aspirations and end states that students want to achieve in their future lives (*achievement goals*; Freund et al., 2018). Owing to their motivational nature, vocational interests point "ahead and to the future" (Arnold, 1960, p. 299; Hogan & Roberts, 2000; Hogan, 1983). Therefore, vocational interests should be more closely associated with end states and life goals concerning the future (achievement goals). By contrast, personality traits

as patterns of thoughts, feelings, and behaviors (Roberts & Wood, 2006) may be more closely associated with the way people react and behave in their actual living situations and may therefore be more closely associated with end states and life goals that concern the present (maintenance goals). We believe that due to this difference in contextualization (maintenance vs. achievement goals), Relationship, Hedonistic, and Educational life goals were better explained by personality traits.

An alternative explanation might be that these life goals are more general and less contextualized compared to the other life goals. For example, Relationship life goals might be more general, because every person has a certain need to belong to others. As mentioned before, Socioanalytic Theory (Hogan, 1983) assumes social acceptance (getting along with other people) as a primary need and the consistencies people develop in their behaviors while pursuing this need are assumed to constitute individual dispositions (i.e. how people typically react or behave in certain situations or in interaction with others). In this way people with a stronger need of social acceptance will develop certain pattern of behavior that make them e.g. more agreeable or more sociable. And these pattern of behavior will influence how they are seen by others (reputation) and how they see themselves (identity). Due to this linkage, relationship goals (as related to the need of social acceptance) might also be more closely related to personality traits. Nevertheless, as these are post hoc explanations, further research will be needed to test whether these propositions can be supported.

4.2. Limitations and future directions

The present research has several strengths: First, it replicated Roberts and Robins (2000) finding that the Big Five personality traits predict eight major life goals. Second, it confirmed our expectation that vocational interests would be better predictors of major life goals than the Big Five. And third, it provided strong support for the cross-cultural generalizability of our results. Nevertheless, these studies are not without limitations. For example, we utilized self-reports, which also represented a limitation in previous studies involving personality traits and life goals (Lüdtke et al., 2009; Roberts et al., 2004). Therefore, it would be worthwhile for future research to investigate whether or not vocational interests and personality traits also predict behavioral outcomes such as goal striving and goal attainment. That is, do personality traits and vocational interests contribute similarly to the attainment of major life goals? As mentioned before, first indications of the predictive validity of vocational interests and personality traits in explaining real life outcomes (e.g., getting married, having children) were already provided by Stoll et al. (2017).

Another limitation of this study is that only cross-sectional data were used to investigate the associations between personality traits, vocational interests, and major life goals. Therefore, the results cannot be interpreted as causal. Future research should investigate the longitudinal associations between vocational interests, personality traits, and life goals to determine whether vocational interests and personality traits assessed at one point in time predict life goals assessed at a later point. Longitudinal studies could also be conducted to test for reciprocal relations between the three groups of constructs and to investigate how they develop together across time.

In addition, both samples used in our studies came from the same age group: students from a secondary educational context. Given that personality traits (Roberts, Wood, & Caspi, 2008), vocational interests (Hoff, Briley, Wee, & Rounds, 2018; Low et al., 2005), and (life) goals (Bühler, Weidmann, Nikitin, & Grob, 2019; Freund et al., 2018) demonstrate changes across the life span and undergo certain periods of development, it would be interesting

to see how these constructs are related to each other in different life stages. Future studies with different age groups may therefore help us understand the extent to which age and life stage may play a role in the relations between personality traits, vocational interests, and major life goals.

4.3. Implications for research and practice

The present research demonstrates that personality traits and vocational interests jointly influence major life goals. In doing so, it provides a starting point for a better understanding of the interplay of three important aspects of individuals' lives. The domain-specific associations revealed in the present research help explain how people structure their lives, why they choose different life goals, and why they consequently end up with different life courses and life outcomes. On this basis, research needs to begin to develop a better understanding of how interests and traits inform each other in the development of an individual's identity.

The present research also has implications for career development theories. Su and Nye (2017) and Lubinski (2010) have recently proposed that integrative models of person-environment (P-E) fit—using the full range of individual differences—are needed to provide more effective educational-vocational development theories. Theories of career development have traditionally been focused on explaining educational-vocational choice with vocational interests being central to understanding the process of choice (e.g., Gottfredson, 1981, 2005; Holland, 1997; Lent, Brown, & Hackett, 1994). More recent career theories coming from the life span developmental perspective have continued the tradition of focusing on choice but have extended the time frame to adulthood (Phillips, 2015). The present research suggests that these educational-vocational theories should also integrate life goals. Career development theories should take associations between personality traits, vocational interests and major life goals into account, because people may select academic and career choice goals with major life goals in mind (Astin & Nichols, 1964). Major life goals may, for example, influence career choices, since some occupations (and careers) are more compatible with specific life goals than others. Including information about associations between vocational interests, personality traits and major life goals into career counseling may help young people to reflect on their own life goals. In this way, being able to evaluate different career options with regard to one's life goals may contribute to more satisfying and successful career choices.

In a similar fashion, the revealed associations may influence experience of P-E fit in older individuals. Based on the domain specific associations between vocational interests, personality traits and major life goals, we propose that older individuals may experience increased fit in later life, through goal adaption and primary control strategies. This proposition has implications for researchers and practitioners interested in increasing the successful aging of employees. We believe that a more practical approach to facilitating successful aging at work can be achieved through thinking about aging at work as a process of goal directed behavior that is influenced by values, job characteristics, and control strategies.

Based on the present finding that vocational interests predict major life goals better than personality traits, the present research also has implications for the organizational practice: Vocational interests and personality traits are both used by organizations for recruitment and selection (Oswald, Hough, & Zuo, 2019). The present results imply that organizations can use vocational interests when assessing individuals for their fit within specific features or roles (e.g., as a team focused on a specific task). In this way, organizations and institutions can increase the effectiveness of their assessments for recruitment, selection, and attrition, by using the

additional measure of vocational interests for specific and motivationally-relevant tasks.

5. Conclusion

Results showed that vocational interests make independent contributions to the prediction of major life goals in young adults in two different westernized cultures. This suggests that vocational interests act relatively independent of personality traits in their role in fostering major life goals. In addition, vocational interests explain greater amounts of variance in life goals than personality traits and add more incremental validity to personality traits than vice versa.

Overall, our findings contribute to a growing body of literature (see Low et al., 2005; Roberts & Wood, 2006; Rounds & Su, 2014; Stoll & Trautwein, 2017) that views vocational interests as trait-like dispositions that are similar to personality traits in their stability and heritability but also represent distinct aspects of personality (Su et al., 2019). In explaining complex behaviors and long-term outcomes, traits and vocational interests may therefore have complementary effects: Vocational interests direct people into specific contexts and influence which environments people prefer and what kind of life goals they choose to pursue; whereas personality traits involve adaptive functioning in these environments and influence performance and reputations in specific contexts (Low & Rounds, 2006).

By demonstrating that vocational interests are more suitable than Big Five personality traits to explain major life goals in various value domains, our research contributes to a better understanding of vocational interests as important aspects of individual differences. Our findings reveal that vocational interests sustainably influence individual's live courses, as they influence the goals individuals pursue and the decisions they make throughout their live time. In doing so, this study is a step toward integrating individual difference constructs that orient attention and motivate behaviors toward desirable roles and environments.

The present research demonstrates that vocational interests are important aspects of personality that direct people while navigating their lives. The influence of vocational interest is not limited to the world of work—vocational interests also influence how people structure their lives in general. Based on their interests, people are drawn to certain life styles, because they are associated with certain roles to enact, certain contexts and certain outcomes or end states. In this way, vocational interests influence major life goals in various life domains (e.g., having a family, helping others, or having a successful career) and therefore demonstrate an impact on important life decisions and differential life courses.

Acknowledgement

This research project was partially supported by a grant from RANNÍS, the Icelandic Center for Research, as well as by the Post-doc Academy of the Hector Research Institute of Education Sciences and Psychology, Tübingen, funded by the Baden-Württemberg Ministry of Science, Education and the Arts. We thank Alexis Deceanne, Katherine Earl, Kevin Hoff, Jessamyn Perlus, Wei Ming Jonathan Phan, Colin Wee, and Justin Wiegand for comments on an earlier draft of the manuscript. We also thank Arna Pétursdóttir and Ína Björk Árnadóttir for their assistance with this project.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jrp.2020.103939>.

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