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Variations in decision-making profiles by age and gender: A cluster-analytic approach

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ABSTRACT

Using cluster-analysis, we investigated whether rational, intuitive, spontaneous, dependent, and avoidant styles of decision making (Scott & Bruce, 1995) combined to form distinct decision-making profiles that differed by age and gender. Self-report survey data were collected from 1075 members of RAND's American Life Panel (56.2% female, 18–93 years, M_{age} = 53.49). Three decision-making profiles were identified: affective/experiential, independent/self-controlled, and an interpersonally-oriented dependent profile. Older people were less likely to be in the affective/experiential profile and more likely to be in the independent/self-controlled profile. Women were less likely to be in the affective/experiential profile and more likely to be in the interpersonally-oriented dependent profile. Interpersonally-oriented profiles are discussed as an overlooked but important dimension of how people make important decisions.

1. Introduction

Individual differences in decision-making styles, such as the tendency to use reason or intuition, are of long-standing interest to psychologists (see Appelt, Milch, Handgraaf, & Weber, 2011 for review). Decision-making styles are associated with job performance (Russ, McNeilly, & Comer, 1996), self-esteem (Thunholm, 2004), planning behaviors (Galotti et al., 2006), and decision-making competence (Bruine de Bruin, Parker, & Fischhoff, 2007; Parker, Bruine de Bruin, & Fischhoff, 2007). Whereas some style measures are context-specific (e.g., career decision making, Harren, 1979), others assess styles across contexts (e.g., Epstein, Pacini, Denes-Raj, & Heier, 1996; Nygren, 2000). The General Decision-Making Styles Inventory (GDMS; Scott & Bruce, 1995) assesses five decision styles of making important decisions—rational, intuitive, spontaneous, avoidant and dependent. Past GDMS research has used a "variable-centered" approach to investigate intercorrelations among *items* to compute subscales for specific styles, and analyze individual differences in those styles. Here, we use a "person-centered" approach to examine whether certain styles cluster together to form distinct profiles among subgroups of people, by looking at intercorrelations among *subscales* rather than *items* (Henry, Tolan, & Gorman-Smith, 2005).

1.1. Decision making

Many theories of decision making distinguish two ways of making decisions (Epstein, 1994; Evans, 2008; Osman, 2004; Sloman, 1996). First, the "affective/experiential" mode is fast and uses gut feelings and experience. Second, the "rational" mode is slower and uses reason and deliberation. Variability in these modes is seen between individuals, depending, for example, on their cognitive ability (Stanovich & West, 2000) and within individuals, such as when the rational mode alters initial intuitions (Kahneman, 2003). Critics of dual-process approaches, however, note that focusing on two modes obscures the complexity of decisional processes (Keren, 2013; Keren & Schul, 2009). Some suggest there is one integrative decision-making process (e.g., Kruglanski & Gigerenzer, 2011), while others argue that decision making involves multiple processes (e.g., Frank, Cohen, & Sanfey, 2009) and is affected by social context (Strough, Karns, & Schlosnagle, 2011).

Drawing from previous decision measures (e.g., career decision-making, Harren, 1979) Scott and Bruce (1995) proposed four decision styles (i.e., rational, intuitive, dependent, and avoidant) which were confirmed, in addition to a fifth style, spontaneous. The *rational* style involves logical deliberation, matching the "rational" mode of dual-process models. The *intuitive* style reflects relying on

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feelings whereas the *spontaneous* style captures making decisions quickly; both of which match aspects of the affective/experiential mode of dual-process models. Prior work shows that spontaneous and intuitive styles are positively correlated (Baiocco, Laghi, & D'Alessio, 2009; Loo, 2000; Thunholm, 2004), suggesting these two styles may cluster together to form a profile.

The other two styles in Scott and Bruce's (1995) measure, the *dependent* (seeking assistance from others) and *avoidant* styles (postponing decisions) do not conform to a dual-process model. These styles may stand alone in differentiating between people, or they may co-occur with other styles as part of a profile. One study showed a positive association between rational and dependent styles (Loo, 2000), suggesting that people with rational styles may deliberate with others. However, individuals may involve others in the decision-making process for different reasons (see Meegan & Berg, 2002; Strough, Cheng, & Swenson, 2002).

1.2. Aging

Dual-process models of aging and decision making posit that older people rely more on emotions and experience and less on reason than do younger people (Peters, Hess, Västfjäll, & Auman, 2007). Fluid cognitive abilities and working memory that support rational decision making decline in older age (see Babcock & Salthouse, 1990; Verhaeghen, Marcoen, & Goossens, 1993). Emotional and affective skills that support intuition may remain stable or even improve with age (Blanchard-Fields, 2007; Charles & Carstensen, 2010; Kennedy & Mather, 2007). Research investigating age differences in the role of emotions and cognitive ability in decision making yields inconsistencies (see Mikels, Shuster, & Thai, 2015; Strough, Parker, & Bruine de Bruin, 2015, for reviews). If older people compensate for age-related cognitive declines by relying more on quick gut reactions, then older age may be associated with a decision-making profile focused on intuition and spontaneity rather than rationality.

However, two studies on age differences in decision styles yield inconsistent findings. Older age in community-dwelling adults was associated with a *greater* likelihood of reporting *both* rational and intuitive styles (Bruine de Bruin et al., 2007). For the intuitive style, a study of undergraduates (19–50 years) showed the opposite—older age was associated with reporting a *less* intuitive style (Loo, 2000). Discrepant findings could reflect differences in samples, with college education affecting the degree to which people rely on rationality and intuition. The current study therefore uses a large, life-span adult sample, in which participants of all ages are recruited in the same way (see Section 2).

Additionally, research on aging and decision making suggests that age differences in dependent styles are in need of investigation. Older adults (65–94 years) are more likely than younger adults (18–64 years) to report delegating decisions to others (Finucane et al., 2002). However, interviews of older adults (53–84 years old) show that although some prefer family members to make decisions about financial and health plans for them, others want to avoid burdening family (Samsi & Manthorpe, 2011). The personal relevance of decisions may also influence how older adults approach decisions (Hess, 2014).

Dependence on others may increase with age (Strough et al., 2002), as older adults experience a decline in fluid abilities (Salthouse, 2012). If so, depending on others might allow older adults to rely on deliberation, with dependent and rational styles co-occurring in profiles characteristic of older adults. Alternatively, people may depend on others to avoid making decisions themselves. Dependent and avoidant styles are positively correlated in adolescence (Baiocco, Laghi, & D'Alessio, 2009), but little is known about these styles in older adults because prior research focuses on intuition and reason.

1.3. Gender differences

Gender stereotypes characterize men and women as fundamentally different, even from different "planets" (Gray, 1992). Women are stereotyped as "intuitive" and men as "rational". However, research investigating gender differences in reports of intuitive and rational decision-making styles yields mixed results. Undergraduate women are more likely than men to report intuitive styles (Sadler-Smith, 2011). Using a mood induction that asked people to describe feelings about winning or losing a competition, women reported using more intuition, and men reported using more reason (Sinclair, Ashkanasy, & Chattopadhyay, 2010). However, studies assessing general decision-making styles in age diverse samples do not find significant gender differences (Baiocco, Laghi, & D'Alessio, 2009; Loo, 2000; Spicer & Sadler-Smith, 2005).

Gender stereotypes characterizing women as interpersonally oriented and men as self-reliant and individualistic (Gilligan, 1982; Tannen, 1991) suggest that men and women differ with the extent that they involve others in decision making (the dependent style). In career decisions, women are more likely than men to endorse relying upon others (Phillips, Pazienza, & Ferrin, 1984). In addition, women are more willing to seek support compared to men (Tamres, Janicki, & Helgeson, 2002; Thoits, 1991). Together, this research suggests that women may be more likely than men to report using an interpersonally-oriented decision-making style.

1.4. Current study

Research Aim 1 is to examine whether decision-making styles form distinct clusters or profiles. Specifically, we examine whether decision-making profiles correspond to using reason versus affect and experience (as dual-process theories posit), as well as advice seeking, or using the dependent style. Research Aim 2 is to investigate age and gender differences in decision profiles.

2. Method

2.1. Participants

Participants were 1,075 members of RAND's American Life Panel (https://mmicdata.rand.org/alp/) who completed an internet survey (see Table 1 for demographic information). Panelists receive approximately $20 per 30 min of survey completion time. Panel members were recruited through random digit dialing for national surveys, including the monthly University of Michigan Consumer Survey. Additional members were recruited via snowball sampling. Panelists without internet access (3.7%) were provided with access.

2.2. Procedure

Our survey invitation was sent to 1353 panelists, 1075 who responded[1] (for a 79.5% response rate).

2.3. Measures

2.3.1. Demographics

Participants reported their age (which was entered into the analyses as a continuous variable), as well as their gender, marital status, family income, ethnicity, and highest education attained (see Table 1).

[1] Respondents were more likely than nonrespondents to be male, older, and White (see Bruine de Bruin, Strough, & Parker, 2014 for details).